COMPETITION POLICY AND A CHANGING BROADCAST INDUSTRY

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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Foreword

This report on competition policy and a changing broadcast industry has been prepared for the OECD Secretariat by Steven Brenner, Senior Associate of Charles River Associates, Washington.

The Committee on Competition Law and Policy approved the report at its meeting in December 1992.

The report describes the development of broadcasting in OECD Member countries as well as the variety of institutions and structures which comprise the industry. It analyses both the basic economic transactions involved in the supply of broadcasting services and the competition policy issues in the sector. Finally, it reviews the current application of competition laws and draws a number of conclusions for future policy development.

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EXECUTIVE SUMMARY

Great changes have come to broadcasting and to broadcast policies in OECD countries over the past decade. Historically, broadcasting relied on transmission over-the-air using limited allocations of radio-frequency spectrum. Now changes in technology and policy mean many more channels of service are delivered, using not only terrestrial transmitters, but also cable, satellites, and sometimes microwave transmitters. Historically, broadcasting in OECD countries has been closely controlled and regulated, and in many Member countries all or most channels were reserved for public broadcasters. Now, most countries allow private broadcasting, many broadcast services cross national borders, and private firms have supplied most of the expansion in broadcasting services.

With these changes has come a larger role for markets and for competition policy in broadcasting. Public broadcasting and public policy remain important in most OECD countries, but market forces now shape much of the supply of broadcast services. These markets should function as efficiently as possible, making competition policy increasingly relevant in the broadcast sector. As in other industries, competition policy rules should be enforced to limit the exercise of market power that reduces efficiency and consumer welfare. As in other sectors, competition policy should ensure that, so far as possible, public policies and regulation promote rather than limit competition and efficient markets, albeit while respecting other important objectives of broadcast policy.

This Report provides a framework for competition policy analysis. The framework can be used to understand how broadcast markets function, and to identify and analyse important competition issues in broadcasting. Of course the assumptions behind the analysis and the facts in individual countries must be kept in mind in applying the analysis. For these reasons, and because broadcast policy often must consider objectives other than competition, the Report concentrates on developing an analytical framework for competition issues, rather than recommendations of specific policies. This analytical framework, however, does demonstrate the applicability of competition policy analysis to broadcasting, thereby challenging the notion that the public service characteristics of broadcasting preclude an understanding of it in terms of the functioning markets and economic choices of firms, or make competition policy irrelevant.

Broadcast policy, of course, continues to encompass a wider range of public policy concerns and goals than the efficient functioning of private markets. Broadcast policy is concerned with fundamental values like pluralism and freedom of expression, and with broadcasting's impact on cultural and social values. This Report makes no attempt to discuss or evaluate how broadcast policies do or should serve such goals, nor does it challenge the importance of such objectives for broadcast policy. The report concentrates on competition issues not because the promotion of efficient markets should take primacy over other goals, but because competition should be considered alongside other public policies in decisions affecting the provision of broadcast services.

The growth of private broadcasting over the last fifteen years is the result of both government policies and economic developments. Public policy has had a direct effect by allowing or increasing the number of traditional over-the-air broadcast channels or stations. Equally important has been the use of new means of delivering broadcast programming, which, because they do not require the use of the broadcast spectrum, overcome the constraint of the spectrum's limited number of channels. Public policy also has

played a role in the development of these new delivery systems -- delivery by cable, by direct broadcast satellite (DBS), and by microwave multichannel distribution systems (MMDS) -- by such steps as licensing or removing constraints on their use and allocating the spectrum for satellite or microwave transmissions.

Such policies may have removed or loosened constraints on the growth of private broadcasting, but private broadcast could grow only to the extent that private demand could support the costs of supplying additional broadcasting service. Such demand has been sufficient because of technological developments that have lowered the cost of using these new delivery systems to broadcast additional programming to consumers and, equally important, because private broadcasters using the new delivery systems can tap the direct demand of consumers for increased broadcasting services. Subscription fees have promoted the expansion of private broadcasting because in general consumers are willing to pay more to receive the programming than advertisers are willing to pay to reach the consumers with advertising messages.

While the number of broadcast services, especially private broadcast services, has grown in most Member countries, the report shows considerable variety in the way broadcasting has developed. Several Member countries authorised over-the-air private national television services for the first time during the last 5 or 6 years; this was the case for example in France, Ireland, New Zealand, Norway, Portugal, Spain, and Sweden. In other Member countries, where private services already were available, the number of private services increased. Many Member countries also have authorised increased service by public broadcasters.

Many other new programme services have developed that do not rely on traditional terrestrial broadcasting. These services typically are distributed by satellite, either directly to consumers or, more often, to cable systems that redistribute them to households. Often the same satellite transmission is used both for intermediate distribution to cable systems and for direct reception. Technological developments have allowed direct reception both from high power satellites, those originally intended for DBS, and from medium power satellites that are both more numerous and transmit more channels of programming. There are now over 90 such programme services available in North America and over 45 available in Europe. In some Member countries, for example Belgium, Canada and Ireland, a large percentage of households have received cable service since at least the late 1970s, predating the development of programme services distributed by satellite. In others, for example Germany, Sweden, and the United States, the ability to deliver these new programme services has led to the rapid growth of cable service over the past five to ten years. Direct reception of satellite transmission does not serve as many consumers as cable distribution, but it is of growing importance and substantial numbers of consumers subscribe to DBS service in the United Kingdom, Germany, and Japan. Microwave distribution, MMDS service, is in use in only a few Member countries and as yet serves relatively few households, although there are plans for growing use in at least some Member countries.

There is a considerable range of policies toward broadcasting in Member countries. The areas covered by such polices include licensing requirements and controls on subscription fees for cable and other new distribution systems; regulations on the permissible quantity and type of advertising; requirements of minimum amounts of particular types of programming, or of programming produced by independent producers or within the home country; and regulations on permissible concentration of ownership of broadcast properties, or of broadcast and other media.

Competition analysis of the broadcast industry begins by looking at the basic structure and functioning of broadcast markets. The supply of broadcast services involves a vertical chain of production with three main economic activities: (1) producing programming, (2) packaging programming into schedules by programme services or networks, and (3) delivering programming to consumers. While the organisation of the industry varies across countries and services, and often is more elaborate, this simple

schematic does help identify the major activities of broadcast firms, and the major exchanges that are carried out either as market transactions between firms or as internal exchanges within vertically integrated firms.

When market forces are relied upon, consumers demand video and audio programming, whether for entertainment or information, and are willing to pay for subscription services or to watch (or listen to) advertiser-supported programming. Advertisers demand airtime to get their advertising messages to consumers. Broadcasters satisfy these demands by supplying delivered programming, either to sell to consumers or to generate audiences so that airtime can be sold to advertisers to reach the audiences. In order to satisfy the demand for delivered programming, broadcasters in turn demand the inputs needed: the means of distributing the programming and programme services. Subscription fees or sales of advertising airtime (or both) provide revenue to cover the costs of delivering the programming -- whether by traditional broadcasting services, or by cable, DBS or MMDS services -- and of supplying schedules of programming. To supply their programme services, networks demand broadcast rights to programming, which contributes to the demand for the production of new programming. To satisfy this demand, producers demand talent, the use of equipment and studios, and other inputs used to produce the programming itself. Thus the final demand of consumers, or of consumers and advertisers, anchors a vertical chain of derived demand, exchanges, and production stretching back through various intermediate inputs to the basic inputs. At each stage, buyers and sellers decide what and how much to buy, and producers what and how much to produce. The choices at each stage may be, and often are, constrained or shaped by various public broadcast policies, but in important measure they also are market choices. The sum of these choices is the supply of private broadcast services.

The report analyses in some detail several aspects of the functioning of these markets. First, it considers how the supply of broadcast services to consumers is affected by characteristics of broadcast markets: the public goods nature of broadcast services, support by the sale of advertising, mixed support by advertising and subscription, and pricing strategies of multichannel video distributors, such as the sale of different bundles of programme services. Each has an effect on the functioning of markets, but the general conclusion is that broadcast markets, like other markets, are likely to do a better job of satisfying consumer demand efficiently if they are competitive. Second, the report looks in detail at the purchase of programme rights; an important conclusion is that particularly popular programming is likely to generate scarcity rents. The division of these rents, among programme producers and networks and others, will depend on bargaining power, but the relative bargaining power of different firms and thus the division of these rents is unlikely to affect the efficiency with which the markets function. Third, the report analyses programme production choices and shows how changes in the demand for programming, including increased demand due the ability to sell distribution rights for additional releases or windows (such as releases in other countries, or release to cable as well as traditional broadcast distribution), will stimulate increased production of programming and make profitable increased expenditures on programme quality or attractiveness.

The discussion of competition policy issues based on this economic analysis of broadcast markets is divided into four parts: (1) the basic analysis of the ability of firms to exercise market power as sellers or monopsony power as buyers; (2) analyses of the effects on the competitive process of vertical contract relationships and vertical integration between programme producers and programme services or networks, and between programme services and video distributors; (3) analysis of the competitive effects of concentration in media ownership; and (4) analyses of the ability of market forces or regulatory options to control the exercise of market power by multichannel distributors, notably by a single supplier of cable service. In each case the emphasis is not on arriving at settled policy conclusions but on identifying the major analytical issues and showing how conventional analytical tools can be adapted to competition policy issues in broadcasting.

Conventional competition policy tools of structural analysis can be adapted to determine whether broadcast firms are likely to be able to exercise market power. The first step is to define relevant broadcast product and geographic markets; the report emphasizes that standard categories of programme types or of broadcast and non-broadcast means of distributing programming or entertainment cannot be relied on automatically to determine product markets. Instead the analysis should define markets by looking at evidence on the extent of substitutability between different programming or services, both within and beyond the broadcast industry per se. The second issue is the possibility of entry, based both on economic factors and on the influence of public policy. If entry is unlikely to be sufficient to prevent the exercise of market power, the next issue for analysis is whether existing suppliers in the market will have the ability and incentive to prevent the exercise of market power. Care must be taken in evaluating the competitive implications of measured concentration in broadcast markets; for example, firms with small market shares may face fewer capacity constraints that limit rapid expansion than in other markets, and public policy may affect the ability and incentive of broadcast firms, both private and public, to increase their supply and prevent an exercise of market power by another firm.

Analysing the likelihood that a broadcast firm or a small group of broadcast firms could exercise monopsony power as buyers involves many of the same issues, but also makes it particularly important to consider how elastic is the overall supply of inputs into programme production and of other inputs, and to distinguish exercises of monopsony power from exercises of bargaining power. Broadcast firms will not be able to exercise monopoly power if supply is very elastic, even though they may still be able to exercise bargaining power. Such bargaining power affects how firms divide the rents from popular programming, but is unlikely to harm efficiency -- as monopsony power would, by restricting supply to the market and increasing prices to final consumers.

All these analyses of competition conditions in broadcast markets must consider the effect of broadcast policies. Public policies frequently will affect the prospects for entry by new competitors, either by directly controlling entry or by affecting the entrant's prospects for profits. Policies also may affect competition among existing suppliers. The mandates and structure of public broadcasters may affect how they would react to attempts by another firm to exercise market power. Broadcast policies also may change the competitive responses of private firms by changing their ability or incentive to expand supply or undercut the price of a rival that tries to exercise market power.

The second set of competition issues involves the effects on competition of vertical relationships: that is, the effects both of terms in vertical contracts that control in some degree the behavior of either partner to the agreement, and the effects of vertical integration. Neither is necessarily a threat to the competitive process. Detailed vertical contracts between programme producers and programme services or networks and between programme services and video distributors can promote efficiency in a variety of ways: reducing transactions costs, controlling opportunistic behavior that discourages efficient investments in a continuing relationship, or controlling externalities that distort choices by each firm. Vertical integration may accomplish similar purposes, whether the commonly owned upstream and downstream producers continue to do business with other firms, or instead do business primarily with each other and thereby replace market transactions with internal transactions. On the other hand, vertical contracts or integration also may be used in some circumstances to reduce competition. Firms that already have market power may be able to use vertical contract terms or integration to exercise that market power more completely by increasing their control over behavior in a downstream market; to determine the effect on competition the nature of the control must be analysed carefully to determine if efficiency and consumer surplus are likely to be reduced. Competition policy also should focus, in broadcast markets as in others, on the possibility that a firm may use vertical contracts or integration to harm rivals by exclusion or foreclosure, with the consequence that the firm increases its market power. Again, however, careful analysis is needed to distinguish market circumstances

in which exclusion can indeed harm the process of competition; exclusion will not necessarily harm rivals, and some rivals may be harmed without giving the firm any ability to exercise market power.

Third, the report analyses the competition issues posed by concentration of media ownership. Common ownership of media may create horizontal relationships, vertical relationships, or relationships that are neither horizontal nor vertical, but conglomerate. Common ownership of media properties first should be analysed using principles of market definition to determine whether concentration would be increased in any relevant market. This analysis should consider both information or entertainment services and advertising markets. Conventional broadcast or media categories should not be relied upon without additional analysis and evidence to determine whether horizontal concentration is increased. Common ownership also may create vertical links, but such links should be analysed carefully before concluding they allow exclusion or increased exercise of market power. Vertical links do not necessarily result in either exclusion or increased exercise of market power, and may serve a variety of efficiency purposes. Links that are neither horizontal nor vertical pose little risk for competition. The report recognizes that policies toward media concentration often are based on objectives of pluralism or freedom of expression. It points out, however, that these policies and competition policies may not be in conflict in this area, and analyses that determine competitive effects of common ownership, for example the substitutability of various media, also may help evaluate the effects of ownership concentration on other objectives.

The fourth set of issues involves the concern that cable systems, or other multichannel video providers, may be able to exercise market power and the possible policy responses. Consumers may be unable to choose from the services of competing multichannel video providers. The first question is whether and to what extent multichannel video providers can exercise market power; are traditional over-the-air broadcast services, together perhaps with non-broadcast services, sufficiently good substitutes to prevent the exercise of market power? There is some evidence that suggests that alternatives do not necessarily need to offer a comparable number of channels of programming to prevent the exercise of market power by a cable system; on the other hand the evidence also suggests that the availability of only a small number of channels over-the-air may not be sufficient to prevent some exercise of market power.

A second question is whether competition between competing multichannel suppliers is either feasible or desirable; to put the issue differently, are cable systems or other systems delivering multiple channels of programming natural monopolies? The report presents some evidence that service from more than one supplier may carry only a relatively small cost penalty, and in any case can offer benefits. First, even if multiple suppliers raise costs somewhat, prices may be reduced and overall efficiency increased. Second, costs may be decreased rather than increased because, if entry is possible rather than blocked by policy limits, the threat of potential or actual entry provides both an ongoing pressure on incumbent firms to be efficient and allows continual market testing over time of whether different technologies would be more efficient.

If market forces will not prevent the exercise of market power, regulation is an alternative although, while competitive market forces may work imperfectly, so may regulation. There are a number of regulatory options. Each option has potential benefits if the video supplier otherwise could exercise market power, but each also has disadvantages and is likely to impose some costs and inefficiencies. Among the possible problems, constraining price to the measured cost of service fails to give suppliers adequate incentives to minimize costs; limiting price or price increases without measuring cost (such as a price cap form of regulation) may not give suppliers incentives to choose desirable improvements in programming quantity or quality or generally to provide an optimal level of service quality, and may not fully control the exercise of market power; and requiring the separation of distribution and programming services so that distribution service are sold on nondiscriminatory terms to programme services may reduce the number of

programme services supplied to consumers. The report also discusses another alternative policy: reinforcing competitive forces by modifying broadcast policies that directly or indirectly limit new entry or the competitive effectiveness of existing rivals. This last option requires both evaluating the effect on competition and efficiency of allowing additional entry, and balancing competition objectives against other objectives served by the policies that might be modified.

A review of the application of competition policy to broadcasting finds that firms in the broadcast sector are subject to general competition law in most Member countries. While there have not been a large number of cases involving broadcast firms, competition authorities have considered cases involving mergers of broadcast firms and the purchase of exclusive programme rights by broadcasters.

The increasing role of market forces in determining the supply of broadcast services leads to the fundamental conclusion of this report: competition policy should be concerned that the competitive process functions efficiently in broadcast markets. The analysis of the report shows that this basic goal of competition policy is as relevant for broadcast markets as for other markets in other industries. Broadcast markets will more efficiently and effectively satisfy the demands of consumers when the competitive process prevents broadcast firms from exercising market power. Competition policy attempts to preserve the restraining effects of competition by preventing firms from reaching agreements or consummating mergers that would allow an increased exercise market power, and by preventing firms from pursuing anticompetitive or exclusionary practices that would allow them to improperly acquire or maintain market power.

Competition policy can work for competitive broadcast markets in two ways. The first of these is to enforce competition rules comparable to those that apply to other markets and industries. In the broadcast industry, as in other industries, competition policy should prevent horizontal agreements between competing firms that reduce competition, apply rules of merger control, control practices that reduce competition, and evaluate the competitive effects of vertical contracts terms and mergers. The objective of these policies is not to preserve the viability of individual competitors, but to preserve the process of competition and the efficient functioning of markets. The analysis of the report shows both that competition rules are desirable and how the conventional analytical tools of competition policy can be adapted to implement these enforcement policies.

The second role of competition policy is to help shape broadcast policies and regulations by evaluating their effect on the competitive process. In this way the goal of competition, as well as other goals, can be considered in setting these policies or regulations. The role is clear in the shaping of regulations or policies concerned with competition, as for example might be regulations motivated by concerns that cable suppliers can exercise market power or that programme networks can exercise market power as purchasers of programme rights. Where broadcast policies are intended to serve non-economic objectives and there is a conflict with competition objectives, it still will be desirable to consider the effects of policy options on competition, both in order to balance competition objectives against other objectives and in order to see if there is a policy option that serves the non-competition objectives nearly as well but is less inconsistent with competition objectives. Finally, competition analysis may help design policies to achieve other objectives. The analysis may show the full effects of policies on the objectives they are intended to serve by revealing the economic response of broadcast firms will make; those responses may result in indirect effects that are inconsistent with the objectives of the policy or with other non-competition objectives.

Many Member countries have chosen to allow market forces to play an important role in determining the supply of broadcast services. In doing so, often they have taken advantage of the opportunities that new distribution technologies offer for breaking through the limitations of spectrum allocated to traditional broadcasting and for satisfying consumers' demand for an increased supply of

broadcast services. These important developments increase the importance of applying competition policy rules to the broadcast sector and of considering competition in designing broadcast policy. Competition policy will not replace other objectives of broadcast policy, but competition policy does have a crucial role to play in assuring that broadcast markets function efficiently and competitively. Where markets are relied upon to determine the supply of broadcast services -- subject to the need to satisfy overriding policy goals -- competitive, efficient markets will best serve consumers' interests.

Chapter 1

INTRODUCTION

The broadcasting industry in OECD Member countries has greatly expanded and changed in recent years. Many consumers now receive a much wider range of programming over many more channels than they could even a few years ago. The changes are particularly marked for television broadcasting, although radio broadcasting also has expanded in many Member countries. Some new channels are broadcast by traditional methods - over-the-air from terrestrial transmitters. Many others are delivered by means that either are new or are seeing greatly expanded use: delivery by cable, from direct broadcast satellites (DBS), and by multichannel microwave distribution systems (MMDS).

With this expansion has come the absolute and relative expansion of the private broadcasting industry. Historically, broadcasting in OECD countries has been closely controlled and regulated by government policies and many of the channels available for broadcasting were reserved for public service broadcasters. Most of the expansion in broadcast services, however, has been supplied by private firms. At the same time, there has been little move in most countries to privatize existing public broadcasters (and in some cases public broadcasting also has expanded). As a result, public service broadcasting and government policies remain important, but in most OECD countries an increasing proportion of broadcast services are being supplied by private firms in response to market forces. In addition, the services of public broadcasters may themselves be more influenced by market forces where they operate alongside increasingly important private suppliers.

Importance of competition policy for the broadcast industry

With private firms and markets supplying an increasing quantity of broadcast services, two types of competition issue become important.

First, if markets are going to determine the supply of broadcast services, it is important that they function as efficiently as possible. Competition policy should be concerned with the competitive functioning of private broadcasting markets and firms, as it is with the competitive functioning of other private markets and firms. As in other industries, competition policy should review market structure and firm behavior in order to remove impediments to market efficiency. Such attention is particularly appropriate for the private broadcast industry, because its rapid growth and evolution is shaping the structural and behavioral characteristics of broadcast markets. Private firms are growing, and merging, and forming contractual and other relationships that are likely to shape the structure of broadcast markets in Member countries for some time. These structural and behavioral characteristics in turn will influence the efficiency of broadcasting markets.

Second, important competition issues also are created by government rules and regulation. Public policy, and changes in government policy, have been important in many Member countries, not only in allowing the expansion of private broadcasting but in shaping that expansion. Public policies will continue to

influence the development and functioning of private broadcast markets. Public policies controlling use of the spectrum and authorisations for cable systems will strongly affect the extent of barriers to expansion of private broadcasting service. Public policies that affect the choice of programming, sale of advertising, or sale of service to consumers, will affect the profitability of private broadcasting and the structure of the industry. Such policies often have goals and public implications beyond those of competition policy, but they also have implications for the functioning of broadcast industry markets.

Competition policy and broadcasting policy

This Report focuses on the application of competition policy to the broadcast industry, but broadcast public policy has always encompassed a much wider range of public values and objectives than the efficient functioning of private markets. Broadcasting plays a central role as a disseminator of information, opinions and culture, and broadcast policies often are founded on broad principles governing the circulation of ideas and information that are fundamental values for pluralistic, democratic societies and are embedded in the most basic public texts.

To give just a few examples, in France broadcast issues are viewed in the context of the broad public issues of communications; fundamental principles of freedom of expression, pluralism, and transparency form the legal foundation of many broadcast policies. The principle of freedom of expression was guaranteed by the Declaration of the Rights of Man of 1789, which is given constitutional value by the French Constitution of 1958. To insure that the public has the true possibility of choice considered necessary to make freedom of communication meaningful, broadcast policy also is founded on the principle of pluralism, also an objective of constitutional value. Transparency is not itself a constitutional value, but as a condition that facilitates pluralism it too benefits from a constitutional guarantee.[1] In the United States, much broadcast policy also is founded on the constitutional guarantee in the Bill of Rights of freedom of speech.[2] In setting broadcast policy, the Federal Communications Commission also has had what it described as a "historic interest in diversity -- a wide range of voices and a wide variety of cultural influences".[3] In the European Community, the Council Directive of 3 October 1989 on television without frontiers notes that the EC policy of insuring the free movement of broadcast services "is a specific manifestation in Community law of a more general principle, namely the freedom of expression as enshrined in Article 10(1) of the Convention for the Protection of Human Rights and Fundamental Freedoms ratified by all Member States". The Directive also recognises the right of EC Member States to set rules for programming time for broadcasters under their jurisdiction in light of "the role of television in providing information, education, culture and entertainment [and] the protection of pluralism of information and of the media."[4] These examples illustrate the point that broadcast policy often is based on fundamental values and objectives other than those of competition policy.

At the same time, the objectives of competition policy are relevant. In most Member countries, general competition law is applicable to the broadcast industry (as discussed in Chapter 9 of this Report). In addition to enforcement of competition law by competition authorities, government agencies charged with setting various aspects of broadcast policy may be charged to consider competition objectives. To continue the examples above, in France the Conseil Supérieur de l'Audiovisuel seeks among other objectives, to encourage free competition. In the United States, the Communications Act of 1934, which established the FCC, expressly applies competition law to broadcasting and provides for the preservation of competition as an objective of broadcast policy.[5]

Thus public policies toward the broadcast industry are based both on competition policy objectives and other objectives. Competition policy objectives and these other policy objectives may be consistent or

reinforcing. For example, policies limiting concentration of control of broadcast and other media may be based on objectives of pluralism, but also may serve to prevent economic concentration that would reduce competitive forces (although the two objectives will not necessarily lead to the same policies toward concentration). Policies that promote competition without collusion among private broadcast firms may also promote the presentation of diverse views and pluralism. In other cases, policies that promote efficient competition will have little effect on other public policy goals. Where there is little conflict, there is little need to weigh these different objectives. There are situations, however, where the objectives of competition policy and other policy objectives do conflict. For example, restrictions on advertising or various programming requirements may limit the number of viable competing suppliers. Recognition of the concern of competition is still important in such situations. It may not be possible to eliminate all conflicts, but it may be possible to design policies that reduce the conflict, that serve the other fundamental goals of competition policy at less cost to market competition and efficiency. Equally important, where conflicts are unavoidable the necessary policy choices should be made after considering the impact of the policy alternatives on competition objectives as well as on other objectives.

This Report makes no attempt to describe in any detail the objectives other than competition that underlie broadcast policy, or to discuss or evaluate how policies do or should serve these objectives. Nor is there any attempt in this Report to evaluate the policy choices that must be made when the objectives of competition policy and other public policy objectives point to conflicting policies. An adequate discussion of these other objectives and their application in broadcast policy in Member countries would be impossible within the bounds of this Report. Instead the Report limits its attention almost entirely to competition policy issues. There are brief discussions of the influence on markets and competition of broadcast policies designed primarily to serve other goals, but there is little attempt to discuss how policies designed to serve competition policy objectives do or do not serve other policy goals; to do so would require the analysis of other policy objectives beyond the scope of the report. Limiting the Report in this way certainly does not imply that competition policy should take primacy over other objectives.

At the same time, the premise of the Report is that the policy goal underlying competition policy -- that markets should function efficiently in order to better satisfy the expressed demands and preferences of consumers -- should be among the goals of public policy toward broadcasting. The aim of the report is to discuss one facet of public policy toward the broadcast industry; competition policy. The Report argues that this facet is increasingly important as market forces play an ever larger role in determining the supply of broadcast services, but in the end considerations of competition policy must be balanced with other objectives to form broadcast policy.

Competition policy issues in the broadcast industry

Important issues for competition policy arise at each of the stages in the broadcast industry. These issues include the following.

Many new networks have emerged to supply schedules of programmes for private broadcast services. Generally speaking, these networks are purchasers of programming in one set of markets and sellers of packaged programming in another set. The issue for competition policy is whether the structural and other characteristics of these markets allow programme packagers to exercise market power either as purchasers or sellers.

Increases in the number of programme packagers suggest an ease of entry that would make the exercise of market power by packagers as either buyers or sellers difficult. There are, however, patterns of

increasing concentration or common ownership. For example, it was announced in 1990 that two German pay networks, Premiere and Teleclub, would merge. Premiere, owned by Canal Plus and the German firm Bertelsmann, had been scheduled to broadcast from the TVSAT DBS satellite in the first half of 1991. Instead, Bertelsmann, Canal Plus and the Kirch Group, owner of the Teleclub service, announced a joint venture to provide a single service (also called Premiere) that broadcasts over the Astra and DFS-Kopernikus satellites. Each of these interests in turn has interests in other new networks. Bertelsmann has a 39 per cent ownership share in RTL Plus, one of the most successful German commercial satellite/cable networks. Kirch has an indirect stake in SAT1, another German commercial satellite/cable network. RTL Plus and SAT1 are the two private networks scheduled to be carried on the German DBS satellite, TVSAT, along with two networks programmed by the German public services, ARD and ZDF. In Italy, the three primary private television networks are controlled by Berlusconi, who began with a single network, Canal Five, but acquired the other two networks from former rivals. Berlusconi, through the firm Reitalia, has in turn purchased 25 per cent of the French over-the-air commercial network, La Cinq. In the United Kingdom, British Satellite Broadcasting and Sky Television, previously offering competing DBS programme services, have now merged to form British Sky Broadcasting (BSkyB).

Whether such mergers or joint ventures pose a threat to the competitive functioning of markets raises a variety of issues for market analysis and competition policy. If a network tried to exercise market power as a buyer of programming, would producers of various types of programming have enough alternative outlets? There often are ownership ties between networks and programme producers. Do such vertical ties, particularly when they involve joint ventures of several programme producers, reduce competition in the sale of programme rights, or allow the exercise of market power in downstream markets by the network in which they have interests?

These new networks often sell their programme service to consumers either directly or indirectly by first selling to cable systems or other distributors of programming to consumers. Determining whether networks could exercise market power as sellers of programming will involve a variety of questions. To what extent are programme packages specializing in different kinds of programming services -- movies versus general entertainment or sport -- or in programmes in different languages seen as good substitutes by their purchasers? Are programme packages delivered in different ways -- by terrestrial stations, by cable, by DBS -- good substitutes for each other? If a network did try to exercise market power as a seller of service, would existing or new programming services be able to compete away that market power? Could another service purchase enough programming rights, and is there sufficient satellite transponder and cable channel capacity that it could get delivered to consumers? Are the various broadcast services that deliver programming in different ways each able to reach enough number of consumers to provide competition for each other? How important a competitive constraint on broadcasters is the distribution of film programming by videotape?

Another set of competition policy issues centers on the role of privately owned cable systems. In most cases, an area will be served by a single cable system, often because of an exclusive franchise. In some Member countries vertical ownership ties have developed between cable systems and cable programme networks. Can a cable network exercise market power by vertically integrating into the ownership of cable distribution and excluding rival networks from access to distribution? What is the effect of such vertical integration on the ability of new networks to enter?

Turning to the market in which cable systems sell to consumers, how much market power can private cable systems exercise? While individual consumers are unlikely to have a choice of more than one supplier of cable service, most consumers do have alternatives for how they can receive programming: reception of terrestrial broadcast signals, DBS broadcasts (not delivered by cable), and prerecorded

videotapes. In the United States, the Cable Communications Policy Act of 1984 has resulted in unregulated rates for most private cable systems, largely on the grounds that there was sufficient competition from over-the-air broadcast stations. Recently, however, there have been renewed questions about whether there are sufficient competitive alternatives to adequately control cable rates and service quality. Similar questions have been raised in other Member countries. If a single cable system can exercise market power, is it efficient to allow more than one cable system to compete to serve an area? Where more than one cable firm has been building facilities and providing service in an area, what is the effect on competition and efficiency of allowing one system to buy the other? A related policy issue involves telecommunications policy as well as competition in broadcasting: should regulated telecommunications firms be allowed to deliver broadcast service over their facilities, and if so under what conditions?[6]

Networks and broadcasters also sell advertising time. Under what circumstances will broadcasters be able to exercise market power as sellers of advertising? Will competition be reduced if there are only a few national networks selling national advertising? How good a substitute is advertising time on broadcast outlets that reach smaller proportions of the population? To what extent is print advertising a substitute that constrains the price of broadcast advertising? If print and broadcast advertising are good substitutes, at what point is competition threatened by the concentration of ownership of broadcast and print media?

Organisation of the report

Chapters 2 and 3 describe the growth of private broadcasting in Member countries. Chapter 2 describes the broad patterns of policy changes and underlying economic forces that have allowed and promoted this growth. Chapter 3 describes developments in individual Member countries.

Chapter 4 describes the common underlying structure of the private broadcasting industry and private broadcast markets, as well as some of the variety of institutions and market structures that carry out the basic activities of broadcasting.

Chapter 5 analyses the basic economic transactions involved in supplying broadcasting services. This analysis provides the foundation for economic analyses of competition issues in the broadcasting industry.

Chapter 6, 7, 8 and 9 analyse competition policy issues in the broadcast industry. Chapter 6 adapts the analysis of market competition to broadcast markets in order to examine whether firms can exercise market power as sellers and whether they can exercise monopsony power as buyers. The analysis of monopsony power concentrates on distinguishing monopsony power from bargaining power. Chapter 7 analyses vertical contract relationships and vertical integration, both between programme networks and programme producers, and between programme networks and video delivery services, such as cable systems. The chapter analyses the possibilities that vertical relationships may promote efficiency, and that vertical ties and exclusionary agreements may harm competition and efficiency. Chapter 8 analyses issues posed by the concentration of media ownership. Chapter 9 analyses competition policy issues raised by the possibility that cable systems, or other multichannel video providers, might be able to exercise market power.

Chapter 10 reviews the application of competition policy to the broadcast industry in OECD Member countries.

Chapter 11 presents the conclusions of the report.

Chapter 2

THE GROWTH OF PRIVATE BROADCASTING

The growth of private broadcasting over the last fifteen years is the result of both government policies and economic developments. Public policy has allowed an increase in the number of channels of programming by increasing the number of broadcast channels or stations authorised, by allowing or encouraging the expansion of cable systems, and by allocating spectrum or otherwise encouraging the development of new broadcasting technologies. These policies removed or loosened constraints on the growth of private broadcasting, but private broadcast could grow only to the extent that private demand could support the costs of supplying additional broadcasting service. Demand has supported the growth of private broadcasting because of technological developments that lowered the cost of broadcasting additional programming to consumers and the ability of private broadcasters to tap an increased demand for broadcasting services.

This chapter gives an overview of these factors that led to the growth of private broadcasting in many Member countries. Chapter 3 summarizes developments in individual Member countries.

Constraints on broadcast channels

An important part of the story of the expansion of broadcasting over the last fifteen to twenty years is how the policies of Member countries and economics have combined to loosen the strict constraint of broadcast spectrum on the supply of private broadcasting services.

Prior to about the early 1970s, virtually all broadcast signals were delivered over-the-air from terrestrial transmitters for reception by individual homes. Some consumers did receive television or radio broadcasts over cables, but most early cable systems had limited channel capacity and were little more than a method of attaching consumers to a central antenna in order to improve reception of channels broadcast over-the-air.

Public control over the use of radio spectrum sets limits on the maximum number of channels of private radio and television broadcasting that can be transmitted over-the-air. Each channel of traditional television and radio broadcast over the air uses for its transmission a channel comprised of a specified range of radiofrequency wavelengths.[7] If interference is to be avoided, only one signal can be transmitted over each channel in a particular area because otherwise receivers cannot distinguish the two signals.[8] Therefore the ranges of wavelengths allocated to radio and television broadcasting limit the potential number of radio and television channels.[9] Government authorities have allocated this scarce broadcast spectrum, either by direct control over transmission or by strict licensing of private transmission.[10] Such authorizations limit both the maximum number of traditional channels of radio and television programming, and the number of these channels available for private rather than public broadcasting.

The number of channels available for private broadcasting in most countries has been quite limited, especially for television. Some Member countries authorised no channels for private commercial radio or television broadcasting, but only allowed public service broadcasting. Where spectrum was available for private television broadcasting, often only one, two or three channels were permitted.[11] Detailed studies have not been made in all Member countries, but it appears that private demand would have supported more channels of private broadcasting than were authorised.[12]

Overcoming the spectrum constraint

So long as other methods of signal delivery were technologically difficult or economically infeasible, the limited spectrum authorised for private broadcasting prevented much growth of private broadcasting. Over the past ten to fifteen years, policy and economic forces have combined to loosen this binding constraint. Policy changes have both allocated more spectrum to private broadcasting channels, and allowed the development of other methods of delivering broadcasting signals.

Several Member countries have authorised an increase in the number of traditional television and radio broadcast channels, and generally these new channels have been allocated to private broadcasting. In a number of countries, the new allocations have ended public monopolies over traditional broadcasting. Reasons for ending public monopolies or expanding private broadcasting have varied, but among the reasons in some Member countries was the perceived inefficiency of public broadcasters, especially when faced with no or little competition from private broadcasters. Whatever the reason, the authorisations of more traditional broadcasting channels is responsible for the greatest increase in private broadcasting service experienced by most consumers in Member countries in which relatively few consumers receive broadcast service from alternatives such as broadband cable, DBS, or MMDS.

The constraint of the limited broadcasting spectrum also has been loosened by the development of methods of delivering broadcasting programming to consumers that do not use broadcasting spectrum. These alternatives are used primarily for television rather than radio broadcasting, for which spectrum poses the greatest constraint. In several Member countries, broadband cable and DBS have allowed large increases in the number of broadcast channels available to many consumers.

Delivering signals over cables largely eliminates both spectrum limitations on number of channels delivered and the requirement for public authorization to use the spectrum because no spectrum is used to deliver the signal to consumers.[13] For years, however, cable offered only the potential for overcoming the constraint of spectrum. Older cable systems rarely were more than adjuncts to traditional broadcast stations. These early cable systems did little more than attach consumers to a central antenna in order to improve reception of channels broadcast over-the-air. They were used where distance from transmitters or terrain made reception of stations difficult for individuals. Cabling also was used to connect residents of apartment complexes in cities to a central antenna, again because individual reception was difficult. Such systems are sometimes referred to as MATV - Master Antenna Television systems - or CATV - Community Antenna Television systems. These systems almost always relied on reception of traditional broadcast channels for their programming, and often had a capacity of only 6 to 12 channels - sufficient to distribute the traditional broadcast channels.

New broadband systems have a fundamentally different character. Broadband cable systems often deliver 50 to 100 channels of video (or audio) programming. MATV itself has evolved into SMATV, Satellite Master Antenna Television. SMATV systems use essentially the same technology as broadband cable, but in a restricted area, and like broadband cable can deliver 50 to 100 channels of programming.[14] To

fill this increased channel capacity, both usually distribute not only the programming of local and distant terrestrial broadcasters, but also programming shown by no traditional broadcasters and intended specifically for distribution by satellite to cable system, SMATV systems, or MMDS systems.

Table 2.1. **Cable service in OECD Member countries**

Country	Cable households as percent of TV households	
	1985	1990
Australia	n.a.	very small
Austria	n.a.	23.7 (1)
Belgium	78.3 (3)	88.9 (2)
Canada	63.5	73.6 (4)
Denmark	n.a.	61.9
Finland	n.a.	42.3 (1)
France	n.a.	1.5 (2)
Germany	3.8 (5)	32.3 (5)
Greece	n.a.	very small
Ireland	30.0	30.9
Italy	n.a.	0.4 (2)
Japan	1.1 (6)	3.3 (6)
Luxembourg	n.a.	64.3 (2)
Netherland	n.a.	79.5 (2)
New Zealand	0	0
Norway	14.7 (3)	31.8
Portugal	n.a.	very small
Spain	n.a.	3.0 (2)
Sweden	5.4 (8)	52.3 (7)
Switzerland	n.a.	72.0
Turkey	n.a.	very small (2)
United Kingdom	0.6 (8)	1.9
United States	35.2 (3)	55.1 (2)

Notes: (1) Data for 1991, calculated as per cent of all households; source OECD (1992b).
(2) Data for 1989, calculated as per cent of all households; source OECD (1992b).
(3) Calculated as per cent of 1990 households; source OECD (1992a).
(4) Data for 1989.
(5) Data for old, western *Laender* only.
(6) Includes broadband cable only, not community antenna systems.
(7) Data for 1991.
(8) Calculated as per cent of 1991 households.

Sources: Member country responses to OECD questionnaire on broadcasting, except as noted.

In several Member countries, such broadband cable systems allow consumers to receive substantially more channels of television programming than would be possible using the available broadcast spectrum. The proportion of households receiving television programming by cable, however, varies greatly across Member countries. Table 2-1 provides estimates of the number of households receiving cable television service in Member countries in 1985 and 1989. In some Member countries 50 per cent-90 per cent of households are estimated to receive cable, while in others the estimate is that fewer than 5 per cent receive it. Such data must be interpreted with care, since cable systems vary considerably in the number of channels delivered and the extent to which channels not available off-air are delivered. Still, there clearly are real differences in the importance of cable as a means of delivering broadcast signals.

The other new methods for delivering broadcast signals, DBS and MMDS, do use spectrum to deliver signals, but because they use spectrum outside the bands allocated to traditional broadcasting, they add to the spectrum available and thus to the number of possible channels of programming.

DBS service is just what the name implies: radio signals carrying programming are transmitted from satellites for direct reception by the antennas of consumers. Two types of satellite transmission are used. The original spectrum planning for DBS provided for satellites transmitting high signal strengths, which was considered necessary to make receiving antennas and equipment small and inexpensive enough for households. High power satellites used for DBS can deliver 4 to 6 channels of programming. Several medium power satellites, however, also are now being used for DBS service, and these deliver more channels of programming than the high power DBS satellites. For example, Astra, which serves several countries in Western Europe, transmits 25 television channels and 12 radio channels.[15] While DBS signals can be received directly by consumers, they also are received and distributed by cable in many instances. A substantial number of the subscribers to channels carried by DBS in fact receive those channels over cable.

Multichannel microwave distribution systems, or MMDS, essentially are terrestrial video broadcasters using a different portion of the spectrum than the UHF or VHF bands allocated for traditional television channels.[16] MMDS service can deliver 12 to 20 channels of programming. One limitation of MMDS is that reception is limited to antennas with a clear line of sight to the transmitting antenna. A number of countries have acted to allocate a portion of the available microwave spectrum to MMDS broadcast service, but as yet MMDS does not serve large numbers of consumers.

Part of the reason cable, DBS, and MMDS have been able to increase the supply of private broadcast services in some Member countries is public policies that have allowed or encouraged their use. Each is subject to actual or potential government control.

DBS and MMDS are subject to public control over the use of spectrum. Before they could be used for broadcasting, public authorities had to allow this spectrum to be used to deliver broadcast programming, and also had to license or otherwise authorise particular MMDS or DBS operations to use spectrum.

Technical rules for high power satellites to deliver DBS service were established by the World Administrative Radio Conference (WARC) in 1977. Orbital slots for DBS satellites and spectrum were allocated at an international level for the European region in 1977 and for the North American region in 1983. Spectrum and slots also have been allocated for medium power satellites. Several Member countries have taken the additional steps necessary to authorise the operation of particular DBS services.

MMDS service did not require new spectrum allocations at the international level since it operates within bands already allocated for a variety of microwave communications. Member countries that allow

MMDS have had to apportion the microwave spectrum for broadcasting service and arrange for the licensing of particular MMDS operations.

Since cable systems do not use spectrum to deliver their signals, they do not need licenses to use spectrum. Still, there generally has been some public control over the supply of cable service because of the need of cable systems to use public right of way for the cable, or simply because of its status as a provider of broadcast service. There is direct public control in Member countries where cable transmission has been maintained as a monopoly of the public telecommunications provider. In other Member countries, privately owned cable systems are subject to a variety of licensing or franchising requirements, which have contributed to differences across Member countries in the penetration of cable service. SMATV often is subject to somewhat less control than cable delivery - in part because it does not cross property lines and therefore does not use public rights of way. Still, SMATV is subject to varying degrees of oversight and licensing, either because of its role as part of the broadcast industry or as users of receive-only earth stations.

Economic reasons for the growth of cable, DBS and MMDS

Public policies that permitted private broadcasters to increase use of cable, DBS, and MMDS, as well as of traditional broadcast channels, are only part of the reason for the growth of private broadcasting. It can grow only where it is profitable to supply additional channels of programming. Existing excess demand could support some expansion of supply once the entry barrier of broadcast spectrum was moved back. It is doubtful, however, that private broadcasting would have grown nearly so much without developments that both reduced costs and increased the effective demand for it.

Reduced cost of supplying broadcasting service

The development and subsequent reductions in the cost of distributing programming by satellite have had the greatest and most pervasive effect on the costs of broadcasting, and in turn on the growth of private broadcasting. Satellite technology is used by DBS service not only to distribute programming directly to consumers, but to distribute programming to cable systems, to traditional over-the-air broadcasters, and to MMDS and SMATV systems. Private broadcasting could expand only if it had a product consumers wanted more of. Satellite distribution greatly reduced the costs of distributing the product -- programming -- which in turn made economically viable both new networks of programming and the increased distribution of distant broadcast stations not available over-the-air locally.

Before the use of satellites, cable systems relied for programming on terrestrial broadcast stations -- usually stations whose signals they could receive with conventional, but more expensive or specially located antennas -- because this programming could be received at low cost. Networks did not develop to deliver programming not also shown on conventional broadcast channels. Such networks would have had to rely on terrestrial microwave or telephone landlines to deliver their programming to a network of cable systems that in turn would deliver it to consumers. Using this technology to interconnect a network of local distributors was very costly, and only networks that reached large audiences could recover those costs. New network channels would not have been able to reach or attract sufficiently large audiences to be viable.

So long as cable, or MATV, could only offer programming that also was on traditional broadcast channels, demand was limited. There was a demand for cable service where consumers could not get good reception with their own antennas, although not for systems with more channel capacity than that necessary to deliver the limited number of terrestrial broadcast channels. There was a demand where channels from

neighbouring countries were both attractive and could be distributed at low cost. Outside of these particular situations, cable systems had little they could offer to consumers.

Satellite distribution changed this by greatly lowering the cost of delivering video, and sometimes audio, programming. Satellites began to be used for the intermediate distribution of programming to cable headends or SMATV systems in the early to middle 1970s.[17] As costs fell, it quickly became the predominant method for distributing video programme. General advances in electronics, and experience in manufacturing sharply reduced the costs of the receive-only earth stations broadcasters needed to receive programming by satellite.[18] As interconnection costs fell, new networks could be viable even if they only reached audiences much smaller than those of traditional broadcasters. It also became economic to distribute the programming of more distant broadcast stations for which overall demand was smaller. The new programming in turn gave cable systems something to sell. The result has been a rapid expansion both in new programme networks, and in broadband cable systems to deliver them. Over 80 new networks are distributing programming to cable and SMATV systems in the United States and Canada, and over 45 new private networks are distributing programming to cable, SMATV, and DBS systems in Europe; other new networks are distributing programming in Japan.[19]

Technological developments also have lowered the costs of delivering broadcast signals to consumers. Cable, DBS, and MMDS all have benefitted from advances in electronics that have lowered costs.

Further development of the technology of satellite communications led to DBS by making possible receiving equipment that was small enough and low enough in cost to be used by individual households or apartments. New technology lowered the cost and weight and increased the efficiency of satellite transmitters, which made it possible to increase the strength of satellite signals and the number of channels each transmitted. Higher transmitted signal strength meant that smaller receiving dishes or antennas and lower power amplifiers could be used, reducing their cost. Advances in technology reduced the cost of the receiving electronics that were needed. The new technology increased the value of receiving equipment as well as reduced its cost. Because a single satellite could transmit more channels, an investment in a single receiving dish aimed at a single satellite bought more channels of programming, further reducing the cost per channel of receiving equipment. The net effect of these developments was to lower the cost of DBS transmission and reception. DBS service is still relatively new to the marketplace, but it appears that it will be competitive with other methods of delivering broadcast signals in at least some market circumstances.

Technology also has lowered the costs of delivering broadcast programming by cable or MMDS, if less dramatically than for satellite distribution. Cable technology has been in use for decades, but developments in electronics reduced broadband cable costs by reducing the costs of equipment such as the amplifiers that are needed along the lines to boost signal power and the converters that allow consumers to receive cable channels on conventional TV receivers.[20] Costs also have fallen for the equipment necessary to receive and transmit MMDS signals, although again microwave technology has been in use for some time.

A final important technological development is videotape. As a programme production technology, the use of videotape rather than film has lowered the costs of producing some types of entertainment programming.[21] Videotape also has had a substantial impact on the production of news programming. Videotape has both lowered the cost of news footage and made it possible to get on the air much more rapidly because videotape can be transmitted to the broadcast station, edited, and prepared for broadcast much more rapidly than film.[22]

Home videotape technology also has changed the home environment for video broadcasting. Home videotape recorders, because they both record and playback, have a mixed effect on the broadcast delivery of programming. Used to play back prerecorded videotapes that are rented or bought, they provide an alternative to broadcasting for distributing video programming to the home. Used to record broadcast programming for later playback, they can increase the value to consumers of broadcast programming, perhaps making it easier for consumers to get full value from multiple channels of programming. As with cable, the importance of home video cassette varies among OECD Member countries.

Tapping increased demand

Private broadcasting is supported by either or both of two sources of revenue: the sale of advertising time and the sale of programming directly to consumers, so-called pay television. Pay television usually has meant the sale of access to channels of programming, although sale of individual programmes, known as "pay-per-view," is developing.

Before the middle 1970s, almost all private broadcasting was supported by the sale of advertising time. So long as broadcast programming was delivered only by transmission over traditional broadcast channels, it was relatively costly to limit consumption to households that paid for particular channels of programming. Households owned radio and television receivers equipped to receive transmissions on broadcast channels, and broadcasters could have controlled consumption only by scrambling their signal. Economics made this costly: each subscriber would need a decoder whose cost would have to be covered by the price charged for a single channel of programming.[23] At least equally important, public authorities generally were not anxious to allow pay broadcast services to use the scarce broadcasting spectrum.[24]

The development of cable, DBS and MMDS broadcasting made it considerably easier to charge consumers, rather than advertisers, for broadcast services. Consumers can be connected or disconnected to the cable system, or to different groups of channels, depending on whether they subscribe. Newer addressable equipment reduces the costs to cable and SMATV systems of selling different bundles of channels by allowing them to change from a central office the set of channels a subscriber receives without changing the customer's physical connection. DBS and MMDS can charge for service because each requires special reception equipment that consumers do not generally own. This by itself would not always be enough to limit consumption to subscribers, since the necessary equipment could be purchased separately. Descrambling circuitry can be added to this equipment at relatively low cost, however, which lowers the incremental cost per subscriber of monitoring consumption.

The ability to charge consumers for broadcast services was an important factor in the growth of private broadcasting because it changed the demand upon which broadcasters could draw. The demand for advertising time depends on the willingness of advertisers to pay for time during which they can broadcast commercial messages to audiences. The amount advertisers will pay is limited by the value to them of sending additional advertising message to additional consumers. The demand for pay television service depends on the willingness of consumers to pay for broadcast programming. In principle, advertisers might be willing to pay either more or less for additional viewers of their advertising than the viewers would themselves be willing to pay for the programming. In practice, consumers generally have valued additional programming more than advertisers have valued the viewers.[25] By being able to charge consumers for programming, broadcasters could tap this greater willingness to pay. Effectively, private broadcasters could now serve customers willing to pay more for what they had to sell.

Thus the growth of private broadcasting delivered by cable, DBS or MMDS has been fuelled not only by reductions in the cost of supplying broadcast services, but also by its ability to tap the greater willingness of consumers to pay for programming. Many of the new private broadcast services sell advertising, but nearly all these services recover at least some of the costs of supplying broadcast services from subscription fees.

Role of other public policies

Public authority over the spectrum needed to deliver broadcast signals or over the rights to build cable systems has had an obvious and direct effect on the development of private broadcasting. Other public policies also have played a role by affecting the costs of supply or the demand for broadcasting services.

The development of satellite distribution of programming was encouraged not only by the necessary allocation of spectrum, but also in many Member countries by liberalization of regulations on satellite communications and especially on private receiving installations: TVRO or television receive-only facilities.

In addition, private broadcasting in many Member countries has been subject to a variety of public policies that affect the programming choices of broadcasters and their sale of advertising. Such policies may specify minimum or maximum amounts of certain types of programming, either overall or during particular portions of the broadcast day. Regulations may set other limits, such as on the minimum time that must elapse for movies between theatrical release and broadcast showing. Public broadcast policies also frequently specify limitations on the quantity, timing, and types of advertising that may be shown.

Leaving aside any discussion of other public policy objectives they may serve, such policies do affect the economics of private broadcasting. Policies that constrain the sale of advertising time will affect the supply of advertising time for sale to support individual channels, the overall supply of broadcast advertising time, and the maximum number of advertiser supported channels that are economically viable. Likewise, policies that constrain broadcasters' choice of programming will reduce their ability to attract audiences and to earn revenue from the sale either of advertising time or subscriptions. That too will affect the profitability of individual private broadcast channels, and the overall private supply of broadcast programming and the number of private broadcast channels.

Thus such policies are an important part of the economic environment for private broadcasting, and have played a role in determining the extent of growth of private broadcasting in various Member countries.

Chapter 3

BROADCASTING IN MEMBER COUNTRIES

Private broadcasting has developed quite differently in various Member countries, despite the common forces acting on the broadcast industry. Some of this variation is due to differences in public policy. Policy decisions on the release of spectrum for private broadcasting and on the authorization of cable systems have had an obvious and direct effect on the development of private broadcasting. Other public policies have played a more indirect role, affecting the profitability of private broadcasting and thus the market incentives to increase the private supply of broadcast service. Policies that in the past encouraged or discouraged the growth of private broadcasting continue to affect the incentives for growth today. For example, the prospects for the commercial success of DBS in various countries depend on the past expansion of cable service, which in turn is in part a result of whether policies in the past were conducive to the rapid expansion of cable systems.

The development of the private broadcast industry also has been influenced by the economic environments in Member countries. When a country is part of a large market for programming, it helps make profitable a larger supply of programme production and programme networks. The profitability of cable service will vary with the cost of laying cable, which depends on factors such as the density of population and how much of the cable plant can be laid in simple trenches, how much can be attached to existing utility poles, how much that must be buried can be pulled through existing cable conduit, and how much must be laid in new conduit that requires digging up city streets.

This chapter reviews the broadcast industry in Member countries with emphases on the growth of private broadcasting, how public policies and market conditions have shaped those developments, and on the way the private broadcasting industry has structured itself. The importance of past and present national policies, and of the individual market conditions and histories of broadcasting in Member states provides good reason for organising the discussion along national lines. Nonetheless, it should be remembered that broadcasting is less limited by national borders today than ever before.

One transnational or international dimension of broadcasting is the growing trade in programming rights. Increasingly rights are being sold for the same programming to be broadcast in many different countries; this is true both of film programming whose first distribution is to cinemas and of programming intended for broadcast in the first place. As the demand for programming increases and the value of international distribution rights grows, programming increasingly is produced in the expectation that rights to distribution in several countries will be valuable. As that happens, it becomes less accurate to think of the programming as being produced primarily for the first broadcast distribution, with later distribution simply adding extra revenues and profits; instead, it is the sum of all the demands for the programming, in all distribution, that determines what programming is produced, what is its budget, and how it is designed. In short, the programming becomes increasingly multi-national in character.

A more immediate and dramatic transnational dimension to broadcasting has been created by satellite distribution. Terrestrial transmissions may spill across national boundaries, but not to the extent that

satellite transmissions do. This is most striking in Europe, where programming transmitted from several communications satellites -- such as Astra, DFS-Kopernikus, and Eutelsat -- typically reaches several different Member countries. To give just some examples, Astra, based in Luxembourg, is the primary source of DBS service to the United Kingdom. Swedish programme services also are carried on Astra, and in addition English language service transmitted by Astra, and other satellites, are widely distributed by cable in Sweden. DFS-Kopernikus, operated by the *Deutsche Bundespost Telekom*, distributes German-language programming not only to Germany, but also to Austria and Switzerland. Outside of Europe, AUSSAT is expected to transmit service to both Australia and New Zealand.

The result is not just that national programme services happen to be receivable in other countries because of the technical characteristics of transmission. The programme services themselves often are designed for and seek audiences in several countries. In addition to the examples already given, public service broadcasters in Germany, Switzerland, and Austria are working together to provide German-language programme services. A French-language service, TV 5, supported by public revenues, is distributed to France, Switzerland, and, by satellite relay, to French-speaking Canada. Private services such as MTV Europe and various sport programme services are distributed widely to European countries.

The importance of these programme services varies across Member countries, but it should be remembered that often many of the services distributed by cable services, or received directly from satellites, are transnational rather than national programme services.

Australia

Traditional, over-the-air television and radio services, which continue to be the primary source of broadcasting services in Australia, are provided by both public and private broadcasters, and have been for some time.[26] There are two public broadcasters -- the Australian Broadcasting Corporation (ABC) and the Special Broadcasting Service (SBS). The ABC provides a nationwide television service and four radio services. The ABC is not permitted to broadcast advertising and is publicly funded.[27] The SBS provides ethnic language and multicultural television services to capital cities in Australia and some other regional centres. The SBS also provides ethnic-language radio services to Sydney and Melbourne. The SBS is permitted to broadcast limited advertising and sponsorship announcements. Commercial television and radio service is provided by individually licensed stations. Three channels of commercial television service are available in the major metropolitan and capital cities. Fewer commercial channels have been available elsewhere, but a programme of commercial television "equalisation" has commenced with the object of also making three commercial channels available to people in regional centres. The enhanced availability of broadcast services also is shown by the increase in the number of transmitters between 1980 and 1990 for all services: the number of transmitters for public (national) television increased from 180 to 480, for commercial television from 151 to 450, for public (national) radio and for commercial radio from 143 to 171, and for local community or special interest, non-profit radio (known as public radio) from 26 to 89.

To date, other distribution methods -- cable and DBS -- have been used only as adjuncts to traditional over-the-air service. No subscription services to the home are available (although some subscription, broadcast-type services are distributed by satellite to clubs and pubs). Cable systems are limited to the retransmission of over-the-air broadcasting services in areas where individual reception would be difficult or impossible. These systems usually are funded by the community being served.[28] DBS service is used to provide television service to households in remote areas. The ABC is broadcast all over Australia by DBS (but presumably is utilized primarily by those in remote areas). The Remote Commercial Television Service (RCTS), three different, one-channel services for different regions, also is available by satellite in

most areas of Australia unserved by terrestrial over-the-air commercial television. While the RCTSs are intended to be commercial services, at present they operate with Government subsidies.[29] There are at present no MMDS services or SMATV services as such, although individual householders may install private satellite earth receiving stations without license.

The Australian Broadcast Tribunal (ABT) and the Department of Transport and Communications (DTC) are responsible for the regulation of broadcasting in Australia. The ABT is a statutory body with a range of powers relating to broadcasting licenses, transmission and standards of programme and advertising content, and ownership or control of commercial licenses. The DTC oversees the structure and application of broadcasting regulation that is responsive to current social and economic needs. The DTC is also responsible for spectrum allocation and management.

Commercial television and radio broadcasters are required to meet various regulations on minimum quantities of programming with Australian content and for children. Commercial television broadcasters were required to transmit 35 per cent Australian programming in 1990, with the minimum increasing in steps of five percentage points each year to reach 50 per cent after four years. In addition, commercial television broadcasters are required to transmit each year not less than 104 hours per year of Australian-originated, first release drama between 6pm and 10pm and not less than 4 "big budget" Australia "specials" (mini-series, docu-dramas, documentaries etc.). Commercial broadcasters also are required to transmit minimum amounts of children's programming, which is divided into two classifications: "C" programmes that are suitable for children of primary school age and "P" programmes that are suitable for pre-school children. The regulations require minimum amounts of programming in each category per year, and minimum amounts of "C" programmes per week and per day during the weekday hours of 4.30 p.m. to 8.30 p.m. and weekend hours of 7 a.m. to 8.30 a.m., and minimum amounts of "P" programming per day between 8.30 a.m. and 4.30 p.m. Commercial radio broadcasters are required to transmit a minimum of 20 per cent of music that is Australian performed and 5 per cent that are Australian compositions between 6 a.m. and Midnight.

The quantity of advertising on commercial television and commercial radio is not regulated by the ABT, but is governed by a voluntary code. Except when a licensee of a commercial radio station is the only license to serve the whole or substantial part of an area, they must not transmit more than eighteen minutes of advertisement in an hour.

The *Broadcasting Act 1942* allows a maximum 20 per cent direct or indirect foreign interest in Australian broadcast properties. In addition, the *Foreign Acquisitions and Takeovers Act 1975* allows the Federal Treasurer to prohibit any substantial acquisition of an Australia company by foreign interests that he believes to be contrary to the national interest.

In late 1991, the Government proposed a new comprehensive *Broadcasting Services Bill 1992* to replace the *Broadcasting Act 1942* and its numerous amendments, and presented an Exposure Draft of the proposed legislation. After a process of consultation, the Government introduced the *Broadcasting Services Bill 1992* into Parliament in June 1992. The Bill was passed by Parliament on 26 June 1992, but has not yet come into operation (as of July 1992). Among other purposes, the new legislation is intended to overcome the limitations of the current Act by providing a regulatory framework that will accommodate the development and structural adjustment of the broadcast industry in response to new technologies and service innovations.[30] It initially was proposed that the *Broadcasting Services Bill 1992* also would introduce subscription broadcasting into Australia, and the Bill as introduced into Parliament contained provisions dealing with ownership and control of subscription broadcasting services. However, during passage through parliament, the bill was amended to remove these provisions and the issue has been referred to a Senate committee for further consideration.

Austria

The public broadcaster, ORF, retains a monopoly in Austria and private broadcasting originating in Austria is not allowed.[31] No change has been made in this system since 1980. Broadcast services are available by cable; cable systems must receive permission from the Broadcasting Authority. (What in effect are SMATV services also are available, but no clear distinction is made between small cable systems and SMATV systems.) A number of programme services originating outside Austria, including private, advertiser-supported services, are authorised for distribution by cable systems in Austria. These include the German private programme services SAT 1, RTL-plus, Tele 5, PRO 7, and Sportkanal; the German public-supported service 3-SAT, and others including Super-Channel and MTV Europe. In addition, ORF participates in the satellite service 3 Sat, along with the German and Swiss public service broadcasters, ZDF and SSR. DBS and MMDS are not in use in Austria.

Canada

Private broadcasting has been growing in Canada since at least the early 1970s.[32] Both over-the-air television broadcasting and cable delivery have grown substantially in this period. Private television stations were first licensed in 1953 and operated as affiliates of the publicly funded Canadian Broadcasting Corporation (CBC) networks. In 1960 licenses were issued for additional private television stations and a private English-language network, the CTV, was started. These two networks dominated television broadcasting until the early 1970s when a substantial number of additional private television stations were licensed. The new stations allowed the formation of two new private networks that concentrated on regional coverage, the Global network centred in Ontario Province and the French-language TVA network centred in Quebec Province; later a fourth private network, also a French-language service, was begun. New independent stations have provided additional channels of programming in a number of population centres. By 1980 there were 77 private television stations, 31 affiliated with the public CBC network, 26 affiliated with CTV, and the remaining 19 affiliated with one of the new networks or independent. There also were 34 public television stations, 31 owned by the CBC. (There also were numerous rebroadcasters that originated no programming but extended the reach of the originating stations.) By March 1990, the number of private television stations increased to 96, 29 affiliated with the CBC, 44 affiliated with one of the four private networks, and the remaining 23 were independent. There also were 33 public television stations, 29 affiliated with the CBC network. By the end of the decade, local television stations in addition to CBC and CTV affiliates were available in most major markets.

In March 1990, there were 350 private A.M. radio stations and 34 public A.M. stations; these numbers had changed little since 1980. The number of F.M. stations, however, had increased substantially: from 158 private F.M. radio station in 1980 to 283 in 1990, and from 20 public F.M. radio stations in 1980 to 34 in 1990.

Cable service is a very important delivery system in Canada. As of March 1990, there were nearly 2 000 (private) cable systems, over 90 per cent of Canadian households had access to cable services, and over 70 per cent of households subscribed to cable service, one of the highest figures among OECD Member countries. Cable systems deliver an average of 24 channels. Cable service reached this position by rapid growth through the 1970s and 1980s. The percentage of households with access to cable service grew from 31 per cent in 1973 to 61 per cent in 1982, already a high figure even by 1990 standards. Cable systems grew in Canada in the 1970s by offering viewers two sources of programming not generally available off-the-air: US stations affiliated with the three US commercial networks, and Canadian stations available in distant

markets but not locally. US stations could be received over-the-air in markets close to the US-Canadian border. Cable systems improved reception in these markets, and brought these services to other markets for the first time. Cable systems also extended the reach of the new Canadian independent television stations and networks, bringing them to additional markets, which in turn presumably helped stimulate the increase in the number of these stations and networks.

Premium or pay programme services intended specifically for cable distribution have been less important in building demand for cable service in Canada then they have been in the US. Fewer than 20 per cent of Canadian cable subscribers purchased a pay service in 1987 (while about 50 per cent of US cable subscribers in 1989 bought at least one pay service). Pay service in Canada must be licensed by the Canadian Radio Television and Telecommunications Commission (CRTC), which also licenses cable systems. Cable pay service was first authorised in 1982, and may be provided only by a limited number of licensed pay TV providers.

Other delivery systems are much less widely used. Direct reception by consumers of broadcast services from satellite is limited to C-band satellite receivers. Use of the TVRO dishes is unregulated, but it is estimated that about 300 000 are in use. SMATV service are exempted from licensing (provided they meet certain programming and other requirements), but are limited to serving multiple-unit dwellings or educational institutions. Two MMDS systems have been licensed, one of which is operating with somewhat fewer than 400 households in its receiving area.

Satellites have been widely used for intermediate broadcast programme distribution since the 1972 launching of the Anik A-1 communications satellite. Over time, broadcasters have been allowed greater flexibility in their use of satellite service. Since 1982 users of satellite communications have been able to own receive-only earth stations. Broadcasters also have gained the right to purchase service directly from Telesat Canada rather than through the regulated common carrier, to purchase less than an entire radiofrequency channel, and to resell transponder capacity to other broadcasters.[33]

The Broadcasting Act mandates the Canadian Radio-television and Telecommunications Commission (CRTC), an independent public authority, to regulate and supervise the broadcasting system. All off-air delivery systems require CRTC licensing, as do cable systems and pay cable programme services. A new Broadcasting Act and related amendments to the Radiocommunication Act, passed in 1991, have attempted to make legislation technology-neutral by specifying broadcasting functions rather than technology. As a consequence of this legislation, the CRTC will change its licensing system so that broadcast licenses are classed by functions (programming, distribution and network) rather than by technology, as they are in part now.

The CRTC establishes rules on programme content for both television and radio broadcasting, which may differ depending on the medium and the class of license. Generally the Commission regulates the Canadian content of programming, the language of broadcast (French or English), the proportion of English music that a French radio station may pay, and the proportion of programming that may be devoted to the spoken word, music or news. Generally, AM radio stations are regulated less stringently than FM stations. The CRTC also limits the quantity of advertising on both television and FM radio stations; advertising on commercial AM stations is not limited.

Cable service is subject to CRTC regulations on both the range of programming services that may be provided and on price. The regulations on programme services ranks the stations or services that cable systems may transmit in order to ensure Canadian, local and public (as opposed to private) programme content. Having met these other requirements, cable systems may then choose to carry any of a number of

satellite services included on a list of such services approved by the CRTC. (Similar regulations apply to MMDS and SMATV services.) CRTC regulations also control increases in fees for cable service; specify the circumstances in which cable systems may increase fees to subscribers. The regulations specify three circumstances in which fees increases are allowed "automatically" without CRTC approval: (a) annual increases in "base" fees are allowed equal to a proportion (specified by the CRTC) of the increase in the consumer price index, (b) fees may be increased to pass-through increased fees charged by "specialty" cable programme services (whose fees are themselves approved by the CRTC in the course of licensing), and (c) fees may be increased to recover eligible capital expenditures (at rates permitted by the CRTC). In addition, cable systems may apply for CRTC approval of fee increases due to economic necessity, which requires an examination by the CRTC of the profitability of the distributor. (Fees for MMDS and over-the-air subscription television services are not regulated.)

Another aspect of broadcast policy in Canada is Telefilm Canada's Canadian Broadcast Programme Development Fund. The fund is intended to foster the creation and development of Canadian television programmes. Funds are provided only to independent producers, not networks or station-programmers, although producers must have a commitment from a Canadian broadcaster. Consistent with the policy initiative, the 1991 Broadcasting Act requires, as one of its policy objectives, that the programming provided by the Canadian broadcasting system should "include a significant contribution from the Canadian independent sector" (s.3(1)(i)(v)). Because of concern about the viability of independent producers, the CRTC has attached conditions to the licenses of some networks requiring the use of independents. The new Act specifically allows cable companies to become involved in programming activities where the CRTC deems this appropriate (this confirms existing regulatory policy). At the same time, because of concern that such involvement could lead to conflicts, such as a cable company giving preferential treatment to programming services in which it holds financial interests, the Act provides regulators with new powers to intervene and prevent abuses. The Commission is allowed to mediate disputes between programming services and cable operators by arbitration or other means, and if necessary to require carriage of certain programming.

Denmark

Until the early 1980s the only Danish television or radio channels broadcast were those offered by Danmarks Radio, the public broadcaster.[34] Danmarks Radio broadcasts three national radio programmes or channels (one of which includes regional broadcasting in 9 areas) and one national television channel. The service is financed mainly by license fees paid by all owners/users of radio and television receivers. Danmarks Radio is not allowed to carry advertising.

A second national television service, TV2 Danmark, was established by law in 1986 and began nation-wide broadcasting in 1988. TV2 Danmark is an independent public service station that broadcasts one channel nation-wide, and includes 8 regional stations that broadcast approximately 30 minutes a day, primarily of local news and current events. The service is financed primarily by advertising, with some supplemental support from license fee revenues. A state-owned limited company, TV2 Reklame A/S (TV2 Advertising Ltd.) has been established to handle all matters concerning advertising on TV2. Limitations on advertising time on TV2 recently were revised by Act Nr. 87 of 11 February 1992, amending the Act on Radio- and Television broadcasting. The present limitations are that advertising on TV2 may not exceed 10 per cent of daily transmission time or 12 minutes per hour; advertising time must be divided into distinctive blocks placed between programmes. TV2 Danmark also is required to seek to insure that the station broadcast at least 50 per cent Danish and Nordic programmes.

The only other broadcasters authorised to originate broadcasts in Denmark, and the only private broadcasters, are local radio and television services.[35] Frequencies have been allocated for local radio in all municipalities (i.e. in 275 areas) and for local television in about 30 more densely populated municipalities or areas. A single frequency or group of frequencies (where a number of municipalities form one local area) often is shared by more than one license-holder. Thus in total about 50 local television license-holders are broadcasting in about 10 local areas, and about 350 local radio license-holders are broadcasting. Local stations may broadcast advertising subject to limitations. Under Act nr. 87 of 11 February 1992, advertising on local television stations is subject to the same limits as that on TV2: it may not exceed 10 per cent of daily transmission time or 12 minutes per hour. Local radio stations also may broadcast advertising up to a maximum of 10 per cent of their daily broadcast time.

In addition to service originating in Denmark, over-the-air broadcast services from neighboring countries are available in much of Denmark either directly or by cable.

About 1.6 million of Denmark's 2.2 million households have cable service available, and about 1.3 million households receive programming from cable services. Cable systems carry programming from three sources: the national Danish services of Danmarks Radio and TV2 Danmark, foreign programme services initially broadcast either over-the-air or by satellite, and local Danish radio and television stations. Altogether about 40 television and 10 radio channels distributed by satellite may be received legally in Denmark. No programme services distributed by satellite originate their service in Denmark; broadcast legislation explicitly stipulates that only Danmarks Radio and TV2 Danmark may broadcast nationally by terrestrial transmitters or by DBS (and possibly also by communications satellite). Local cable systems are allowed to retransmit local stations initially broadcast over-the-air (1) if they can receive those stations directly via local antennas, or (2) if it is delivered to them over cable by the national telecommunications companies. The telecommunications companies may only deliver stations broadcast over-the-air to local cable systems located in municipalities bordering on areas where the station is initially broadcast over-the-air, or to municipalities bordering on these municipalities. In addition, to over-the-air local stations, approximately 60 license-holders are broadcasting local television service directly by cable, and fewer than 10 license-holders are broadcasting local radio services directly by cable.

Cable services may receive the programming they retransmit either with their own antennas or from a network operated by the telecommunications companies. Cable systems are allowed to carry and distribute programming only within the borders of a single municipality, since the telecommunications companies are granted a monopoly on carrying radio and television programming by cable across municipality borders.[36] The Hybrid network of the national telecommunications companies offer approximately 24 television and 30 radio channels to local cable systems, consisting of the channels of Danmarks Radio, TV 2 Danmark, local station programmes, and programme services from other countries originally broadcast over-the-air or by satellite. About 550 000 households receive programmes delivered to their local cable system over this network. When retransmission of foreign programming was first legalized in 1985 and the Hybrid network was authorised, the national telecommunications companies were assigned a general monopoly of delivering programmes distributed by communications satellite to local cable systems. Local cable systems generally were not allowed to receive programming directly from communications satellites with their own equipment.[37] This monopoly was abolished in 1987, and cable systems serving 416 000 households now receive at least part of their programming with their own satellite antennas. Until 1 July 1992, a technical receiving-license, issued as a general license together with type approval of the receiving equipment used, was required.

Permission to establish and operate a local cable system can, in accordance with the Act on Broadcasting and regulations, only be granted to owners or tenants of the buildings to be served, to

municipalities, or to the national telecommunications companies. Danish broadcasting legislation contains no specific provisions on the pricing of services delivered to consumers. General principles for the pricing of services delivered to cable systems by telecommunications companies via the Hybrid Network have been set by the Minister of Communication in accordance with the Parliament Decision of 1985 authorizing the network. There is no distinction in Denmark between SMATV systems and other cable systems that receive satellite programming; SMATV systems are governed by the same rules described for cable systems.

Approximately 70 000 households in Denmark own antennas that enable them to receive programming from communications satellites. There are no MMDS distribution systems in Denmark.

Finland

The state-owned Oy Yleisradio Ab (Finnish Broadcast Company) holds in Finland a license for television and radio broadcasting granted by the Council of State. Yleisradio has a monopoly in nationwide television and radio broadcasting; while broadcasting legislation does not prevent the granting of television and radio licenses to more than one operator, thus far only Yleisradio has been granted a license for nationwide broadcasting. Yleisradio is allowed to take part of its television programming from MTV Oy, a commercial broadcasting company. Yleisradio's current license expires in 1999 and may not be transferred to another operator.

Since the 1980s, licenses have been granted to private companies for regional broadcasting. There are commercial cable television stations in larger cities, and licenses also have been granted to about 70 local commercial radio stations.

Under the terms of its license, a sufficient share of Ylesradio's television programmes has to be of Finnish origin to preserve and promote national culture.

France

Until 1982, radio and television broadcasting were state monopolies in France. There were three public television networks: TF1, which could trace its history back to 1937, and Antenna 2 and FR3, which were established in 1972. All three were supported both by license fees on televisions and limited advertising. Radio France operated three national stations and some regional stations. While these were the only authorised broadcasters within France, French consumers could receive other broadcasting channels. Television broadcasts from Tele-Monte-Carlo (TMC) could be received in the south of France and from Radio-Télévision Luxembourg in the north. These "peripheral" broadcasters also operated radio services. In addition, several private radio stations began broadcasting in France without authorisation in the 1970s.

Since 1982, this broadcasting environment has changed substantially. The state monopoly on radio was lifted in 1981 and 1982. In 1981 non-profit associations were allowed to operate radio stations, and in 1982 more general arrangements were made to grant broadcast licenses and authorise private FM radio stations. Since 1984, private radio stations have been allowed to broadcast commercials.

Equally great changes came to television broadcasting in the mid-1980s. In 1984, a collection of private interests, led by the French advertising company Havas, was granted a franchise to use regular broadcast frequencies to provide a subscription service, Canal Plus. Most subscribers receive Canal Plus over-the-air, rather than by cable or DBS service as is the case with most other pay-supported programme

services. Canal Plus is, however, also distributed by cable systems. For most but not all of its broadcast day, its transmission is scrambled and can be watched only by subscribers with descrambling equipment.

In 1985 and 1986 the government announced the availability of terrestrial frequencies for two advertiser-supported services and new broadcasting legislation. Franchises to offer service on the two new channels were awarded to the new private networks: La Cinq and Metropole Six (or M6). M6 was originally to concentrate on music programming, but since has moved to more general programming. Both are advertiser-supported and available off-air. Equally striking, the September 1986 legislation provided for the privatization of TF1, France's first and most watched public television network. Public support from license fee revenue was phased out, and today TF1 earns all its revenue from advertising. It remains, by a comfortable margin, the most watched television network in France. The 1986 law also established a new body to regulate broadcasting: the Commission nationale de la communication et des libertés (CNCL)[38] and established a new public station, La SEPT. La SEPT was intended primarily for distribution by the French DBS satellite, but some of its programming is shown on the public channel FR3.

While in the early 1980s there were only the three public TV networks, by 1991 five TV networks plus the subscription Canal Plus service are generally available over-the-air, and all but two were operated by private broadcasters. In 1992, however, the private service La Cinq ceased broadcasting due to financial difficulties. The private broadcasters supply schedules of programmes, but do not handle transmission. All over-the-air TV stations (and public radio stations) are transmitted by Télédiffussion de France (TDF). Some of TDF's capital has been sold to the private sector, but the state remains the main shareholder.

Government broadcasting policy continues to play a prominent role for private as well as public broadcasting. Private networks are subject to limits on the number of theatrical films they may show, on how often films may be interrupted by advertising, and on how soon after theatrical release films can be shown. There are general limits on the amount of advertising and quotas on the minimum amount of programming that must be French produced.

The largest French programme producer is the state-owned SFP (although as with TDF some capital has been sold to the private sector). Independent programme producers have established links with broadcasting interests both in and out of France. The largest independent French producer, Hamster, is part owned by CLT-RTL (the Luxembourg broadcast company), which in turn is part owner of M6, and by CapCities/ABC, the US firm. The second largest independent producer, Tele-Images, has established connections with NBC and Group W in the US for some productions. Another programme producer, Elipse, is part-owned by Canal Plus and the US firm Hearst.

Cable systems have played a relatively small role in French television broadcasting. Until 1986, cable distribution was a monopoly of the DGT, a division of the French Ministry of Postal Services and Telecommunications. In 1982 a plan was announced to develop technologically advanced optical fiber cabling that would carry interactive, two-way services as well as broadcast signals. As of early 1987, however, there were only about 35 000 cable subscribers in France. The 1986 law lifted the DGT's monopoly and allowed cities to sign cabling agreements with private firms. Three major firms, two private waterworks and a mixed capital savings firm have installed private cable systems, and the number of cable subscribers now is growing. By early 1990 there were only about 300 000 cable subscribers, which is about 1.5 per cent of total households; cable service is available to a considerably larger number of households, about 3.5 million households, but subscription rates have been low.[39] Several satellite programme services have been begun, but so far have failed to find large audiences.

Germany

The greatest changes in German broadcasting over the past ten years have come from the development of cable services and new private programme services, often delivered by satellite in some areas and by terrestrial transmitters in others.[40] Until the mid-1980s, nearly all television broadcast services were provided by the public broadcasters ARD and ZDF. The ARD and ZDF each broadcast one channel, and ARD also broadcast a third channel of regional stations. In 1985, broadband cable service was available to fewer than 20 per cent of households and only about 1 million households, or less than 5 per cent of all households subscribed to cable service (these figures are for the old *Laender* of western Germany). There was no private commercial terrestrial broadcasting within Germany.

By 1990, broadband cable service was available to over 60 per cent of households (in the old *Laender*) and about a third of households subscribed to service. A substantial number of private and public programme services had developed that were distributed to cable systems both by communications and DBS satellites. In addition, one or two channels of private terrestrial television service were available in each *Land*, sometimes broadcasting programme services delivered by satellite to cable systems in other areas. Four "major" private television programme services are available in larger urban areas throughout the country either by cable or terrestrial transmission: RTL plus, SAT 1, PRO 7, and TELE 5. Approximately 30 more services are available in regional areas. Private radio service also are available, with a total of 121 private local or regional stations in operation in 1990. In addition, radio channels also were delivered by satellite and distributed by cable systems.

Most German language programme services delivered by satellite use one of three satellites: the high power DBS TV-SAT, or the medium power communications satellites DFS-Kopernikus and Astra. TV-SAT and DFS-Kopernikus are operated by the *Deutsche Bundespost Telekom* (DBT) and Astra by a private Luxembourg company. TV-SAT transmits 4 TV channels and 16 Digital Satellite Radio (DSR) channels; the four television services are SAT 1 and RTL plus, and the public services 3 Sat and Eins Plus. The public services are supported by public revenues or license fees; Eins Plus is operated by ARD and 3 Sat is a joint enterprise of ZDF, the Austrian public broadcaster ORF, and the Swiss broadcaster SRG. The TV channels of TV-SAT are transmitted in the D2-MAC standard. DFS-Kopernikus transmits 11 TV channels in the PAL standard and 21 radio channels. The four programme services broadcast in D2-MAC from TV-SAT also are broadcast in PAL from DFS-Kopernikus,[41] the remaining television services are German language private services (with one exception), including the pay-supported film service Premiere.[42] Astra transmits 25 television services and 12 radio channels; in addition to German language services, Astra also transmits programme services in languages other than German (including many in English).

The programme services distributed by satellite reach most viewers by cable distribution. It is estimated, however, that about 850 000 to 900 000 households receive transmissions directly from these three satellites. By far the largest number of households, about 685 000, are equipped to receive the Astra PAL transmissions; about 100 000 viewers are equipped to receive the D2-MAC transmissions of TV-SAT.[43]

The broadband cable distribution system in Germany is installed and operated by the *Deutsche Bundespost Telekom* (DPT), which is responsible for decisions on where to install plant.[44] Cable service is to be extended to the new eastern *Laender*, with plans to provide 550 000 households in the new *Laender* with service by the end of 1991 and 1.3 million households by the end of 1992. Decisions on what programme services will be carried are made by each *Laender*. To distribute programming, services must negotiate separate agreements with each *Laender*, including the new eastern *Laender*, in which they will be carried by cable systems (or by the private terrestrial channels which also are the responsibility of the *Laender*).

In addition to cable and DBS distribution systems, some SMATV or collective antenna systems are in use. Data on the number of these systems or of households receiving the service is unavailable, but they are of less importance than other delivery systems. MMDS -- microwave distribution systems -- are not in use in Germany.

In the Federal Republic the *Laender*, rather than the national government, are responsible for broadcast legislation and regulation, including all decisions for which stations may broadcast. The individual *Laender* have adopted their own legislation, and there are therefore some differences in their broadcast structures and regulations. Some common decisions on broadcasting have been take by inter-state agreements among *Laender*. The governments of the individual *Laender* and the Federal Minister of the Interior are responsible for regulation of the public broadcasting corporations. Regulation of private broadcasting is at the discretion of the *Landesmedienanstalten*, supervisory bodies of the individual *Laender*. By inter-state agreement, advertising on public television services is limited to a maximum daily average of 20 minutes (and in no case more than 25 minutes per day) with no advertising allowed after 8 p.m., Sundays or holidays, and no advertising allowed on the ARD's third channel. A maximum of 90 minutes of advertising per day (annual average per working day) is allowed on public radio channels. Advertising on private broadcast services is limited to 20 per cent of daily transmission time. Apart from general requirements for public stations on pluralism and balance in the presentation of views, there are no specific requirements to broadcast maximum or minimum quantities of particular types of programming. There are no regulations on the pricing of "pay-TV" services.

Ireland

RTE, the national public broadcaster, operates two national television channels, three national radio channels (one of which is shared with a limited cultural/classical music channel), and a limited local radio service in the area of Cork.[45] For a time RTE was involved on a joint venture basis with Radio Luxembourg in the longwave Ireland-based station Atlantic 252; RTE now has sold its stake in Atlantic 252.

All private television and radio authorisations have taken place since the passing of the Radio and Television Act 1988. A private television station was authorised with service expected to begin in late 1991. As of summer 1992, however, this station has failed to get off the ground. Its broadcasting license was withdrawn, but the withdrawal was challenged in court over the licensing authority was found to have acted wrongly. One private national radio service and 22 private local radio services were begun. The national private radio service, however, has closed down due to financial difficulties. In addition, UK based radio and television services are received extensively in Ireland; UK services account for roughly 50 per cent of television viewing.

Both public and private services carry advertising. Independent, private broadcast services are limited to advertising airtime equal to 15 per cent of their transmission time. Advertising on RTE's television service is limited to 7.5 per cent of transmission time and a maximum of 5 minutes per hour; in addition there is a ceiling on the maximum advertising revenue it may earn equal to the amount paid to it in television license fees in the preceding year (adjusted by the consumer price index for that year). Before 1990 the limit on advertising for RTE had been 10 per cent of transmission time with no revenue ceiling. The reduction was intended to provide a fairer competitive environment for the broadcast sector as a whole and to give the new privately operated broadcasting services a change to emerge and develop by curbing RTE's access to the advertising market and thereby creating a greater pool from which private broadcasters could draw. The effects of the cap on RTE advertising revenue seem to have been to increase the cost of advertising on RTE

and to divert some advertising to UK commercial TV channels based in Northern Ireland. The result has been to prompt a re-examination of broadcast policy by the Government.

The programming of television and radio services are subject to various requirements or expectations. RTE and the new private television service are subject to the EC Directive on Broadcasting Activities, which requires that "where practicable and by appropriate means" a majority of transmission time is to be devoted to European originated programming (not including news, game shows, and sports events) and either 10 per cent of its transmission time or programme budget is to be devoted to independently produced European material. An unspecified amount of programming on both radio and TV is expected to be in the Irish language. (One of RTE's radio networks is an Irish language service.) For private radio services there is a specific legislative requirement that they devote a minimum of 20 per cent of their transmission time to news and current affairs programming and, if they broadcast for more than 12 hours per day, that at least two hours of broadcasting between the hours of 07.00 and 19.00 be devoted to news and current affairs.

Cable service is subscribed to by about one third of households, and all major urban areas are cabled. On average, cable systems carry 10 to 11 television stations, although at least one major system carries up to 25 television services. Cable systems carry English language satellite services in addition to Irish and UK terrestrial broadcast services.

A nationwide MMDS service was franchised during 1990. The system will have a capacity of 11 television channels and is to serve the non-cabled population of about 700 00 to 750 000 households.

SMATV service is limited, although numbers are not known since no license is needed for systems serving fewer than 100 households.[46] Direct reception of satellite services, carried either on high-power DBS or on medium-power satellites such as Astra, is limited, probably to fewer than five thousand or so, although numbers are not known since licenses for individual reception are not required.

Cable and MMDS systems are operated on a commercial basis and most are owned by private companies. The largest cable system, however (with franchises comprising the cities of Dublin, Waterford and Galway), is owned by Telecom Eireann, the national telecommunications company (60 per cent), and by RTE (40 per cent); the same company also has MMDS franchises for these cities. The cable and MMDS operations of these public bodies are treated on an "arms length" basis from their main activities and, from the regulatory point of view, are not treated any differently than private commercial companies.

Cable and MMDS services must be licensed under the Wireless Telegraphy Act 1926-1988. Services operate on a franchised monopoly basis in their franchised areas. Except in certain exceptional cases MMDS service may not be offered in an area already franchised for cable. Technical standards are regulated for both cable and MMDS services. Both also are regulated on such matters as their charges, the services that can be carried, and the sale and transfer of ownership of systems. Cable systems are required to carry the television services of RTE and the new private TV3 service; MMDS systems are required to carry the TV3 service but carrying RTE is optional. The licensing conditions for cable operators require that approval of the Minister of Communications must be obtained for any increase in subscription fees for "basic" service or installation charges; operators must be in a position to provide supporting justification for proposed increases. Ministerial approval for price increases for MMDS service is not required, but the Minister may at any time order an investigation of the price being charged if he suspects any abuse of the monopoly position by the licensee. If the investigation reveals an abuse the Minister may direct that the licensee shall reduce his charge and provide appropriate reimbursement or credit to subscribers. The controls on cable and MMDS fees apply only to charges for basic of core services. Charges for "premium" services

such as a film channel are solely within the discretion of the operator; only one cable operator currently offers a premium channel.

Italy

The development of private broadcasting in Italy in the last decade presents a strong contrast with Member countries where changes were closely controlled by government initiatives. During the eighties, a large number of private TV broadcasting stations and networks have developed to compete with the RAI public network. The private stations and networks were subject only to minimal regulation; the most notable limitation was that, until new legislation was enacted in 1990, they could not transmit live broadcasts or formally network services since RAI still had a nominal monopoly on national service.

The move away from a public monopoly over broadcasting in Italy was initiated by court rulings. A 1974 decision of the Constitutional Court declared the monopoly of RAI illegitimate on the ground that the guarantees for pluralism, contained in article 43 of the Italian Constitution, had not been enforced by Parliament. The Constitutional Court affirmed, both in 1974 and 1976, the legitimacy of private broadcasting stations, while maintaining a monopolistic public broadcasting system. These rulings were only partly substantiated in Law No. 103 of 1975, aimed at guaranteeing more pluralism within the public monopoly by increasing the degree to which RAI was subject to control by the Parliament. The 1975 law established some limitations on the operation of private broadcasters, but did not provide a general legal framework for the development of competition in local broadcasting. However, following the Constitutional Court decisions, numerous local independent TV and radio stations began broadcasting. By 1978, over 400 private television stations were operating, and an attempt in 1979 to take a census of independent television stations revealed a total of 900.

The first half of the 1980s saw the development of well-organised groups of independent TV stations, in effect quasi-networks, to arrange programming for these stations. The most successful was the Canale 5 network of the Fininvest Group of Silvio Berlusconi. The network was built on a base of ownership or controlling interest in a number of stations; the acquisition broadcast rights to films and TV programming, such as episodes of "Dallas" from the US; and the development of supporting corporations to handle related activities such as programme production and acquisition and the sale of advertising. In 1982, two other private networks were introduced to challenge the position of Berlusconi's Canale 5: Italia-1 and Rete-4. The controlling interest in each network also controlled major publishing properties. Within two years, however, both networks had sold out to Berlusconi -- Italia-1 at the end of 1982 and Rete-4 in 1984. The Fininvest Group's three networks are the most popular private networks in Italy. In 1989, data from one rating service showed the three Fininvest networks together with a 38 per cent share of the prime time audience, compared to a 48 per cent share for the three RAI networks.[47]

The private networks are advertiser-supported, whereas the three public RAI networks accept advertising in addition to support from licence fees. Both private and RAI networks are subject to restrictions on advertising. On RAI television channels, advertising may not exceed 4 per cent of weekly transmission time or 12 per cent of transmission time each hour; on private national television channels, it may not exceed 15 per cent of daily transmission time or 18 per cent of transmission time per hour. In practice, RAI carries less advertising than the private stations. According to Media Key-UPA data, in 1991 the three Fininvest networks had a market share of 56.8 per cent in national television advertising, whereas the RAI networks had a share of 28 per cent.

In 1988 the Constitutional Court recognised the legitimacy of private national broadcasting systems, should a law directed to impede an excessive degree of concentration in the market be enacted. The Court ruled that pluralism of information be guaranteed by a specific Law which should regulate pluralism both within the public RAI monopoly and between RAI and the private national broadcasting system. Recognising the existing situation, legislation in 1990 introduced new classes of service for over-the-air television service, including both a "public broadcasting service" supplied by RAI and private licenses for national and local television service. Thus RAI's monopoly was formally ended. The Law, in order to guarantee pluralism of information, requires that a single individual can be authorised to run a national broadcasting network only after an assessment of his market position in the daily press; moreover, a single individual cannot operate more than three national broadcasting networks.

In contrast to, and perhaps because of this development of private, over-the-air stations and networks, there has been little development of cable systems in Italy or of satellite delivered services. Until 1991, SIP, the public telecommunications provider, held a nominal monopoly over the supply of cable plant; new legislation in 1991 permits private cable operators to provide TV and radio services on a national as well as local basis using the public network.

Japan

Both public and private radio and television broadcast services have been offered since the 1950s.[48] The public broadcaster, NHK, now offers two channels of national television service. Varying numbers of private television services are available in different areas. Japan's policy is that at least four commercial television channels should be available in all areas, and five or more are allowed in major areas. In 1990 86 per cent of households were in areas where four or more commercial television channels were offered (up from 72 per cent in 1980). Private broadcasters (and NHK) are under general obligations to provide cultural, education, news and entertainment programmes, but there are no requirements to broadcast specified amounts of particular programming. There are no restrictions on advertising by private broadcasters, although there are self-imposed regulations. NHK is funded almost entirely by revenue from public receiving fees.

About 4 million households (roughly 10 per cent of all households) have equipment to receive DBS service. NHK provides two channels of DBS service, and a third, pay service is offered by JSB, a private broadcaster. NHK began DBS broadcasts on a trial basis in 1984, and began a full time, 24 hour service in 1988. In June 1989 NHK's DBS service was extended to two channels, and NHK began satellite delivering of a few hours a day of HDTV transmissions. HDTV transmission has since been extended. EDTV services, which are compatible with regular TV broadcasts, are beginning to be delivered terrestrially.

About 1 million households subscribe to large-scale, multi-channel cable systems. Such systems began to be authorised in 1987, and as of October 1990, 83 such facilities had been granted operating permission. (Smaller scale, community antenna systems intended primarily to improve reception of terrestrial signals have been more widely used for a longer period.) Since 1989 programming services have been distributed on private communications satellites.

Broadcasting policy in Japan is based upon the following principles: the multi-channel policy has been implemented by regulations adopted under the Radio Law and under the Broadcast Law in harmony with cultural needs such as pluralism, limitation of media ownership concentration, freedom of expression, objectiveness and realism of broadcasting reports, equal access to information, from the standpoint that the

broadcasting industry uses limited allocations of the radio-frequency spectrum and has a considerable influence on society and culture.

New Zealand

Until 1987 the only broadcaster warranted to provide television broadcasting in New Zealand was the Broadcasting Corporation of New Zealand, a statutory corporation, which broadcast two national channels.[49] The BCNZ received revenues from a public broadcasting fee, but also from sale of advertising. The BCNZ was also a radio broadcaster, although private radio service had been allowed earlier with entry strictly controlled by the Broadcasting Tribunal. In August 1987, the Tribunal accepted an application by TV3 Network Ltd. to operate a third national television channel and become the first private television broadcaster. TV3 began broadcasts in November 1989. TV3 has experienced some financial difficulties, but continues to provide service.

Since the authorisation of TV3 in 1987, legislation has restructured public policy toward broadcasting and use of the broadcasting spectrum. Public broadcasting was restructured by dissolving the BCNZ and replacing it with two State-Owned Enterprises, Radio New Zealand and Television New Zealand (TVNZ). Each is to have commercial objectives to encourage efficiency, but their boards also are charged that the companies are to reflect New Zealand's identity and culture and to encourage New Zealand programming. TVNZ received 85 per cent of its revenue from advertising in 1989. Legislation also established a new body, the Broadcasting Commission, which receives its revenue from the public broadcasting fee levied on households using television sets. The Broadcasting Commission is to make funds available for the production and archiving of programming, and for broadcasting where considered necessary to extend coverage to communities that otherwise would not receive signals. The Commission is directed to promote programming about New Zealand and New Zealand interests, and to promote Maori language and culture. In the year ended 30 June 1990, the Broadcasting Commission spent about NZ$31 million on television programmes. TVNZ took directly 64 per cent of the expenditure and TV3 8 per cent; the remaining 28 per cent went to independent production companies, of which 44 per cent went for TVNZ programmes and 56 per cent for TV3 programmes.

Transmission assets for television and AM and FM radio that passed from BCNZ to TVNZ were vested in a subsidiary company, Broadcast Communications Limited (BCL). BCL at present has a monopoly over the transmission of television signals, providing transmission for TVNZ and TV3, as well as for all the newer private television broadcasters.

The new legislation has fundamentally changed how private broadcasters, and others, can acquire a license to use the radiofrequency spectrum. The old procedure of applying to the Broadcasting Tribunal for a warrant to use broadcasting spectrum has been eliminated. In its place has been created a system of tradeable spectrum property rights. Rights to use spectrum are tendered for bid. Winning bidders receive licenses that confer the right to use specified frequencies for a specified period, 20 years in the case of television broadcast spectrum tendered to date. Licenses may be traded, and carry no obligation on how the frequencies should be used, including whether they are used for broadcasting, or even whether they be used (although the technical parameters of the license restrict use to some extent). There are no specific limitations on the ability of State-owned enterprises to bid for or acquire spectrum property rights. The Commercial Act prohibition on the acquisition or strengthening of a dominant position in a market does, however, apply to acquisitions of radio spectrum.

The new system for allocating rights to the television broadcasting spectrum was implemented in February 1990. Under the terms of the legislation, existing broadcasters have received 20 year rights to use the spectrum in exchange for payment of a fee. The two channels of TVNZ and that of TV3 exhausted the available VHF broadcast spectrum. In February 1990 rights were tendered for UHF spectrum for seven UHF national television channels and for 63 individual supplementary UHF channels.[50] These supplementary channels could provide up to seven additional channels in main population centres or be used for translator transmissions to extend the coverage of national channels.

The successful bidders who received licenses to use this spectrum have indicated that they plan to use it for television broadcasting, although they are not obligated to do so.[51] Successful bids for four of the national channels, as well as several of the local transmitter locations, were entered by Sky Network Television Ltd. Sky plans to use the four channels for a subscription service offering channels of news, sports, films, and entertainment. It is offering subscription service on three channels in the Auckland, Waikato, Bay of Plentry, Wellington and Christchurch areas. It is estimated that Sky has signal coverage of approximately 800 000 of the one million homes in New Zealand. As of June 1992, Sky had 60 000 subscribers. Sky has plans to extend the service gradually to other parts of the country and to add a fourth channel.[52] In addition, one regional network (Canterbury TV) began operation in June 1991, and two specialist narrowcast UHF operations aimed at tourist markets in Queenstown and Rotorua are in service.

Radio broadcast services also have increased. As of June 1992, 194 AM broadcast frequency assignments had been made, 105 to stations known to be on the air. FM broadcast frequency assignments numbered 342, of which 150 were known to be broadcasting.[53] In contrast, in 1980 there were 20 AM stations on the air and no FM service existed.

As of mid-1992, no cable, DBS or MMDS services were operating in New Zealand. A regional cable television service was expected to begin operating in the Kapiti area by the end of 1992. The recent legislation opens the way for these services. All quantitative restrictions on the provision of telecommunication services, including broadcast services, were removed by 1989; thus there are no limitations on the joint provision of cable television and telephone or other telecommunications services. Frequencies suitable for MMDS service have been tendered, and at least one enterprise has expressed interest in providing service, but no service is operational. Satellite transmissions originating from Australia will become a possibility with the launching of the Aussat B satellites, scheduled for July 1991 and January 1992.

With one exception, there are no specific quantitative programming requirements on broadcasters and only minimal restrictions on the sale of advertising.[54] All broadcasters are subject to maintain general standards of acceptable programming and are subject to the review of complaints by a newly established Broadcasting Standards Authority.[55] TV3 remains subject until 1992 to specific requirements to provide Maori programming and programming of specific interest to New Zealand audiences that were imposed as terms of its initial license in 1987. There are no price controls for broadcast subscriptions services to consumers.

Norway

The Norwegian public broadcaster, NRK, provides one national channel of television service and two national radio channels, one of which began after 1980.[56] A national independent private television channel is to be introduced during 1992; there are 4 applicants for this service. During the 1980s, private local television and radio was established. The services began on a trial, experimental basis, but are now regularized. All together, 112 licensees are authorised to provide local television service from about

25 transmitting stations, and 420 licensees are authorised to provide local radio service. At least 50 per cent of the transmission time of local television services must be devoted to programming that is edited locally, and 75 per cent of the transmission time of local radio services must be their own productions with local connections. Limits on advertising for local radio and TV services are a maximum of 10 per cent of their daily transmission time with a maximum of 15 per cent each hour; advertising must not interrupt programming.

About 25 per cent of Norwegian households subscribe to cable service and another 2 per cent to SMATV service. Typically these services offer about 24 programme services from a total of about 43 that are available. About 20 per cent of cable subscribers are served by TBK, a limited company wholly owned by Norwegian Telecom; the remaining 80 per cent of subscribers are served by private companies. In general cable and SMATV systems must be licensed.[57] License applications are handled by NTRA (Norwegian Telecommunications Regulatory Authority). There is no direct ongoing regulation of subscription fees, but proposed pricing is one of the criteria used by NTRA to evaluate applications for cable or SMATV licenses, and licensees are then obligated to use a "standard subscription contract" that ties the adjustment of the subscription fee to a public consumer price index.

The number of DBS subscribers is limited. Two DBS channels are receivable, that of NRK and TV 4. NRK's transmission via DBS is intended primarily for the Norwegian population on Svalbard and oil drilling installations in the North Sea. In addition, most of the DBS channels receivable in central Europe also are receivable in at least the southern part of Norway. Many of these channels are distributed by cable and SMATV systems.

No MMDS services are in operation, although a temporary license has been granted for a pilot project that has not begun operation.

Portugal

In 1991, it was decided to grant concessions to two private TV channels. One started on a regular basis in October 1992, the second one will do so early 1993.[58]

There is individual reception of satellite broadcasts. Collective reception of services distributed by satellite or cable is not yet systematic. By one estimate about 49 000 homes had access to satellite or cable broadcasts.

Portuguese television is regulated under Act no 78/90, 7th September, which regulates cable television services, public television services, licensing of private television, programming, European production requirements, time for religious confessions, publicity and sponsorship, etc.

A number of telecommunications companies among which is to be found the public service broadcast via satellite a three-hour programme to Europe, Africa (Portugese-speaking African countries) and Asia.

As far as radio is concerned, public, private or co-operative companies may engage in this activity as long as they respect the principles governing the activity in the country contained in Act No. 87/88 of 30th July and the provisions of Act No. 388/88 of 28th September, which regulates licensing for radio broadcasting. The Portuguese Institute of Communication is responsible for licensing the applicants.

Spain

In the last decade there has been a considerable increase in broadcast services in Spain.[59] Since 1980, 3 private and 6 public television channels, and 584 private and 6 public radio stations have been authorised. The new public radio stations and television channels have regional coverage. Private television broadcasting was first introduced in 1987; previously television broadcasting was a monopoly of the public service broadcaster, Radio Television Española (RTVE). The regulation of broadcasting is the responsibility of the central Government, except in the case of regional services where local communities are involved in the regulation.

There are a number of quota restrictions on programming as well as advertising on both private and public channels. For the private sector, 15 per cent of programmes must be produced domestically, 40 per cent must be from EEC countries, and 55 per cent of programmes must be in original Spanish. Forty per cent of films shown must originate from EEC countries and 50 per cent must be broadcast in original Spanish. For the private television channels, advertising shown must not exceed 10 per cent of the total annual number of programme hours, or 10 minutes per hour. The same advertising limits also apply to RTVE's broadcasts, with an additional limit that advertising each day must not exceed 15 per cent of total transmission time.

Sweden

In June 1991 legislation was passed allowing the first commercial terrestrial television channel.[60] The new channel, TV 4, is owned by a private company, Nordisk Television AB, and is financed by advertising revenues. The legislation authorizing the channel limits advertising to 10 per cent of daily transmission time overall, with the additional limit that advertising between 6pm and midnight also is limited to 10 per cent of transmission time in those hours.

Other traditional broadcast services are supplied by various subsidiaries of *Sveriges Radio AB* (SR), the public broadcaster. SR supplies 2 channels of television service, 4 channels of radio service, local radio service, and educational programming. These services are supported by license fees and no advertising is allowed. In addition there is a system of community radio, with numerous organisations having permission to broadcast from each transmitting location. Since 1980 the number of transmitting locations or stations has increased from 16 to 150, and the number of organisations permitted access from 300 to 2 500.[61]

While terrestrial private television broadcasting has just begun, the last several years have seen a rapid growth in cable systems and the development of private satellite programme services, both advertiser-supported and subscription services. In 1986 only about 5 per cent of households were connected to cable systems; by 1991 just over 50 per cent of households with television were connected to cable service.[62] About 30 satellite services are distributed by cable systems, of which about 10 are pay services. The primary language of most of the services is English, but six are in Swedish or are subtitled in Swedish.

Several satellite programme services originated in Sweden and are owned all or in part by Swedish interests.[63] These include TV 3, supported by advertising, and TV1000 and SF Succé, which are subscription services featuring films. Warner Brothers has a one third interest in SF Succé and the remaining two-thirds is owned by Swedish interests. These and the other satellite programme services are distributed on both medium power communications satellites, including Astra and INTELSAT, and on DBS satellites including Tele X.

A Swedish Cable Authority (Kabelnämnden) was established in 1986. Among the duties assigned by the Swedish Cable Act (1985:677) was to give licenses to distribute satellite transmissions. Such licenses were to be required for cable networks with more than 100 households connected. In 1990, however, the Cable Authority decided that the Cable Act did not apply to transmissions from the medium and high power satellites used by most programme services; thus these transmission can be distributed by cable without any license. There is no regulation of the pricing of services.

The national telecom provider, Swedish Telecom (Televerket), supplies cable distribution service to about 65 per cent of the market, and the Municipal Housing Companies to about 8 per cent; both are publicly owned, although decisions to enter the cable market are basically commercial decisions. Private cable companies supply about 25 per cent of the market and tenant-owner, societies, collectives and private houseowners about 2 per cent. Swedish Telecom has decided on a standard of 30 channels for its cable systems, and is upgrading its older networks to this standard.[64]

The programme services delivered by cable also could be received directly by households with their own receiving antennas. No license or other permission is required to do so, and the number of households receiving satellite services directly is not known, but there is no active marketing of DBS service as such. MMDS distribution has not been permitted.

Switzerland

It was only in 1984 that the Swiss Constitution was amended to confer powers on the Confederation to regulate radio and television broadcasting.[65] Until then, Swiss broadcasting operated under a few rather ancient laws and decrees(the main one dating from 1922). The only broadcasting company authorised to operate in Switzerland is the Société suisse de radiodiffusion et télévision (SSR) which is a private, non-profit company subject to diverse obligations of a public service character. Notably, SSR was required to offer complete programmes to the whole population in the three official languages as well as take into account the fourth national language. SSR remains the predominant firm being financed by a combination of license fees (69 per cent) and advertising revenue (26 per cent), the remainder coming from a variety of sources.

In 1983, the Federal Council granted a license to a Swiss Association for Pay Television (ACTA) for a trial period of six years to operate two services (Pay -Sat and Télécinéromandie). Both services consist essentially of feature films and serials and are subject to a number of operating conditions, for example the showing of a reasonable number of Swiss films and investment in Swiss film production. Both are available on subscription only and advertising is prohibited. Since the end of 1986, Télécinéromandie has been authorised to have sponsored programmes. In 1989 and 1990 the licenses were renewed for five-year periods.

Also at the beginning of the 1980s, in response to the extension of the radio frequency bands and the proliferation of foreign stations, the Federal Council in 1982 authorised trials for local radio and television stations. By the end of 1987, 56 services were in operation. These have proven to be very popular. While there have been financial difficulties, many radio stations have managed to establish themselves, thanks to a more liberal policy as regards advertising time and the extension of advertising to formerly excluded products. The trial period was judged to have been successful and the stations have been given an extension for a further five years. The main conclusions from a survey of the results of the trial period were that the programmes provided by the local radio stations did meet a need; that the zone of reception should not be limited to 20km diameter since audience potential was wider; that given the public service nature of

these radios, there should be a clearer separation between advertising and programmes; and that the local broadcasters should be helped to make a specific contribution to radio diversity in peripheral and mountainous regions[66]. These considerations have been taken into account in the elaboration of the new Radio and Television Act.

The new Radio and Television Act corresponds particularly to the Federal structure of the country, ensuring that each region and language is treated equitably. In addition, given the three main linguistic regions the number of broadcasters is deliberately limited for economic reasons. Thus the special position of SSR is enshrined in the Act so that any other broadcasters must not impede unduly the mission of SSR as the predominant national broadcaster with important social and cultural tasks. This does not mean however that the SSR has a permanent monopoly, only that its privileged position as the sole nationwide broadcaster is maintained as long as it continues to serve the public interest. The license awarded to SSR is renewable every five years unless SSR declares that it does not wish to renew it or the broadcasting authority withdraws its franchise. It is also possible for the broadcasting authority to modify the terms of the license after giving six months' notice.

Switzerland has an extensive cable distribution network to which nearly 70 per cent of households subscribe, due in considerable part to problems of terrestrial reception caused by terrain. Most cable systems are operated by private companies. Cable companies are not allowed to join together to form national coverage and the Swiss PTT has a monopoly for intra-regional infrastructures. Cable systems must be licensed by the Swiss PTT. The Swiss PTT generally does not own or operate cable systems, but is participating in joint ventures to provide cable infrastructure in Geneva and Basle, which have been thinly cabled. In Basle the PTT is experimenting with providing integrated telephony and television services as part of the SwissNet BASKOM trial.

In the area of satellite services, the SRG participates in several programme services delivered by satellite: 3 Sat and Eins Plus, German language services, and in TV 5, a French language service.

United Kingdom

Private broadcasting has developed alongside public service broadcasting for some decades in the United Kingdom, with periodic increases in spectrum and channels or programming having been authorised for each.[67] In the middle 1950s, the Independent Broadcasting Authority was set up to provide an independent, privately programmed channel of television service alongside the existing single television channel of the public BBC. The United Kingdom thus was one of the first Member countries with an established public service broadcaster to authorise private television broadcasting. In the mid 1960s a second BBC television channel, BBC 2, was authorised, and in 1982 a second independent channel, Channel 4, began broadcasting. Radio broadcasting also has expanded over the years as the BBC has added both national channels and regional and local stations, and as independent local radio stations were authorised.

The Broadcasting Act 1990 continues this pattern. The Act authorises a fifth terrestrial television channel programmed by a single private licensee that is expected to reach about 70 per cent of the population; the service is expected to begin about 1995. The Act also allows for three new independent national radio channels and for substantial increases in the number of independent local radio stations. The Broadcasting Act 1990 also made substantial changes in the regulatory framework for broadcast services.

A second important pattern in UK broadcasting has been the emergence of DBS services. Direct reception of DBS services has been perhaps more actively marketed in the UK than in any other Member

country, with two providers -- who now have merged -- competing to market reception equipment and subscriptions. As of early 1991, in excess of 1.25 million households had equipment to receive DBS broadcasts directly, which was more than twice the number of households that subscribed to cable service in the UK Thus direct reception was more important than cable systems as a means of distributing satellite programme services.

Until 1 January 1991 Independent television and radio in Britain was the responsibility of the Independent Broadcasting Authority (IBA). The IBA was a public corporation that did not produce programming, but was responsible for building, owning, and operating transmitting stations, and for supervising programming and advertising. Under the new Act, which came into force on 1 January 1991, independent television is regulated by the Independent Television Commission (ITC), a licensing body with no direct involvement in the provision of programming. The IBA's engineering assets and liability were transferred to a new company, National Transcommunications Ltd (NTL) on 1 January.[68] Subsequently NTL was sold by private tender to Mercury Asset Management.

The two existing independent television channels, the ITV service (soon to be Channel 3) and Channel 4, were set up on different bases, and changes have been made in both by the new Act. For the ITV service, the IBA awarded contracts or franchises for programming the original independent television channel to privately owned, independent (ITV) companies, of which there are fifteen. These companies provide programming in 14 independent television regions. Two companies share programming for London, one programming the weekend schedule and the other the weekday schedule. While in principle the companies are regional programmers, in practice they share prime-time programming, creating in effect a national ITV network. The ITV companies earn revenue primarily by selling advertising. Some Channel 3 licensees (see below) are considering further joint working, for example in night-time broadcasts, overseas distribution, airtime sales, and a shared play-out facility to the national transmitter which they use.

Under the new Act, the present ITV service is to be replaced with a Channel 3 service. The ITV allocated new regional licenses for this service by competitive tender. (The single national license for the new Channel 5 service also is to be allocated by competitive tender.) Existing ITV licensees, along with new applicants, submitted bids for each of the licenses. Under the terms of the Act, the ITV was to award licenses to the highest bidder for each license among those that met minimum quality standards for programming. Applicants had to agree to meet limited specific programming requirements, but the ITC is to have less direct involvement in programming oversight and less discretion in choosing licensees than did the IBA. The ITC's decisions on Channel 3 licenses were announced in October 1991. All but four of the existing ITV licensees bid successfully for new Channel 3 licenses; two ITV licensees were outbid by new applicants, and the bids of two others were unsuccessful, despite being higher than those of the winning applicants, because it was judged that they would be unable both to maintain service quality and pay the amount bid for the license. In two other cases new applicants were unsuccessful for the same reason despite submitting higher bids than the current ITV licensees. Three other ITV licensees were unopposed by new applicants and retained their regional franchises.[69]

Channel 4, which began broadcasting in 1982, is rather different. Channel 4 operated by a wholly owned subsidiary of the IBA (now ITC), rather than by independent companies as with ITV. The Channel 4 company, however, does not produce its own programming -- again unlike the ITV companies that produce the majority of their programming. Instead it commissions or purchases programming from outside producers. The Channel 4 service includes programming for Welsh viewers over the Welsh Fourth Channel, S4C. Channel 4 has received its revenues from the ITV companies, which paid a share of their revenues in exchange for the right to sell advertising time between Channel 4 programming. This organisation is

changed by the new Act. From January 1993 Channel 4 will become a separate corporation selling its own advertising time.[70]

The new Act also created a new Radio Authority that will allocate by competitive tender up to three new national licenses. The government projects that 200 to 300 new radio stations could be on the air in the next decade.

The Broadcasting Act 1990 implements a policy of allowing local delivery of radio and television signals by both cable and microwave video distribution (MMDS).[71] Previously the Cable Authority granted licenses for cable operators. Under the new Act, responsibility for licensing cable systems is transferred to a cable division of the ITC.[72] Rather than grant licenses specifically for cable or MMDS service, local delivery operators are now to be licensed, and the operators will be able to choose any combination of cable and MMDS to deliver services.[73] In addition one of the outcomes of the recent "Telecommunications Duopoly Review": is that cable operators will be allowed to provide telephone services directly (although the telecommunications operators British Telecom and Mercury will not be allowed to provide entertainment services for at least the next 10 years). SMATV services also are available, but no longer require broadcast licenses if fewer than 1000 dwelling are serviced.[74]

Cable service is not widespread in Britain, but is growing. In 1991, cable service was available to about 1.85 million households, about 8 per cent of all households, although only about 423 000 or 2 per cent of households subscribed to service. As of January 1991, however (when the Cable Authority became part of the ITC), licenses had been awarded for 135 cable franchises covering all the main urban areas of the UK; thus far only 29 of these systems were operating, but cable systems serving all these franchises would make cable service available to 14.5 million households. In addition to cable systems, SMATV systems serve about 125 000 households. All cable and SMATV services are provided by private companies.

No MMDS services, however, are now available in the UK, although the local delivery operator framework envisages such service. Final decisions on whether MMDS may operate on 12 GHz as well as on microwave frequencies already allocated have not been made.

For a period Britain was served by two DBS television services. In December 1986 the IBA awarded British Satellite Broadcasting (BSB) the franchise for service using Britain's high power DBS satellite, Marco Polo, but BSB did not begin service until April 1990. BSB broadcast using the D-MAC standard, and by November 1990 was reported to have about 120 000 subscribers. Sky Television, operated by Rupert Murdoch's News International, began broadcasting four channels from the medium-powered Astra satellite in early 1989, just a few months after the December 1988 launch. By November 1990, dishes to receive Sky's services, which are broadcast in the PAL standard, had been installed in about 1 million households. Both BSB's and Sky's services also were distributed by cable and SMATV systems.

In November 1990 the two services merged to form British Sky Broadcasting (BSkyB). The service now operates a merged 5 channel service broadcast simultaneously from both Astra and Marco Polo. (Previously the two services together broadcast a total of 9 channels.) BSkyB plans to shift all service to the Astra satellite with transmissions in the PAL standard; previous BSB subscribers will get equipment to receive Astra's transmissions. As a result of the merger the IBA announced that BSB's programme contract for the DBS channels would be terminated.[75]

Under the terms of the Broadcasting Act 1990, there is no regulation of the pricing of subscription services. The Act does include provisions specifying the types of programming different services must provide, but generally provides that sufficient or proper amounts or proportions of various types of

programming should be broadcast rather than setting specific quantitative requirements for particular types of programming. One exception is that the Act does set statutory requirements that from 1993 the BBC and Channel 3 and 4 licensees should use independent producers for at least 25 per cent of the "qualifying" programming they transmit.[76] A second exception is that one of the three new independent national radio services must consist mainly of the broadcasting of "non-pop" music, and a second must consist mainly of the broadcasting of spoken material. Finally, under the 1990 Act the ITC has powers to specify the maximum amount of time that may be devoted to advertising and the minimum interval between advertisements; the Act itself does not specify limits and makes clear that different limits may be set for different services. The levels of advertising now permitted are outlined in ITC Advertising Codes and conform with the provisions of the EC Broadcasting Directive. The Radio Authority also is authorised to give directions regarding advertising.

United States

The largest change in the US broadcasting environment -- although certainly not the only one -- has been the tremendous expansion over the past ten to fifteen years in cable systems and cable programming services. In the 1960s and 1970s, there was much discussion and study of the excess demand for television broadcasting, and of the possibilities for developing a fourth over-the-air national commercial network to provide both additional programming and competition for the existing commercial networks, ABC, CBS, and NBC. Much of this discussion focused on whether it would be possible to overcome the coverage and reception disadvantages a fourth network would face because of the way stations had been assigned to use the limited spectrum available. In all but a few of the largest urban areas, all VHF stations were already affiliated with one of the three commercial networks (or were reserved for noncommercial broadcasting) and would be unavailable for a new, fourth network. In these markets, a new network could affiliate only with UHF stations, which generally were received by fewer households, and then often with lower reception quality. In a considerable number of markets even the less desirable UHF channels were unavailable.[77]

In the last ten years, the spectrum constraints have been side-stepped by the development of many new programme networks delivered by cable. By 1990, broadband cable service was available to about 90 per cent of all US households, and about 55 per cent of all households subscribed to service. About 90 per cent of subscribers are served by systems with a capacity of 30 channels or more; on average, subscribers receive over 30 channels as part of their basic service. Typically several of these channels are used to distribute stations also available over-the-air, but the service also includes many programme services intended only for cable distribution. Subscribers usually have available one or more "premium" or pay programme services, and about half of cable subscribers also purchase one or more of these services. Cable programme services have attracted substantial audiences. Until the late 1970s, the three major commercial networks together regularly attracted about 90 per cent of the television viewing audience. By 1990 the three networks' share of the prime time (evening) audience had fallen to 62 per cent from about 90 per cent in 1970. Furthermore, by 1990 the average audience for all basic cable programme services together (not including over-the-air stations distributed by cable) exceeded the average audience for a station affiliated with one of the three major commercial, over-the-air networks.[78]

This growth in cable service in the US has been the result of both changes in regulation and technology. In the 1960s, cable in the US was little more than a means for improving the reception of local broadcast stations. The development of cable was slowed by regulations that limited the ability of cable systems to carry the signals of distant broadcast stations not available locally, or to carry pay or other services with movie or sports programming that could be the basis for cable network services. By the end of

the 1970s, however, most of these regulations had been either rescinded or overturned by court decision, opening the way to new programming for cable distribution.

The development of satellite communications made the distribution of new programme networks economically feasible. Developing satellite technology sharply reduced costs, but public policy also encouraged the development of satellite service, which in turn helped drive down costs. In 1972, the FCC opened entry to the provision of domestic satellite communications, and in 1976 authorised the resale of satellite communications service and transponder capacity. The net result has been the availability of satellite service and transponder capacity at steadily falling cost. Licensing requirements for receive-only earth stations were relaxed and then eliminated, allowing their cost also to fall.

The effect on cable service of these developments was a rapid, synergistic growth in cable systems and cable programming, spurred by the underlying demand of consumers for additional programming. New cable systems were installed, passing many more households, and older systems were expanded to provide more channels. As more households could receive cable service, it created enough demand for programming to induce a supply of new cable programming services. The availability of programming substantially different from that of over-the-air networks further stimulated the demand for cable service, especially in metropolitan areas where multiple stations could be received over the air. In particular, pay, movie-based services such as Home Box Office and Showtime have been credited with providing the new programming necessary to create demand for multi-channel cable service in metropolitan areas.

Many other cable networks also developed, such as ESPN with sports programming, Cable News Network, Nickelodeon with children's programming, and The Weather Channel. By 1983 there already were over 70 networks providing programming to cable systems, a majority of which were supported primarily by advertising revenue rather than direct subscriber payments. In 1990, the FCC found that a total of 181 pay and basic programme services were reported to be either in operation or proposed, and that over 90 cable programming networks provided nationwide service.[79]

Both cable delivery services and cable programme services are provided by private companies in the US Cable systems usually are franchised by local or municipal authorities; the franchise may or may not be explicitly an exclusive franchise that precludes franchising a second cable system from serving the same area. Before the Cable Communications Act of 1984 many although not all local authorities set some regulatory limits on the rates charged for basic cable services. Local authorities did not, however, have authority to regulate the fees charged for premium services offered for a separate charge, and these prices effectively have never been regulated in the US. As a result of the Cable Communication Act of 1984, the fees charged for basic cable services effectively were deregulated as of the end of 1986. Recently, however, there has been increased discussion of whether the rates for cable service should be subject to some form of regulation.

While less dramatic than the growth of cable service, private over-the-air television broadcasting also has grown. The number of operating independent private television stations, those not affiliated with one of the 3 major networks, grew from 65 in 1970 to 340 in 1990. This growth in turn allowed the development of a new commercial over-the-air network, the Fox Broadcasting Company. While not distributing as full a schedule of programming as the three established commercial networks, the Fox network does provide substantial programming to 130 of the independent stations. The growth in independent stations does not represent spectrum newly made available, but a willingness of private broadcasters to begin operating stations for which there long has a place in the spectrum Table of Allocations.[80] The low cost of satellite programme distribution has helped make additional stations economically viable. The spread of cable systems with large channel capacities, and the improved reception

equipment of consumers, also helped by increasing the coverage and reception quality of independent stations' signals, especially those on UHF channels, and thus their potential audiences. Finally, a general growth in the demand for television advertising also has helped.

Thus far, DBS has played virtually no role in US broadcasting, although there have been recent announcements by private interests of an intent to offer DBS service. The FCC has provided spectrum and licensed providers of MMDS service, which is available in a number of urban areas, but has relatively few subscribers.

Private radio broadcasting has been well-established in the US for decades, but during this period the FCC reduced its regulatory oversight and authorised a substantial number of additional AM stations.

Private broadcasting in the US is not subject to requirements to carry specific maximum or minimum amounts of particular types of programming, and the quantity of advertising carried by commercial television or radio stations is not limited. Broadcasters are subject to a variety of other regulations, however. Notable among these have been rules limiting the behavior of commercial television networks. In 1970 the FCC adopted three rules controlling network relationships with programme producers and, to a lesser extent, with their affiliated stations. The so-called Syndication and Financial Interest Rules prohibited the television networks from acquiring or having an interest in the rights to so-called syndicated, non-network distribution of programming shown on networks or from engaging in the business of selling such syndication rights, and from acquiring a financial interest in the non-network distribution rights to programming produced by others. The Prime Time Access Rule prevented networks from providing more than three hours of programming during the four "prime time" evening hours.[81] Among the reasons for adopting these rules was a concern to limit what was seen as the excessive power of networks relative to programme producers, and the desire to encourage a diversity of independent programme producers.[82]

These rules, and especially the Syndication and Financial Interest Rules, have been the subject of considerable public policy debate for at least the last ten years.[83] In 1991 the FCC modified these rules. The new rules are complicated, but some of the main features are that financial interest and syndication rules no longer apply to programming shown outside of prime time; a network may produce in-house, and retain financial interests and active syndication rights in, up to 40 per cent of its prime time entertainment schedule; and a variety of limits and oversight of negotiations between networks and producers are designed as safeguards to ensure that networks do not abuse any position of power they have.[84]

European Communities

The European Communities have taken a number of initiatives intended to encourage the development of a single internal market in broadcasting, and more generally in the audiovisual sector. A 1984 Green Paper, "Television Without Frontiers", examined the industry and the obstacles to the free circulation of television transmissions among EC member states. As noted by a later EC publication, there were and are national regulations on programme content, advertising, the protection of children and competition between cinema and television, with "almost as many variations in the rules as there are European countries, which facilitates neither the transmission of programmes from one country to another nor the creation and sale of Europe-wide TV advertising."[85]

In October 1989 a Council Directive on television was adopted "to permit and ensure the transition from national markets to a common programme production and distribution market..."[86] Some months earlier, in May 1989, the Council of Europe had adopted the European Convention on Transfrontier

Television, many of whose provisions are similar. The Council Directive notes that television broadcasting constitutes a service within the meaning of the Treaty of Rome, and therefore is covered by the Treaty provisions for the free movement of services within the Community. The objective of the Directive is to take the minimum steps necessary to eliminate the legal obstacles to free broadcasting of programmes throughout the Community that were created by national regulations or laws in areas such as programming or advertising. Under the Directive, Member States of the EC could not refuse the reception or retransmission of broadcasts from other Community countries that satisfy the criteria of the Directive (although they are free to impose stricter standards for broadcasts from their own territory). Among the provisions of the Directive are the following dealing in general with development of a single market and with programming and advertising:

- -- Member States of the EC "shall ensure freedom of reception and shall not restrict retransmission on their territory of television broadcasts from other Member States for reasons which fall within the fields coordinated by this Directive".
- -- "Member States shall ensure where practicable and by appropriate means, that broadcasters reserve for European works...a majority proportion of their transmission time" not counting time used to broadcast news, sports, games, or advertising.
- -- Broadcasters are to reserve for European productions by producers independent of broadcasters, "where practicable and by appropriate means", at least 10 per cent of their transmission time (or 10 per cent of their production budgets), not counting broadcasts of news, sports, games or advertising.
- -- Advertising is to be broadcast in blocks separate from programming and is not to exceed 15 per cent of daily transmission time, and spot advertising is not to exceed 20 per cent of time within any one hour period.[87]
- -- Advertising of tobacco products and for medicinal products or medical treatments available only by prescription is prohibited.

Other important provisions deal with the protection of minors and the right of reply.

The EC also has taken steps to establish a European television standard. At the end of 1986 the Council of Ministers adopted a Directive committing the Community to use the MAC-packet family of standards for direct broadcasting by satellite.[88] The Directive required use of MAC-packet system for broadcasts from high-powered DBS satellites, such as TVSAT, TDF1 and TDF2, and Marco Polo. It did not apply, however, to broadcasts from medium power satellites of the type of Astra or DFS-Kopernikus; it was not widely anticipated that these satellites would be suitable for direct broadcasting. In the event, however, these medium power satellites have been widely used for both direct broadcasting and distribution to cable systems, and have been the means by which broadcasts transmitted in the existing PAL/SECAM standard have reached larger audiences than do transmissions in the MAC standards from the DBS satellites. The use of the MAC standard also is intended to be part of the project to develop an HD-MAC, high definition standard, an effort that the EC is supporting through the Eureka 95 HDTV project. The 1986 Directive expired at the end of 1991, and was to be revised and updated with a new MAC/Packet Directive.

Finally, the EC has developed a MEDIA programme to encourage the development of the European audio-visual industry. The programme encompasses three types of action: financial support for the dubbing and subtitling of film; creation of a European distribution system for audio-visual products; and creation of a European structure to promote the efforts of independent film and programme markets.[89]

Chapter 4

ORGANISATION OF THE BROADCASTING INDUSTRY

There is great variety in the economic structure of the broadcast industry. Many different types of firms contribute to the supply of broadcasting services. Firms vary in the activities they perform, the contractual relations they form with other firms, and the types of market transactions in which they participate. There is variety both within and across countries. Some of this variation is due to broadcast policies. Other differences in economic structure are caused by the varying economics of different methods for delivering broadcasting signals (over-the-air by traditional terrestrial broadcast methods, by cable, by satellite), by whether revenue is raised by selling advertising or subscriptions to viewers, and by differences in the size of individual markets and in historical developments in those markets.

Underlying this diversity, however, are common economic themes. The supply of broadcasting services always involves a vertical chain of production made up of the same basic economic activities, even though the economic organisation that accomplishes those activities varies. This underlying vertical chain of production in turn implies basic types of economic transactions carried out either between firms in a market or within vertically integrated firms. The common themes and the variations on those themes across countries and parts of the broadcasting industry are the topics of this chapter. The primary emphasis is on the organisation of private broadcasting. Much of the discussion, however, also applies to the organisation of public broadcasting, although public broadcasters tend to be more vertically integrated and obviously may rely on public sources of revenue unavailable to private broadcast firms.

Basic economic activities and transactions

The supply of broadcasting services involves a vertical chain of production in which three main economic activities can be distinguished:

- -- Programming must be produced;
- -- Programming must be packaged into a schedule for viewing or listening; and
- -- Programming must be delivered to consumers.

This vertical chain of production stretches from the basic inputs used to create programming to the delivery of broadcasting services to consumers.

More economic activities could be distinguished in this chain of production. For example, this simple list subsumes the intermediate distribution of schedules of programming to individual broadcast stations or cable systems within the activity of packaging (and distributing) a schedule of programming, or within the activity of delivering programming to consumers (after first purchasing the schedule from the packager). Nor does this list distinguish the marketing and sale of broadcast distribution rights to programming as an activity separate from programme production. For many purposes, however, the simple schematic of three broadcast activities is helpful in understanding and analysing private broadcasting. It

identifies the major categories of broadcast activities carried out by separate firms, and therefore also identifies the basic types of market transactions involved in supplying broadcast services.

Programmes often, but certainly not always, are produced by firms that sell the broadcast rights to other firms that put together broadcast schedules. Firms known as programme networks or services specialise in acquiring broadcast rights, assembling schedules of programmes, and distributing them to networks of broadcast stations or cable systems. When the networks do not own the facilities used to distribute programming to consumers, they sell their programme schedules to the actual broadcasters -- broadcast stations, cable systems, or other distributor -- or they buy distribution services. These three activities are not always performed by separate firms. Many broadcast firms are vertically integrated and perform two or even all three of the activities. The extent of vertical integration, however, is rarely so uniform that one of these types of markets is completely replaced by intra-firm transactions.

Thus this simple schematic also provides a starting point for defining and analysing the types of markets whose efficient functioning is the concern of competition policy. First, there are markets in which intermediate inputs are bought and sold: the markets in which the inputs used to produce programming are purchased; the markets in which rights to programming are purchased and sold; and the markets in which distributors of programming buy schedules of programmes from programme networks or alternatively in which networks buy distribution services. Second, there are markets in which final outputs are sold: markets in which broadcast services are sold directly to consumers, e.g. pay or subscription T.V., and markets in which airtime for advertising is sold.

Programme production and sale of broadcast rights

The first activity in the vertical chain of supplying broadcast services is the production of programmes and the sale of the rights to broadcast those programmes.

Programming is produced by hiring or purchasing the necessary inputs -- investment capital, production facilities and personnel, and creative talent. Programme production may be carried out by a single firm or by several firms. The programme producer may own the necessary facilities, have on salary or under contract production personnel, and handle the distribution of the programming or the sale of all distribution rights. Alternatively, the programme producer may own few or no production facilities and serve as a contractor who arranges the financing for the production, the contracts with all talent, and the renting or leasing production facilities. The rights to the programming may then be sold to another firm that handles distribution, including the sale of specific broadcast rights, without having been directly involved in actual production. Major movie studios often handle the distribution and sale of rights for properties in whose production they had little or no direct financial interest.

Some broadcast programming is produced for a single airing, for example much news or sports programming. More commonly, particularly when production costs are high, producers of programming maximize their revenue by devising multiple releases for their programming. Releases are differentiated in time and location, as well as by means of distribution, so that rights to different audiences can be sold separately. These different releases are termed "windows." Broadcast rights and audiences may be only one of many different windows. The most extensive set of release windows are for cinema productions or movies. Initial release in the theatres of the home country is followed after varying delays by release to theatres in other countries, release on home videocassettes, release to subscriber supported broadcast channels (e.g. so-called pay cable channels), to advertiser supported broadcast networks in the home country

and later in other countries, followed by a second release to pay cable or DBS channels, and perhaps followed by a release for additional showings on advertiser supported channels.[90]

Even programming distributed only to broadcast audiences often has multiple releases, each with its own broadcast rights. The first rights sold will cover a specified number of showings. Other rights are sold for broadcasts to other countries and for later, additional showing by home country broadcasters, perhaps by a different network which may or may not use a different distribution system. For example, cable networks sometimes make up parts of their schedules by rebroadcasting older productions. These different broadcast rights may be sold separately by the producer, or may be sold in a package to the initial broadcaster, who in turn sells some of those rights to other networks or broadcasters. Sometimes programming initially broadcast is released on home videocassettes or shown in theatres, especially outside the home country.

The relationships between producers and programme packagers range from complete vertical integration to arms-length market transactions. Many programme packagers own programme production facilities that are used for most of their original programming. Other programme packagers have ownership interests in programme production facilities, which may be the source of some of their original programming, but not all. Programme producers and packagers also often form contractual relationships that go beyond the simple purchase of broadcast rights to existing programming. These contractual arrangements can give programme packagers a degree of control over production decisions for programming intended for initial showing on their networks. Programme packagers may contract out production of programming and acquire broadcast rights by virtue of having invested in the production. In another variant, the programme packager does not acquire a financial interest in the new production, but instead pays a portion of production costs in return for an exclusive option to purchase broadcast rights for the initial showing of the programming and for a say in production decisions.

In other cases, programme rights are purchased in arms-length transactions. Some programming is made by independent producers for broadcast and offered for sale with no prior commitment or direct involvement from programme packagers. This pattern is common in the United States for so-called syndicated programming produced for sale to independent television stations (those not affiliated with a network) and to affiliated stations for use during the portion of their broadcast day not scheduled by the network.

More often, the arms-length purchase of broadcast rights reflects the pattern of multiple releases for programming. Programme packagers typically buy rights for some programming already shown in other releases. Broadcast rights to movie productions are one obvious example, but most broadcasters also buy rights to programming produced for broadcast in another country or at an earlier time. Consequently, even programme networks vertically integrated into programme production typically purchase some rights for programming they do not produce. Few if any packagers make up a schedule entirely from programming they produce. Conversely, even vertically integrated programme producers and packagers typically sell to other broadcasters some rights to programming they have produced, rights to later broadcasts or to broadcasts in other countries. For example, the British Broadcasting Corporation produces much of its own programming, but also both sells rights to other programme packagers for broadcast outside of the United Kingdom and purchases broadcast rights to programming produced outside the UK

Some programming earns a substantial proportion of its revenue from releases subsequent to the original showing. Production decisions will therefore be influenced by this subsequent revenue. Indeed, revenue from each of several releases may be so important that it is misleading to talk of the programming being produced for the initial release. Movies may be as much designed for and financially justified by later

broadcast and videotape releases or by foreign revenues, as by their initial theatrical release. One organisational response has been the increasing use of co-productions involving multiple producers, and often multiple programme packagers, from various countries. Such arrangements facilitate the involvement in production decisions of the purchasers of rights to more than one release.

Programme packaging

Programme packagers buy, or otherwise acquire, broadcast rights to programming, and assemble the programming into a schedule. Programme packaging is a necessary stage in the supply of broadcast services -- at some point a schedule of programme to be broadcast must be designed and the necessary broadcast rights acquired. It was not necessary, however, that programme packaging would develop as a separate activity. In theory, each traditional broadcasting or MMDS location, each cable system could package its own individual schedules for the channel or channels it delivers.[91] This organisation would have the advantage of allowing programming most closely matched to the particular tastes of the consumers reached. Some broadcasting does follow a pattern of local programming. Many radio stations, particularly where individual broadcasting stations are privately owned, do package much of their own schedule.[92] In some Member countries there are television stations that are unaffiliated with a network and package their own programming. Television stations also may produce some of their own "local" programming, especially news programming.

Nonetheless, a pervasive pattern in private television broadcasting has been the development of networks to package schedules of programmes that are broadcast throughout a country, and in many cases now to multiple countries.[93] Networks carry out several activities. First and most fundamentally, networks acquire rights and put together schedules of programming. Second, networks often arrange the interconnection of the local terrestrial broadcast stations or cable systems that distribute the schedule to consumers. Even when programme networks are not responsible for the technical networking, their activities presume this interconnection by creating a schedule of programmes intended to be shown in the same order at the same times to consumers reached by many different terrestrial transmitters or cable systems. Third, when the programming is supported by advertising, the network generally sells advertising time and inserts advertising into the programme schedule.

In some instances programme networks form because the institutional organisation of signal delivery requires, or at least presumes, their existence. Public authorities may license or franchise a single private entity, a network, to provide programming on a channel broadcast nationwide or to a region. For example, in France, where the state retains majority ownership in the company providing all terrestrial broadcast transmissions, franchises have been granted to private groups, networks, to programme nationally the channels TF1, La Cinq, M6, and Canal Plus.

Such organisation, however, probably does no more than follow the pattern that would have developed in response to underlying economic forces. Many television programming networks have developed in response to economics rather than public policy. In the United States the Federal Communications Commission (FCC) grants licenses to private firms for individual stations, broadcasting a single channel from a single transmitting site.[94] Originally the presumption and desire was that each station would handle its own programming and respond to local tastes and interests, and the licensing arrangements made no provision for networks. Yet national networks developed, at first for radio broadcasting and later for television.[95] In the United Kingdom, while transmission also is provided publicly, licenses to programme the private, ITV television channel (soon to be Channel 3) have been granted to separate private companies in each of 14 regions. These companies, however, have arranged to share most programming, in effect

establishing a national ITV network schedule of programming for most of their broadcast day. In Italy, soon after private broadcast stations were allowed, private interests began to form networks.

Particularly striking evidence of the economic pressure for networking is the proliferation of networks that have developed to programme the new broadcast channels distributed by cable, SMATV, and DBS. Literally scores of networks have developed around the world for packaging schedules of video programming and distributing them that are distributed by one or more of these new delivery systems.

Networks form can take advantage of scale economies. The costs of arranging programme rights are significant, because each typically involves negotiation over price, terms and conditions. The parties must decide the bundle of rights being purchased -- how many broadcasts over what period -- form judgements about the likely revenue-generation of these broadcasts of this programming, and then decide on a price within what may be the considerable range between the minimum amount the seller of rights will accept and maximum amount the broadcaster would pay. The number of these transactions, and thus their cost, is greatly reduced if they are handled by a network. If a network acquires the rights to each of *n* programmes in a schedule that is provided to *m* cable systems, a total of *n*+*m* transactions are necessary: *n* transactions to purchase the rights to *n* programmes plus *m* transactions between the network and *m* cable systems. If each individual cable systems acquired broadcast rights directly and packaged their own programme schedule, *n* times *m* transactions would be required.

Networks also economize on the resources used to assemble a programme schedule with the greatest net revenue potential. Determining the revenue potential of possible combinations of programmes is quite complicated. Information must be collected and analyzed to estimate the potential of individual programmes and how that potential is affected by different scheduling combinations. Many networks employ substantial audience research departments, and, particularly in the case of advertiser-supported networks, purchase considerable amounts of rating information measuring the size and demographic composition of audiences.[96] It surely would be much more costly for individual broadcast outlets to acquire and analyse independently the same information.

Many networks also contract for original programming.[97] In doing so they can exert considerable influence on the design of these productions, presumably using their sources of information and analysis to design productions that generate maximum net revenue, given other scheduling of the network. Original programming could be produced for individual broadcast outlets; indeed there is, for example, a considerable amount of original so-called syndicated programming produced for television stations that is not part of network schedules. Individual stations, however, cannot play the same role as a network in influencing productions, in part because it would be much more costly in the aggregate for each individual stations to try to exercise contractual control and in part because the many different outlets to which the programming would have to be sold to cover costs could not speak with a single voice.

If the programming is supported by advertising, a network economizes on the number and cost of transactions needed to sell commercial time to national advertisers. In addition, networks improve the quality of the product sold to advertisers that want to reach a national audience.[98] A network can sell commercial time within or adjacent to the same programme at the same time of day that provides exposure to all areas where the network is shown. Advertisers care both about the size of the audience and its composition, and the audience reached by advertising placed in a particular spot in a network schedule will be more predictable and uniform in composition than audiences generated by a heterogenous mix of programming of individual broadcast outlets. Broadcasters need not sell only to national advertisers. Some advertisers will want to reach audiences in particular cities or regions, and institutions have developed in many countries to accommodate such sales. Yet one of the particular advantages of broadcast advertising is

its potential for reaching large, national audiences. Networks can both create national audiences worth more to national audiences, and incur lower transactions costs in selling that time.

Delivery of programming

Earlier chapters have described the variety of means used to deliver programming to consumers: terrestrial broadcasting over traditional television and radio channels, cable systems, SMATV systems, DBS satellites, and MMDS systems. The ownership and operation of these facilities is sometimes private and sometimes public. The traditional broadcast stations used for private broadcasting are privately owned in some Member countries -- for example in Australia, Canada, the United States, and Italy -- although generally a license from public authorities is required. In other Member countries, all traditional terrestrial broadcast transmitting facilities are publicly owned and operated, as in France, Great Britain, and Sweden. Similarly, in some countries private interests build and operate cable systems, although again some sort of franchise frequently is required. In other Member countries, cable systems are a public monopoly. Many of the DBS satellites and uplink facilities to transmit signals to the satellite are publicly owned or heavily supported by public investments; for example the West German TVSAT, the French TDF-1, and NHK's satellites in Japan. On the other hand, the Astra satellite, one of the most successful, is privately financed and operated by the Luxembourg-based Société Européenes des Satellites.

The vertical relationship between the activities of programme packaging and signal delivery is organised in many different ways, ranging from vertical integration within a single private firm, through a variety of contractual relationships between private firms, to the arrangements that allow a private programmer to use publicly owned means of signal delivery. These relationships continue to be the subject of regulation in many Member countries. They also have been evolving as the broadcast industry grows, thereby raising issues for competition policy about whether and under what circumstances packagers or those distributing signals are able to exercise market power over the other, and whether contractual or ownership ties allow extensions of market power, perhaps by increasing entry barriers to networking.

In many instances, networks and the means they use to deliver their programming are commonly owned. Where possible, networks often own at least some of the broadcast stations distributing their programming. They rarely are vertically integrated with all the stations broadcasting their programming. In some Member countries, public policy limits the number of broadcast stations under network or other common ownership. In Member countries in which cable systems are privately owned, there has been a trend toward increased ownership ties between private cable systems and cable networks. Again, the vertical integration is far from complete. Cable system owners frequently own partial interests, often minority interests in programme networks, rather than operating both cable systems and programme networks from a single vertically integrated firm. Cable networks generally are distributed by at least some cable systems with which they have no ownership links, and owners of broadband cable systems generally do not have ownership interests with a sufficient number and variety of cable networks to fill all of their available channel capacity.[99]

Market transactions and contracts between networks and delivery services take a variety of forms. These depend on who is buying and who is selling, and which activity is the input into the other. In one variant, firms providing delivery services may purchase a programme schedule as an input, and sell the delivered programming or advertising. Clear examples of such transactions are those in which private cable systems agree to pay a pay cable network amounts based in part on the number of subscribers to the pay service. The cable system in turn sells the delivered service to consumers. Alternatively, the programme network may purchase delivery service as an input and itself sell the delivered service. DBS programmers

often enter into contracts in which they agree to pay for the transmission of their programming, and the network then collects revenue from some combination of sale of advertising time and sale of the service to consumer.

In other cases both the network and the delivery service collect revenue from the sale of delivered broadcast services, which makes the identification of buyer and seller somewhat arbitrary. For example, in the United States both the commercial networks and their affiliated broadcast stations sell advertising time. The networks sell some of the advertising time while leaving the rest for sale by individual local stations. In addition, there is a dollar payment, usually a payment from the network to the affiliate. This transaction could be characterized as the network purchasing delivery services, but with payment largely in the form of commercial time which can be sold to advertisers; if this payment in commercial time is greater than the cost of the delivery services, the affiliated station would make an offsetting monetary payment to the network. Alternatively, the characterization could be reversed: the station buys programming, paying the network by allowing the network to sell advertising time within the programming. The transaction between cable systems and cable networks that sell advertising often is similarly ambiguous. The cable network sells advertising time while the cable system collects revenues from subscribers.

Contracts between networks and those that deliver the programmes can cover a variety of terms in addition to price. For example, stations might want to use networks to programme part but not all of their schedule. The contract between a network and a station or cable system can specify the rights of the network to have its entire schedule carried or to decide to increase the portion of the broadcast day that it schedules, and conversely the rights of the station or cable system to schedule programming of its choice in preference to network programmes. In the United States, the FCC limits the ability of networks to write contracts that require that its affiliates carry, or "clear," its programming.

Finally, where delivery systems are publicly owned, networks typically must make a payment for those services. In addition, public authorities may set policies that affect the choice of programming or the sale of advertising. For example, some countries specify maximum or minimum amount of certain types of programming, guidelines for mixes of programming, or limits on the use of certain types of programming, such as the minimum time that must elapse for movies between theatrical release and broadcast showing. Regulation also may specify the amount and placement of advertising.

Chapter 5

ECONOMIC ANALYSIS OF BROADCAST MARKETS

This chapter analyses three aspects of how markets supply private broadcast services:

-- Ways in which the means of financing broadcasting -- sale of advertising or of subscriptions to consumers -- affects the choice of programming and the extent to which consumer welfare is maximized;
-- The purchase of broadcast programme rights; and
-- The supply of programming.

In each case, broadcast markets have special features that affect their functioning.

The chapter focuses on three issues. First, will competitive market forces encourage the supply of programming that consumers want and demand when broadcasters raise revenue by selling advertising? Second, how is the market interaction between programme producers and purchasers of rights to broadcast programming affected by the fact that a small proportion of programming is especially popular and generates revenue many times as great as that of most other programming. Third, what determines how many resources are devoted to programming production, particularly when rights will be sold for many different broadcast and non-broadcast showings? Furthermore, what determines how much of the costs of programme production will be supported by these different "windows" in which a programme is shown?

This chapter develops the basic tools needed to analyse the economic choices of those who are buyers and sellers in broadcast markets. Those choices of buyers and sellers, and their interaction in the market, determine what broadcast services are supplied on what terms to what consumers; in other words, they determine the competitiveness and efficiency of broadcast markets. In all countries, these choices of buyers and sellers in broadcast markets also are affected by public policies. Here, however, the concern is with developing the analytical tools to understand how those economic choices are made, not with applying those tools to analyse the effects of broadcast policies. Later chapters discuss how these tools can be applied both to evaluate the competitiveness of broadcast markets, and to analyse the economic effects of broadcast policies on competitiveness and efficiency (although not necessarily their impact on non-competition objectives).

Supply of broadcast services to consumers

From an economic perspective, the efficiency with which broadcast markets function depends on the extent to which their operation maximizes consumer welfare. This presumes that, as in other markets, consumers' own preferences and valuations are the proper standard for judging market performance. This standard is perhaps more questioned in broadcasting than in other markets. In particular, public policy may lead to the broadcasting of some programmes other than those consumers themselves would most prefer to watch. Such public policy preferences frequently are described as public service criteria for broadcast

programming. There are various bases for arguing that consumer preferences or sovereignty ought not to control the choice of broadcast programming, at least not completely.[100] For our purposes, such public service programme preferences fall in the category of broadcast policy objectives other than competition.[101] These objectives may lead to broadcast policies that require or encourage broadcasters to supply some programming they otherwise would not, based solely on the preferences consumers reveal in the market. These policies also may have an effect on the extent of competition (as discussed later in this report); in that case the objectives of competition policy should be balanced against those behind the public service preferences for programming.

In many Member countries such public service preferences and policies based on them affect programming, but generally do not completely control it. Broadcast firms, especially private ones, retain considerable programming discretion that they can be expected to exercise in response to market forces and incentives. Consumer preferences will be the basis of market demand (either directly or through advertisers) to which broadcast firms respond. Thus it makes sense to judge the performance of broadcast markets by the standards of consumer welfare: how well they satisfy consumers' preferences. This section analyses how well market supply of broadcast services will satisfy consumer preferences and, in particular, whether consumer preferences will be better satisfied and economic efficiency increased when competitive markets forces prevent firms from exercising market power.

In most markets, the presumption is that competition will foster the well-understood conditions under which consumer welfare is increased. For example, in the markets in which products or services are sold to consumers, allocative efficiency and consumer welfare are best served when prices are driven by competitive processes to approximate marginal costs. The markets in which broadcasting services are sold, however, differ from the norm in two ways that deserve comment. First, broadcasting services are in important respects public goods: more consumers can be supplied at little or no additional cost.[102] Second, much of private broadcasting services is supported by advertisers, rather than consumers. Each affects how broadcast markets function and the extent to which they will satisfy consumer preferences.

Public goods

In the "normal" case of private goods, the same unit of output cannot be consumed more than once, and therefore the cost of production depends on the number of people consuming the good and the quantity consumed. Under favourable conditions, equating price with the marginal cost of production promotes both an efficient overall level of production and an efficient level of consumption by individual consumers. In contrast, the consumption of a "pure" public good or service by one individual does not preclude consumption by another, and therefore the cost of production of a public good is unrelated to the number of people who consume it.[103]

Broadcasting services have public good characteristics in two dimensions. First, as with other intellectual property, once programming is produced, having more consumers view or listen to it has no effect on production costs. In this the broadcast media are in essentially the same situation as movies, books, magazines, or newspapers. Second, the distribution of broadcast programming has public good characteristics. This is clearest in the case of traditional terrestrial broadcasting. Once a programme is sent out on the "ether," consumption or reception by one consumer has no affect on reception by another consumer. There is no marginal cost to reception of the programme by additional consumers, given the level of investment in transmission and reception equipment. The same is true for programming distributed by satellite or by microwave.

The distribution of programming by cable may seem to have a less public character since there is a clear marginal cost to having the cable system pass additional households, and a clear marginal cost to hooking up a household. Yet the cost structure of cable distribution, and its public goods characteristics are quite similar to those of broadcasting by radio waves. As with cable, there are positive marginal costs to increasing the number of households capable of receiving a terrestrial broadcast. It is costly to increase the strength and reach of the transmitted signal, and it is costly for households to install or improve antennas. With both cable and terrestrial broadcasting, these expenditures determine the number of households capable of receiving broadcasts. With both, there is virtually no additional cost to having additional households from this group tuned to a programme.

The public goods characteristics of broadcast service change the conditions that must be satisfied for efficient levels both of consumption and supply. First, since the cost of additional consumption is zero, once a public good is produced, the setting of any positive price that deters consumption reduces consumer welfare and causes some inefficiency. But of course a private supplier must charge positive prices in order to raise revenue from sales to cover costs. Second, the efficient level of supply is no longer that which equates the marginal cost of a unit of output with the marginal value to consumers of the additional output; instead, public goods should be produced to the point that equates the marginal cost of additional production with the sum of the marginal benefits to consumers of the additional production.

These are the efficiency conditions for a pure public good, one with zero marginal costs for additional consumption. Goods or services can, however, have characteristics of "publicness" without being pure public goods. As Baumol, Panzar, and Willig have pointed out, public goods are "simply a class of goods whose production has a large fixed cost component and for which there is a relatively low marginal cost (in the sense of the cost of serving another customers rather than the cost of providing another unit of physical product)".[104] Thus, more generally, the problems of private production and pricing of public goods essentially are those of the private production and pricing of any good with substantial economies of scale.

Public goods, or goods with relatively low marginal costs, can be produced privately (so long as there is an exclusion mechanism that allows private sellers to raise revenue). It obviously is difficult, however, for private production of a public good to be fully efficient in determining both the level of consumption of broadcast services that are supplied, and the quantity and diversity of broadcast services that are supplied. Private producers must cover their costs by charging consumers for consumption. The likely results are that (1) some consumers are inefficiently excluded from consuming the good, and (2) too little of the good is produced because the market demand does not fully capture the value to consumers of all additional output. In theory, private producers able to practice perfect price discrimination could both allow consumption by all consumers who valued the service at all, and capture the sum of all consumers' valuations of the good.[105] In practice, perfect price discrimination will be impossible, and private supply is likely to involve both inefficient exclusion of consumption, and overall undersupply because of the inability of private suppliers to fully capture the marginal value to all consumers of additional output.

The public goods characteristics of broadcast service set the analytical context for analysing the efficiency with which private broadcast markets function when broadcasters raise revenue by selling advertising, by offering subscriptions directly to consumers, or a mix of the two.

Advertiser-support

Until relatively recently, the primary private source of revenue for broadcasting was the sale of advertising. Supporting the cost of broadcasting by advertising does encourage efficiency in one way. Viewers are not inefficiently excluded from watching additional programmes by a positive price when the marginal cost of doing so is zero. Broadcasters selling advertising want large audiences because that generally increases advertising revenues. This, however, is only the beginning of the story of the economic effects of relying on advertising.

Advertiser-support changes the nature of the final product being sold and hence the source of final demand. The final product of advertiser-supported broadcasting is access to audiences which is sold to advertisers. Programming is an intermediate input supplied to consumers in order to generate an audience for the advertising. The demand for the product sold depends on the willingness of advertisers to pay for exposures to this audience, which in turn depends on the effectiveness of the advertising.

It often is said that with advertising-supported broadcasting, revenue depends only on the size of the audience. This is a considerable over-simplification, since audience characteristics, such as age, sex and wealth, also matter greatly to advertisers. It is true, however, that consumers' preferences for programming affect audience size, and thus the demand for advertiser-supported broadcasting, only to the extent that the consumer chooses to tune in (and perhaps to the extent to which the consumer pays attention to the commercials). The value of programme A to a consumer affects the market only to the extent that the consumer watches programme A because A is preferred to programme B, and also to other activities. Only in this limited way does the value to consumers of programming play a role in determining the marketplace demand that drives the allocation of resources to and within advertiser-supported broadcasting.

Since market demand for advertiser-supported broadcasting captures only a limited amount of information about consumer programming preferences, how well can a market driven by this demand satisfy these preferences? There are two dimensions to this question: does advertiser-supported broadcasting produce a mix of programming that best promotes consumer welfare, and does advertiser-supported broadcasting allocate the overall level of resources to broadcasting to maximize consumer welfare? Initially, the first question received the most attention, perhaps because of pervasive concern for the level of quality, or lack of quality, of programming of mass, advertiser-supported broadcasting. More recently, the second issue has come to seem at least as important.

An early model of how advertiser-support affects the programming mix was developed by Peter Steiner. His model was built on the observation that advertiser-supported broadcasting does not directly capture consumers' intensity of preferences for particular programming, only their comparative preferences. Steiner's model raises both general questions about the extent to which advertiser-supported broadcasting satisfies consumer preferences, and questions about whether competition reduces rather than increases this satisfaction for advertiser-supported broadcasting.

Steiner's model is easily sketched in a numerical example[106] built on the assumptions about demand characteristics and programme options that underlie his model.

1. There are only three channels on which programming can be shown.

2. Programmes can be grouped into distinct types - say A, B, C, and D - and programmes of the same type are perfect substitutes.

3. Consumers can be divided into four groups - 1, 2, 3, and 4 - with each group preferring a different programme type.

4. Consumers have no second choice of programming and do not watch at all if their preferred programming is unavailable.

5. If two or more channels show the same programme type, they split the audience evenly.

6. Advertising revenues vary proportionately with audience size and depend only on audience size.

7. The costs of each programme type are the same, so that maximizing audience size is equivalent to maximizing both revenue and profits.

The model then asks what programme types private broadcasters will choose for each of the three channels under two different market organisations: when each channel is programmed by a separate, competing broadcaster and when channels are programmed by a single, monopoly broadcaster.

Table 5.1 shows an assumed set of preferences by the four consumer groups for the four programme types, and the resulting programming choices that will maximize audience size and profits for competitive broadcasters and for a monopoly broadcaster. Competitive broadcasters would all choose programme type A for all three channels, ignoring types B, C, and D. By choosing programme type A, a third channel gets an audience of 2 500, one third of the 7 500 consumers who prefer programme type A. This is larger than the audience of 1 650 channel 3 could attract by choosing programme type B. This pattern of programme choice would not change even if consumer groups 2, 3, or 4 had very intense preferences for programme types B, C, or D. There is no mechanism with advertiser-support for the intense preference of a small audience for a particular programme to be reflected in market demand and thus in increased revenues and profits. All broadcasters concentrate on the same programme type, even though under the assumption that all programmes of a type are perfect substitutes this duplication generates only wasteful costs and no additional consumer welfare.

Table 5.1. **Advertiser-supported programming choice, Steiner assumptions**

	Viewer Groups			
Consumer Preferences:	**1**	**2**	**3**	**4**
Number of Viewers	7 500	1 650	800	75
Preferred Program Type	A	B	C	D
Competitive Choices:				
Program Types	A	B	C	D
Number of Channels	3	0	0	0
Viewers Per Channel	2 500			
Total Viewers (all viewer groups)	7 500			
Monopolist Choices:				
Program Types	A	B	C	D
Number of Channels	1	1	1	0
Viewers Per Channel	7 500	1 650	800	
Total Viewers (all viewer groups)	9 950			

A second result of the Steiner model implies that competition reduces rather than increases the extent to which programming matches preferences. A single monopoly broadcaster maximizes the total audience of the three channels, and thus total revenues, by choosing the three most popular programme types, A, B, and C, for the three channels. The monopoly broadcaster gains nothing by choosing the same programme type for more than one channel because doing so would split the audience rather than increase its size. The competitive broadcaster programming a single channel will duplicate programming because he is concerned only with the audience and revenues for his single channel, not with the effect of his programming decision on the total audience. This result suggests that monopoly reduces the tendency of competitive, advertiser-supported broadcasters to concentrate wastefully on duplicative mass programming while ignoring the preferences of smaller audiences.

Since Steiner's article, additional work has shown that these conclusions depend to a considerable extent on the particular assumption and parameters values in his model: highly skewed consumer preferences for programme types, a limited number of channels to programme, and lack of a second viewing choice. Most obviously, if preferences are distributed evenly across programme types, rather than skewed, then with either a monopoly or competitive broadcasters, revenues and profits will be maximized by choosing a different programme type for each channel. One audience group still will not be able to watch their preferred programme type, but that is inevitable in this model with more programme types than channels.

More interesting is the effect of removing the fixed constraint on the number of channels, and instead allowing broadcasters to choose both what to programme and how many channels to programme. When Steiner wrote, a strictly limited number of channels was the most realistic case. Today, cable, SMATV, DBS, and MMDS systems may mean the number of channels programmed depends as much on private market decisions as on public rationing of the limited broadcast spectrum.

The same example can be modified to show the effect of making the number of channels programmed an endogenous choice of broadcasters. Assume the number of channels programmed is limited only by the ability of broadcasters to generate enough revenue to cover costs, and that an audience of at least 800 viewers is necessary to generate enough advertising revenue to cover the costs of broadcasting on a channel. Assume that viewer preferences are the same as in Table 5.1.

The results of the modified example are summarized in Table 5.2. The monopoly broadcaster programmes 3 channels, one each with programme types A, B, and C. Any additional channels would be left dark rather than schedule programme type D, which cannot generate the necessary audience of 800. As before, the monopoly broadcaster has no incentive to duplicate programming since it would not increase total audience size or revenue. Competitive broadcasters still duplicate programming, but they no longer ignore the less popular programming. Competitive broadcasters would programme 12 channels: five channels would split the audience group of 7 500 that prefers programme type A, 2 more channels would split the 1 650 who prefer programme type B, and a twelfth channel would choose type C and its audience of 800. Both competitive or monopoly broadcasters show all programme types that are economically viable, although competitive broadcasting programmes many more channels. No longer does monopoly broadcasting do a better job of satisfying programme preferences shared by only a relatively small audiences. On the strict assumptions of the model, the tendency of competition to duplicate programming generates only waste; outside of the model, even programmes of very similar type will not be perfect substitutes, in which case "duplicating" programming of the same type is not necessarily wasteful.

The results change even more if preferences are adjusted so some groups will watch a second choice rather than not view. Assume that audience groups 2 and 3 will watch programme type A if their

preferred choices of B and C respectively are not shown. The breakeven audience size remains 800. As Table 5.3 shows, a monopolist broadcaster no longer has any incentive to show programme type B and C, since it can capture audience groups 1, 2, and 3 by showing programme type A and making types B and C unavailable. Regardless of how much groups 2 and 3 prefer programme types B and C to type A, they have no way of making those preferences count in the market. Competitive broadcasters, however, will show programme types B and C in order to capture the audiences for whom they are first choices. Doing so will not increase the total broadcasting audience, which is what matters to the monopolist, but it will generate breakeven revenues for the individual channel. When there are many channels available and consumers will settle for watching "common denominator" second choices, a monopoly broadcaster may well show less diversity of programming than competitive broadcasters and satisfy consumer preferences less well - in sharp contrast to the results under Steiner's original assumptions.

Table 5.2. **Advertiser-supported programming choice, number of channels variable**

		Viewer Groups		
Consumer Preferences:	**1**	**2**	**3**	**4**
Number of Viewers	7 500	1 650	800	75
Preferred Program Type	A	B	C	D
Break-even Number of Viewers Per Channel:	800			
Competitive Choices:				
Program Types	A	B	C	D
Number of Channels	9	2	1	0
Viewers Per Channel	833	825	800	
Total Viewers (all viewer groups)	9 950			
Monopolist Choices:				
Program Types	A	B	C	D
Number of Channels	1	1	1	0
Viewers Per Channel	7 500	1 650	800	
Total Viewers (all viewer groups)	9 950			

The welfare consequences of limiting programme diversity will depend, as do the consequences of duplicating programming with competing broadcasters, on the value to consumers of additional programming relative to the costs of such programming. The assumed preference structure of the Steiner model is not well-suited to deal with these questions. The model cannot fully capture the consumer benefits of programme differentiation since it assumes all product differentiation can be captured by an enumeration of types, while programmes of the same type are perfect substitutes. The assumed preference structure also has no mechanism for making welfare comparisons because, working only with preference ranking, it cannot assess the welfare gain for consumers of having available a preferred programme.

Table 5.3. **Advertiser-supported programming choice, second viewing choice**

		Viewer Groups		
Consumer Preferences:	**1**	**2**	**3**	**4**
Number of Viewers	7 500	1 650	800	75
Preferred Program Type				
1st Choice	A	B	C	D
2nd Choice		A	A	
Break-even Number of Viewers Per Channel:	800			
Competitive Choices:				
Program Types	A	B	C	D
Number of Channels	9	2	1	0
Viewers Per Channel	833	825	800	-
Total Viewers (all viewer groups)	9 950			
Monopolist Choices:				
Program Types	A	B	C	D
Number of Channels	1	0	0	0
Viewers Per Channel	9 150	-	-	-
Total Viewers (all viewer groups)	9 950			

Thus while the Steiner model provides insights into advertiser-supported broadcasting, it is much less useful for analysing broadcasting supported by direct consumer payments. With direct consumer payments, programming choices will be affected by consumer intensity of preferences, and by consumers' willingness to pay for programme diversity.[107]

Broadcasting supported by consumer payments

The general qualitative effects on welfare of private broadcasters relying on consumer payments rather than advertising are easily described, although not easily quantified. The first effect is the expected consequence of pay broadcasters charging a price in excess of marginal cost. The positive price restricts the number of consumers enjoying programming and causes a loss of welfare where the value of the programming to these deterred consumers exceeds the additional costs to society of having them as viewers. In other respects, however, pay support creates market pressure for programming to conform more closely to consumer preferences than does advertiser-support.

With pay broadcasting, the demand for broadcast services is based on consumers' willingness to pay for programming instead of on advertisers' willingness to pay for audiences for commercial messages. Pay broadcasting gives consumers a way of registering their intensity of preferences in the marketplace. Smaller audiences with strong preferences have a means of expressing them in the market demand and thus potentially of having them satisfied. Perhaps even more important, the overall level of demand for pay broadcasting will be based on the value to consumers of additional programming. Since the evidence is that consumers place a higher value on programming than advertisers place on exposures to the audience, the switch from advertiser-support to consumer support is likely to increase the effective demand for programming and to increase welfare by drawing additional resources into broadcasting.[108]

These gains should not be overstated. Pay broadcasters will not capture all the benefits to consumers of programming because they cannot perfectly price discriminate. The proportion of the benefits they can capture will vary with the shape of the demand curve. Consequently, the selection of programmes by pay broadcasters still will not perfectly reflect the value of programmes to consumers. There will remain biases in programme selection, situations in which the broadcaster's ranking of programming by profitability will differ from the ranking that would maximize welfare. Still, such biases are likely to be smaller than with advertiser-supported broadcasting.[109]

The welfare comparison of how well advertiser-supported and pay broadcasting generate an efficient quantity and diversity of programmes and an efficient level of consumption depends on the net effect of inefficient pricing with pay broadcasting versus the inability of advertiser-supported broadcasting to reflect the intensity of consumer preferences. Some work has been done to sort out these influences on welfare using a model of monopolistic competition originally developed by Spence and Owen (1977).[110] This analysis has its limitations because it relies on restrictive assumptions, as is common in the literature on product differentiation, but does provide some suggestive results.[111] First, this model suggests that competing, advertiser-supported broadcasters will spend more resources on programme differentiation than can be justified by the increase in welfare.[112] The model predicts that competing pay programmers also may spend excessive amounts on differentiation, but not so much more as with advertiser support.

Second, the analysis suggests that if broadcasters offering pay services charge uniform prices, competition among broadcasters is likely to lead to more efficient markets and greater consumer welfare than supply by a monopoly broadcaster. The reason is the standard one with monopoly: in deciding whether to offer additional programmes, a monopoly broadcaster will consider the extent to which doing so will reduce revenue from already offered programming. As a result, a monopoly provider is likely both to fail to offer some additional programming diversity that would increase net welfare, and also to charge higher prices restricting audience size and further reducing welfare.[113]

Third, the model finds that the welfare performance of competitive pay-supported versus competitive advertiser-supported broadcasting depends on the values of critical variables, including the value

to consumers of diverse programming, and how much advertisers will pay to expose audiences to their messages relative to the value to consumers of the programming. For example, if different programmes are close substitutes and consumers place little value on additional programme types, then the ability of pay broadcasting to reflect demand intensity will yield fewer benefits.[114]

Writing in 1977, Spence and Owen argued that the dominant effect for television broadcasting in the US was that audiences generated by additional programming were worth less to advertisers than the programming itself was worth to consumers. An additional, traditional advertiser-supported network was not economically viable even though there was evidence that the value to consumers of the additional programming considerably exceeded its costs. They concluded that for this reason advertiser-supported broadcasting generated a level of welfare very far from the optimum, and a level of welfare quite probably below that of pay broadcasting.[115] The success since 1977 of broadcasters that rely on subscriber payments -- for example, cable programming in the United States and elsewhere, and Canal Plus in France -- supports their conclusion. Consumers apparently have been willing to pay for more broadcast programming than was supported by advertiser payments.

Financing broadcasting by consumer payments rather than advertising has distributive consequences as well as effects on aggregate welfare. Not all consumers necessarily will be better off with pay television even if aggregate welfare is increased. Increased programme choice may improve welfare overall, but the increased choice also could reduce the audiences for particular programmes until they no longer are broadcast. Consumers who prefer the old programming to the new choices could be left worse off. Consumers unwilling or unable to pay for much programming under pay support also could be worse off than with advertiser-supported programming. The choice of financing also has implications for the distribution of benefits between consumers and broadcasters. With consumer payments, broadcasters will capture a portion of the consumer surplus generated by programming. This is precisely the mechanism that increases their incentive to satisfy consumer programming preferences, and it does not imply that consumer surplus, as distinct from the total surplus, is lower with consumer payments.[116] For some individual popular programmes, however, pay financing could allow broadcasters to capture a portion of the consumer surplus generated by programming that would be shown with either method of financing. Pay support then would not add to welfare by allowing additional programming, but would cause both a loss of welfare by restricting consumption of that programming and a redistribution of welfare away from consumers.

Finally, it should be noted that any overall evaluation of the welfare performance of advertiser-supported broadcasting must deal with another issue: what is the welfare effect of the advertising itself? Is the demand for advertising to be treated like the demand for other goods and services in the market, so that satisfying the demand for advertising makes the same contribution to consumer welfare as satisfying the demand for other goods and services? Or does advertising have negative effects -- external effects in the taxonomy of economics -- that should be counted?[117] These are not questions to which economics offers settled answers.

Mixed pay and advertiser support

Analytical models provide insights, but no definitive answers, in part because the actual broadcasting environment is more complicated than that captured in any of these models. The models, at least as originally presented, asked how an all advertiser-supported or all pay-supported broadcasting would perform. The industry has evolved a much more complex pattern of financing, relying on both the sale of advertising and of consumer subscriptions, particularly in the case of television. Although patterns differ from country to country, there are sufficient similarities to suggest underlying market pressures. Many

individual channels being distributed by cable, DBS, or MMDS both collect revenue from subscribers and sell advertising. Other new channels, including many that specialize in programming relatively recent movies, sell no advertising and rely on higher subscriber payments for revenue. Still other channels, typically traditional broadcast channels, rely entirely on advertising revenue. Thus individual broadcasters must decide whether it is more profitable to rely for revenue on advertising, on subscriber fees, or on a mixture. The broadcaster also must decide the profit-maximizing quantity of commercial time to offer, and the profit-maximizing fee to charge subscribers (if public policies do not control these choices).

It is not surprising that for some programming, a mixture of pay and advertiser support would be most profitable. Revenue from both subscribers and advertising will vary with the amount of advertising included. In most cases the amount subscribers will be willing to pay to subscribe probably decreases with the amount of advertising shown.[118] The revenue the broadcaster could earn from advertising will at first rise from zero with no advertising, but eventually will begin to fall as the number of subscribers and viewers decline. The broadcaster will want to find the quantity of advertising that maximizes profits.[119] This profit-maximizing amount of advertising will be greater than zero if potential subscribers are not too adverse to small amounts of advertising; then the decrease in potential subscriber revenue from small initial amounts of advertising will be less than the gain in advertising revenue. This is likely to be true when the programming is such that interruptions are not too disruptive, or is shorter so there are natural breaks between programmes. On the other hand, for longer programmes without natural breaks -- movies seem a natural example -- consumers may object too much to any advertising to make it profitable.

The choices of individual channels also will be affected by the necessity of competing with other channels. Wildman and Owen (1985), using a model similar to the Spence-Owen (1977) model, find that the more consumers prefer not to see advertising, the more advertiser-supported channels tend to reduce the amount of advertising they sell in order to compete with channels that rely more on pay support.[120]

It is easier to describe the broadcaster's calculus than the effects on consumer welfare. Selling advertising is likely to make the profit-maximizing subscription fee lower than it would be without any advertising, both because advertising makes the channel somewhat less valuable to subscribers and because increasing the number of subscribers (or viewers) now increases advertising revenue per minute. A lower subscription fee reduces the welfare loss from excluded consumers, but since profitability will be at least as great the incentive to produce additional programming will not be reduced. This suggests welfare benefits because fewer consumers would be inefficiently excluded, while the overall level of demand and revenue for broadcasting services would not decline.[121] Similarly, the possibility of mixed support from both advertising and consumer payment may reduce the welfare loss and broad redistribution of welfare that otherwise could occur if broadly popular programming were switched from advertiser-supported channels to pay channels. Advertising on widely viewed programming can be very valuable, and it may be more profitable to keep any subscription fees low to keep the large audiences and advertising revenue.[122] These conjectures about the welfare effects of mixed sources of financing, however, are supported by little analytical work on the overall programme choice and welfare performance of a broadcasting industry in which many channels choose the extent to which they rely on advertising or consumer payments or both.[123]

Bundled sale of multiple channels

Another characteristic of the industry not captured by earlier models is that broadcasters often now programme and sell multiple channels. This is different from the models of a monopoly broadcaster programming all channels because the multichannel broadcaster typically will have to compete to some extent at least with broadcasters of other individual channels. Indeed, there is now the possibility of

competition among more than one multichannel broadcaster in the same market as both cable and DBS, and perhaps MMDS services, are available in some locations. Multichannel broadcasters who sell subscriptions often have chosen to sell bundles of channels, rather than to set separate prices for individual channels (or programmes). Broadcasters may have made this choice for reasons of costs or demand, or both. Selling bundles of channels is much less costly for the broadcaster than pricing channels individually and allowing each subscriber to decide to subscribe to an individualized combination of channels.

Economically, however, bundled pricing strategies also can be a form of price discrimination. Since programming is a differentiated product, broadcasters presumably face downward sloping demand curves. Bundled pricing could be a way for broadcasters to extract more revenue and consumer surplus. Broadcasters could (and do) follow either simple bundling pricing strategies, selling channels only in bundles, or mixed bundling strategies, selling channels both in bundles and separately, or in varying, overlapping bundles. The welfare effects of bundling are ambiguous, as is often the case with price discrimination. The price discrimination introduced by bundling may make economically feasible programming or channels that increase consumer benefits more than costs, but that could not be supported with a single price. Bundling also, however, gives the broadcaster more tools with which to exercise market power, which may mean a greater exercise of market power, more restriction of output, and a loss of consumer welfare.[124] The possibilities for price discrimination dilute the certainty that increased exercise of monopoly power by broadcasters selling to consumers will reduce overall efficiency, but certainly does not allow any general conclusion that competition will reduce consumer welfare.

Summing-up

The usual presumption underlying competition policy is that competition allows markets to satisfy consumer preferences more efficiently because it restrains the exercise of monopoly power. The analysis underlying this presumption does not apply directly or simply to broadcast markets. The analysis of how broadcast markets satisfy consumer preferences for programming is complicated both by the public goods characteristics of broadcasting services and by the effects of selling airtime to advertisers rather than programming directly to consumers. Nor is the economic analysis of more specialized models of broadcast markets so unambiguous and complete that it allows comprehensive, definitive conclusions. The economic models, while instructive, are built on restrictive structures or assumptions that fail to capture the full complexity of these markets.[125]

Still, it seems a fair summary that the analysis broadly supports the proposition that intelligently applied policy designed to encourage the forces of competition is likely on balance to help market forces to satisfy consumer preferences for various types and amounts of programming. Apparent disadvantages of competition when programming is supported by advertising are reduced as the number of channels available for programming increases. This conclusion is reinforced by the recognition that even programming that might be classified as duplicative in type is somewhat differentiated and offers some incremental benefits to consumers. It also is reinforced by the recognition that a monopolist may restrict rather than expand the range of programming offered if audiences can be attracted with second choice, common denominator programming. With pay support for broadcasting, monopoly power is likely to result in higher prices that restrict consumer welfare both by reducing the variety of programming and by restricting the consumption of programming that is broadcast. The possibilities for price discrimination by multichannel broadcasters make this conclusion less certain, but do not provide grounds for reversing it.

Purchase of programming rights

Broadcasters must acquire the rights to the programming they wish to show.[126] Frequently they purchase broadcast rights from programme producers, or a distributor who has bought the rights. The efficient functioning of the broadcast industry depends on the efficiency of these markets for intermediate inputs, as well as the markets in which broadcast services are sold to consumers, or in which advertising time is sold. Even when broadcasters are vertically integrated, both producing and packaging programming, schedules still will be affected by the efficiency of these intermediate markets. Verticlly integrated networks usually purchase the rights to some programming, and the amount of programming they produce themselves will be the result of "make or buy" decisions.

The broadcaster buying programme rights has a wide range of programming from which to choose, and different programmes will both generate different audiences and revenues and have different costs. Based on those expected revenues and costs, the private broadcaster will want to purchase rights that will maximize profits. The broadcaster may earn these revenues by selling subscriptions, advertising, or both. In each case, expected revenues will be a function of programming.

In practice, the choice is both very complicated and uncertain. The expected audience and revenues of a programme will depend on the time of day and day of the week when it is broadcast, on the programmes broadcast before and possibly after it -- what broadcasters call the audience "flow" -- and on what is being broadcast on other stations. Because the expected revenue of one programme depends on the other programmes chosen, broadcasters must choose the profit-maximising set of programmes. Thus it is a considerable simplification to analyse a broadcaster's choice from a group of programmes as if the expected revenue from each were independent of the others chosen. By making this assumption, however, a simple model can describe the basic determinants of the amount a broadcaster will be willing to pay for rights, and the amount a broadcaster will have to pay.

Assume a broadcaster is choosing three programmes from among four programmes that can be produced.[127] For the moment, also assume this broadcaster is the only potential purchaser of the rights to these programmes. Each programme is sufficiently well specified that the broadcaster can determine the revenue it is expected to generate. This revenue will be that from the sale of advertising, which will depend on the audience for the programme, or the incremental subscriber revenue expected as a result of the effect on subscriptions of having this programme in the schedule, or both as with subscription channels that also sell advertising.[128] Column 2 of Table 5.4 shows the broadcaster's expected revenues for each of four programmes.

Table 5.4. **Determinants of prices for programme rights**

(1) Program	(2) Expected Revenue	(3) Producer Reservation Price	(4) Broadcast Cost	(5) Max. Net Revenue	(6) Differential Net Revenue	(7) Maximum Price	(8) Minimum Broadcaster Net Rev.
A	100	50	10	40	30	80	10
B	70	40	10	20	10	50	10
C	40	15	10	15	5	20	10
D	60	40	10	10	0	40	10

Each programme also has a different cost of production. Each of the resources used in producing the programme -- talent resources, actors, writers, directors and so forth -- and other resources -- production personnel, production equipment, etc. -- has the potential of earning something by being employed in other productions or in other ways. These alternatives will determine the opportunity costs of the resources devoted to each of the programmes. Assume that only a single set of rights will be sold for each programme; no other rights will be sold for later broadcast or for broadcast in other countries (or for other types of distribution). This means that the opportunity cost of the resources used to produce each programme determines the minimum (expected) payment or reservation price necessary for each programme to be produced. These differ for each of the programmes, as shown in column 3 of Table 5.4. The broadcaster will have his own costs, in addition to the cost of purchasing programme rights. These are shown in column 4 and are assumed to equal 10 for each programme.

Column 5 shows the maximum net revenue that each programme is expected to generate above and beyond the opportunity costs of producing the programme and the broadcasters' costs (calculated as column 2 minus columns 3 and 4). The four programmes have been listed in order of the overall net revenue they are expected to earn. Programmes A, B, and C are expected to earn the most overall net revenue. It remains to be seen, however, how much of this net revenue would be earned by the broadcaster and how much paid to the programme producer.

The reservation prices in column 3 set the minimum price that producers would accept for each programme. The maximum amount that the broadcaster would be willing to pay can be calculated from the maximum net revenue in column 5. Assume for the moment that the broadcaster could purchase broadcast rights for both programmes D and C for their reservation prices, 40 for programme D and 15 for programme C. The broadcaster then would earn net revenues of 10 on programme D and 15 on programme C. This differential of 5 in net revenues sets the maximum amount above and beyond the reservation price that the broadcaster could pay for programme C, and still be left earning as much as if programme D was bought at its reservation price. This amount is entered in column 6, along with the differential net revenue amounts for programmes A and B. Adding this amount to the reservation price of each programme yields the maximum amount the broadcaster would pay for each programme, which is to say the highest price at which each programme remains more attractive than programme D. As column 7 shows, after subtracting this maximum price paid and his own costs, the broadcaster would still be left with the same net revenue from each programme, including programme D, the next in line in profitability after those purchased.

The actual price paid for each programme will be individually negotiated, but must fall in the range between the reservation price and the reservation price plus expected differential revenue over marginal programming.[129] While this example is very simplified, it captures important aspects of the market in which programme rights are purchased.

First, broadcasters will choose programmes that generate the largest net revenue, which are not necessarily the programmes that generate the largest audiences or greatest gross revenue. In the example, programme C is expected to earn revenues of 40, 20 below programme D's expected revenues of 60, but programme C is more profitable because its costs are lower by 25. Less costly programming can find profitable places in broadcast schedules even when they generate smaller audiences and revenues. This goes a long way toward explaining the presence in television broadcast schedules of game shows and so-called "talking head" programming that have low production costs.

Second, broadcasters can be expected to purchase the programming that generates the largest expected net revenue, even though some of that net revenue usually will be paid to programme producers. The proportion of that net revenue retained by the broadcaster will depend on negotiations over the price of rights, but there will be always be more money on the bargaining table for the programmes that yield more net revenue. It should always be in the interests of broadcasters to choose the programming expected to generate the largest net revenues and profits, and there should always be some price for rights that both will make that programming profitable for the broadcaster and also provide sufficient remuneration to the programme producers.

Third, even under relatively competitive market conditions, not all inputs will be available in perfectly elastic supply. As a result, some programming will earn revenues in excess of the underlying costs of production and distribution, and there will be fierce bargaining over whether these rents are captured by broadcasters, programme producers, or the talent in the programming. The supply of channels to distribute programme may be limited, as in the example, so that even marginal programming generates positive net revenues. Such rents might be earned by all channels if there are constraints on the overall number of channels, but on the assumption that all channels are equally placed. Alternatively, one or a few channels favourably placed to capture larger audiences or earn higher revenues might earn rents even if there is no limit on the number of channels that are less favourably placed.

Even if there were no scarcity of broadcast channels or other resources used to distribute programming and no rents earned by marginal programming, some programmes still would generate differential rents because audiences prefer particular actors, particular stories, or simply the fortuitous results of particular combinations of talent. There will be no completely elastic supply of equally popular programming to drive the expected net revenues of all programming to zero.

Generally the expected revenue from programming will vary both from one programme to another, and from one channel to another. There will be neither a large number of broadcasters bidding the same amount for a particular programme because they all expect it to earn the same revenue, nor a large number of programmes with the same revenue potential from which individual broadcasters can choose. Prices for programme rights will be the result of individual negotiations between broadcasters and programme producers. The exact prices paid for broadcast rights, and the division of differential rents among the parties, will depend on bargaining position and skill.

The analysis of these market outcomes must distinguish factors that affect the bargaining position of broadcasters, programme producers, or talent and thus the division of rents, from factors that affect the allocation of resources. In general, only factors that give broadcasters or programme producers an ability to

control the overall supply of programming delivered to consumers or the overall supply of programming rights to broadcasters will affect the allocation of resources as well as the division of rents. Factors that affect only the division of rents often are the source of bitter disagreement, but do not affect the fundamental efficiency with which markets function.

To this point the analysis has not directly addressed the uncertainty involved in the purchase and sale of programme rights. To decide how much they will be willing to pay for the rights to a particular programme, broadcasters must estimate both the revenue they can expect a broadcast of that programme to generate, and how much they could expect if they broadcast a different programme in its place. Programme producers also will make estimates of the revenues they think their programmes would generate on various channels to help them decide who will pay the most for a programme and to help them bargain effectively. For everyone involved, however, there will be considerable uncertainty about revenue that actually will be generated by specific programming on specific channels. This has two consequences for the markets in which programme rights are sold.

First, uncertainty about the revenues that will be generated by particular programmes means there is both a risk that revenues will fall short of what is expected, and the potential that revenues will turn out to be larger. How much risk is borne by the broadcaster and how much by the producer will be affected, however, by the contract terms and the likelihood that the contract will later be negotiated. If the producer and broadcaster are both risk neutral, then market outcomes and efficiency are little affected by the allocation of risk. If, however, one or both parties are risk adverse, the allocation of risk will affect cost and efficiency.

Second, the price paid for programme rights will change as more information is available. Programming that already has demonstrated its popularity, either in episodes of a series already shown, in releases in other countries, or in non-broadcast releases is likely to command higher prices. Once a broadcast series proves popular, the contract for additional episodes often is renegotiated for higher fees. (And often the talent involved in the production in turn renegotiates their contracts with the producer in order to capture some of the increased rents.)

Supply of programming

The supply of broadcast rights is made up both of rights for programmes already produced, perhaps some time ago, and for newly produced programming. Markets for programme rights determine the prices of rights to broadcast programmes already produced and the resources devoted to the supply of new programming. Broadly speaking, if programme supply is reasonably competitive the expectation of positive returns to the production of new programming should draw additional resources into programme supply.

Producers will supply only some of the very large number of possible programmes and programme rights. Each programme produced with each possible different combination of talent and each different level of production values and budget could be considered a different project. If producer choices are described in this way, it is difficult to say much more than that producers will choose to produce new programming and supply rights to existing programming that they, or potential buyers of rights, expect to generate the largest positive net revenue, and they will produce all new programming that they expect to generate sufficient revenue to cover costs.

The analysis of producer choices can be carried further with a more structured concept of the choices made by producers.[130] Assume that producers must decide both what programmes to produce and the budgets for those programmes. Increases in the resources devoted to a particular programme will increase

the expected revenue generated by the programme, at least within some range. An increased budget can be spent on improved production values, more time spent shooting on location instead of in a studio, more popular performers, and so on. The analysis does not assume that any additional expenditure will increase the revenue potential of the programme, only that there is some way to spend more on a programme that will increase its revenue potential -- at least up to some point. The analysis also does not assume that any project with a larger budget will have more revenue potential than a different project with a smaller budget; rather the assumption is that it makes sense to talk of individual projects, and the revenue-potential of a particular project increases with the budget.

This framework can be used first to analyse influences on a producer's choice of how many resources to devote to an individual project. Initially we assume that all broadcast rights to the programme will be sold as a single package.[131] The analysis is pictured in Figure 1. Production costs are plotted on the horizontal axis and monetary amounts on the vertical axis. Expected total revenue from the single release, R, increases with the production budget, but at a decreasing rate; the expected marginal revenue attributable to increases in production costs are positive, but declining. The broadcaster wants to choose the programme's budget that will generate the maximum revenue for a broadcaster, net of both production costs and the broadcaster's costs of distributing the programming. The broadcaster's costs of distributing a programme will be largely independent of the programme's budget. In Figure 1 distribution costs are fixed at D regardless of production cost. Total costs will then be a line rising at a 45 degree angle from D, since the vertical axis measures monetary amounts and the horizontal axis programme production costs in the same units.

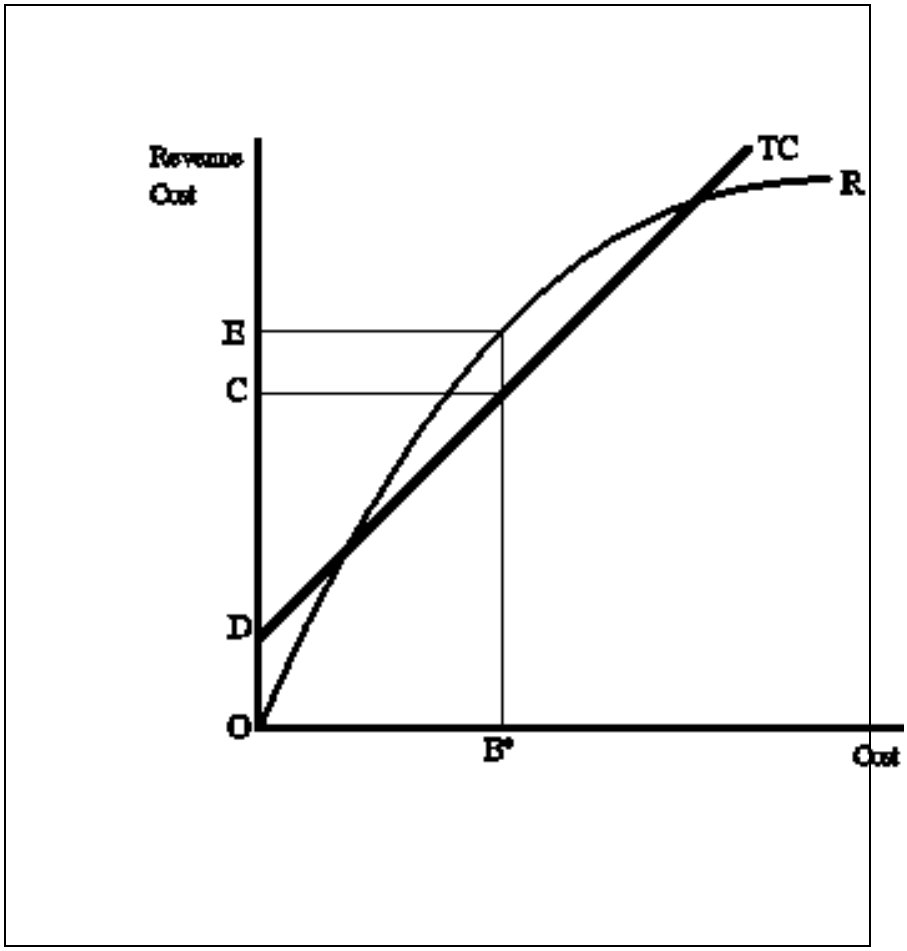

Figure 1: Optimal Production Budget With Single Release

In Figure 1, net revenue is maximized at B*, where TC and R are parallel, satisfying the marginal conditions for a maximum. Total costs are OC_3 OD are the distribution costs and DC (equal to OB*) is the optimal level of programme production costs. Net revenue is equal to CE, and would be split in some proportion between producer and broadcaster depending on the negotiated price for broadcast rights.[132]

This analysis has assumed producers have only a single bundle of broadcast rights to sell. In fact, producers of programming maximize their profits by devising multiple releases for their programming. As already noted, programming has strong public goods characteristics. The costs of programme production, as distinct from programme distribution, are unaffected by the number of releases and the number of consumers who watch the programming. Each additional release typically will have its own costs, but the additional release will add to net revenues so long as the additional distribution costs do not exceed the increase in revenue.[133]

Additional releases can increase revenue simply by bringing the programming to more audiences, audiences in other countries or audiences that missed the first broadcasts of a programme. More importantly, however, the pattern of multiple release windows is a way of selling separate rights to distribute programming to different audiences at different prices. Consumers will have differing willingness to pay for seeing programming sooner rather than later, for seeing it in a theater rather than on a smaller television screen, for seeing it with or without commercial breaks, for seeing it when they choose to rent the videocassette rather than when a broadcaster chooses to schedule it, and for seeing a second or third time. Release windows separated in time and using different means of distribution give sellers of programme rights a way of separating consumers whose demand elasticities vary. Producers then are able to price discriminate by charging prices for rights in various windows that yield quite different per viewer revenues.

Both the prices for rights in each window and the release pattern itself are variable. Producers will experiment to find the combination that maximizes net revenue. Evidence that they do so comes from the considerable changes in release patterns for movies over the last decade or so as new means of distribution, especially home videocassettes and pay broadcast channels, first appeared and then increased their reach and ability to generate revenue. Release to pay cable has pushed in front of release to national, advertiser-supported networks, reducing the revenue from the latter window in exchange for the increased revenues earned from this subscriber-supported source. In the last few years, movies have started to be released in at least some countries to home videocassettes before their pay cable release as videocassettes machines and retail rental of tapes has become more widespread and increased the revenue potential of this window.[134]

The increased ability of producers to convert into revenue the willingness of consumers to pay for programming will in turn affect the resources attracted to programming. Programming will become profitable that otherwise would not be, and the optimal budget devoted to programming will tend to increase. The analysis of Figure 1 can be modified to illustrate some of these effects. In Figure 2, R1 and R2 show the total revenues expected from each of two releases; total revenue is given by R, the vertical sum of R1 and R2.[135] To simplify the analysis, it is assumed that there are fixed distribution costs for each release, D1 and D2, each of which is independent of the programme's production budget. TC gives the total production plus distribution costs for both releases; TC1 shows the total of production costs plus distribution costs for the first release. As before, producers will want to set the production budget to maximize total net revenue from both release windows. In Figure 2, this optimal production budget is B*, where TC and R are parallel.

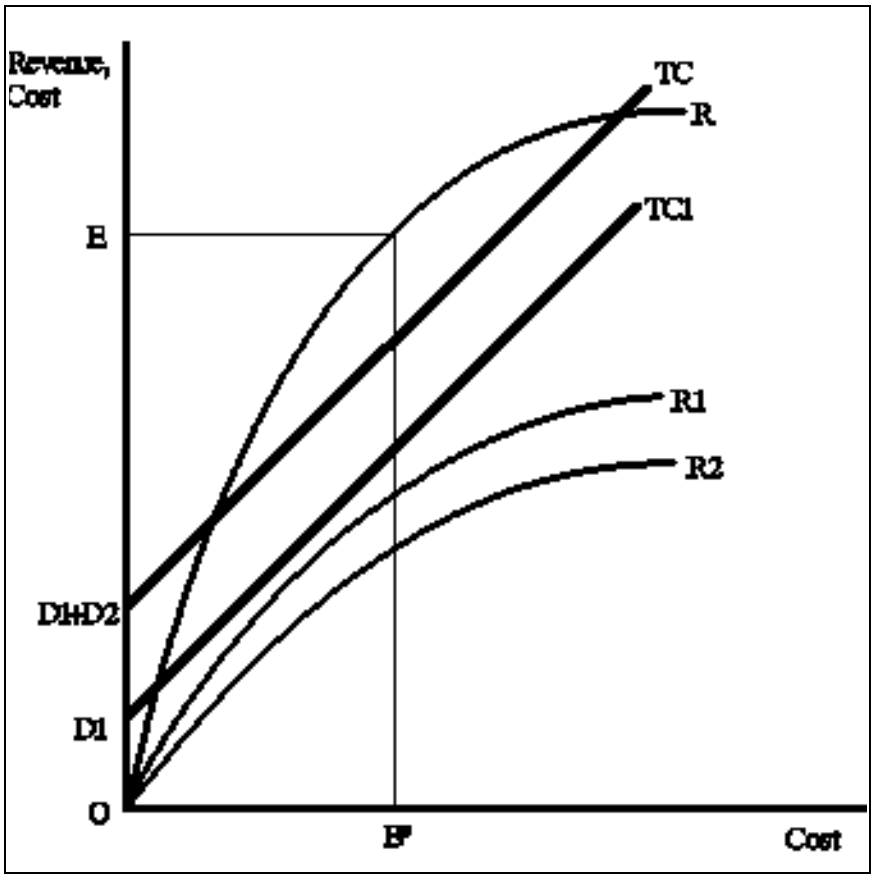

Figure 2: Optimal Production Budget With Multiple Releases

Because producers are interested in maximizing the net revenue from all releases, they will take into account the expected revenue from all anticipated releases in designing their productions and setting its budget. There is no necessary reason why the initial release, or any other release, should cover total production costs plus distribution costs for that release. Figure 2 illustrates a case in which revenue realized from the initial release, R1, does not recover production costs of B* plus the first release distribution costs of D1; R1 lies below TC1 at every budget size, including B*.[136] This does not mean that the first release can be said to be subsidizing the second release. Nor, if it happened that revenues from the first release did cover both its production costs and D1, could it be said that therefore the first release subsidised the second release. Each additional release will be justified economically, and unsubsidised, so long as it adds more to revenues than the additional distribution costs it causes.[137]

This analysis also shows that the producer's reservation price for rights is modified by windowing. When rights to a programme already produced are offered, a producer's reservation price will be determined by the additional costs the producer incurs by distributing programming in that release plus any loss of revenue to this programme in other releases due to the competition of this new release.[138] The availability of later releases will also affect a producer's reservation price when selling rights to a new production. If the

producer expects to earn net revenue from later releases of a programme, the reservation price for rights to the first releases, and for determining whether to proceed with the project, will be reduced by the amount of those net revenues.

Finally, the increased revenue available from multiple releases will attract additional resources into the supply of programming. New release windows that generate unexpected revenue create a windfall for owners of the rights to existing programming. The producers of movies and television programmes twenty or more years ago surely did not anticipate the revenue now available from, for example, cable or DBS releases. But the expected net revenue from those new release windows will be part of what determines the expected net revenue of new productions, and determines both how many new programmes are produced and the budgets devoted to them.[139]

This completes the basic analysis of the functioning of broadcast markets. The next four chapters apply these tools to analysing competition policy issues that arise in broadcast markets.

Chapter 6

BASIC COMPETITION ANALYSIS APPLIED TO BROADCAST MARKETS

Introduction

One message of Chapter 5 is that standard tools of economic analysis can clarify the operation of broadcasting markets and the behavior of their firms. Broadcasting involves artistic choices about which economics has little to say, but it also is a business with functioning markets. Most Member countries rely at least in part on markets to determine the supply of broadcast services (although the extent of the reliance varies and public policies often constrain or otherwise affect the functioning of those markets).

A second message of Chapter 5 -- one crucial for competition policy -- is that broadcast markets, like other markets, are likely to function more efficiently if they are competitive. Hence, many important issues for competition policy in the broadcast industry are very similar to those in other industries and markets. Competition policy should be concerned with preventing agreements among firms that reduce the effectiveness of the competitive process, with controlling mergers that increase the exercise of market power and reduce efficiency, and with anticompetitive or exclusionary behaviour that allows firms to increase barriers to entry or otherwise to improperly acquire or maintain market power. At the same time, competition policy should avoid limiting business arrangements and agreements that are procompetitive or otherwise promote efficiency. These are normal concerns of competition policy, and in most Member countries the broadcast sector is subject to ordinary competition law.[140] Competition policy also should encourage broadcast regulatory policies that consider the competitiveness of markets among their objectives. For the most part, competition policy can rely on the usual tools of economic analysis to determine when the competitive process and efficiency are threatened by either market structure or the conduct of firms and to determine whether regulatory policies promote or are consistent with competitive markets. To be sure, these tools must be adapted to the particular facts and nature of the broadcast industry, but such adaptations are expected for any industry.

The task of the next four chapters is to adapt the tools of competition policy analysis in order to evaluate competition in broadcast markets. Before doing so, it is important to stress the role of public policy in the broadcast industry and several types of interaction between competition policy and other public policy.

First, competition policy analyses must recognise that public broadcast policies and regulations in all Member countries influence and shape behavior in broadcast markets. These policies may serve public policy goals other than competition and may or may not promote competition, but in any case such policies can have a variety of effects on markets that must be considered. Broadcast policies and regulations (and related policies such as spectrum management) often affect the potential for entry by new suppliers and thus the strength in broadcast markets of competition from potential competitors. Licensing requirements, spectrum allocation and other policies may block entry entirely or for some potential suppliers, or raise its costs; policies may affect entry by reducing the likelihood that entrants will find entry profitable. Broadcast policies and regulations also can affect broadcast markets and competition by influencing incumbent suppliers, limiting the way one firm reacts to the pricing or programming choices of another. Finally,

broadcast policies often affect broadcast markets by creating public broadcasters and by establishing guidelines or institutions that shape their behavior. In many Member countries public broadcasters supply large shares, and often the largest share of broadcast services; clearly their behaviour will have a substantial influence not only on the services they supply but also on competitive interactions in the market between private and public broadcasters and even between private broadcasters.

The broadcast policies of Member countries vary widely, and thus so do their effects on broadcast markets. It is possible neither to generalise about the effect of these policies on the functioning of markets, nor to analyse in detail the effects of many individual policies. Instead, the report discusses in a general way the types of effects broadcast policies may have. Beyond that what can be done is to stress that public policies often will be among the important facts that must be considered in analyses of how the process of competition functions in particular markets.

There is a second interaction between public broadcast policies and competition policy. Because broadcast policies can affect the functioning of markets and the robustness of competition, the shaping of broadcast policies is itself of interest for competition policy (although not only for competition policy). Public policy toward broadcasting often has goals other than insuring competitive conditions, but it should be remembered that those policies often will have an effect on the functioning of markets and on economic efficiency.

Finally, in these analyses of how broadcast markets function and of the effects of broadcast policies on competition, the competition policy goals for broadcast markets should be kept in perspective. The increase of economic efficiency and consumer surplus, the objectives underlying the analysis of this report, may not be the only goals of competition policy, and competition policy goals often are not the only goals of public broadcast policy. Concerns for economic efficiency must be integrated with and balanced against other economic and non-economic policy goals to arrive at any overall judgements about broadcast policy.

This chapter discusses how the standard tools of competition analysis can be adapted to the analysis of broadcast markets. The first sections discuss product and geographic market definition, the interpretation of concentration data, and ease of entry. A final section analyses in more detail the factors that determine whether a broadcast firm can exercise monopsony power. The focus is on how market structure and firm behavior in this industry affect economic efficiency, including the consumer surplus component of total surplus, and with how competition policy can preserve the process of competition and thus efficiency. It will not always be possible to state general conclusions. Often conclusions of an analysis of competition depend on particular facts that influence the market and that vary from one Member country to another. It is beyond the scope of this report to survey those varying facts in detail. In addition, there often is an absence of detailed empirical work, or at least of empirical work with clear results, on which to base conclusions. Instead of offering such conclusions, this report outlines the central issues to be addressed by competition analysis, and provides some introduction to what evidence is available.

Subsequent chapters discuss more specific competition policy issues posed by vertical contract terms and vertical integration, by exclusionary practices, by concentration of media ownership, and by multichannel distribution technologies such as cable systems, DBS, SMATV, and MMDS.

Horizontal market analysis: general issues

Earlier chapters have described the types of transactions involved in supplying broadcast services. Each potentially involves a market in which buyers or sellers might exercise market power. Of course the types of transactions that take place in particular countries depend on the structure of the broadcast industry, including the extent of vertical integration. Generally, the exercise of market power by the following types of sellers might be at issue:

-- sellers of programming rights;
-- sellers of packages of programmes (programme networks) to broadcast distributors (who in turn sell delivered programming to consumers or airtime to advertisers or both);
-- sellers of broadcast distribution or transmission services to programme networks (who in turn sell delivered programming to consumers or airtime to advertisers or both);
-- sellers of delivered programming to consumers (programme networks or video distributors, depending on industry organisation); and
-- sellers of broadcast airtime to advertisers.

Competition policy analysis also may consider whether market power, monopsony power, can be exercised by buyers in broadcast markets:

-- buyers of programme rights (usually programme networks); and
-- buyers of packages of programming (typically broadcast distributors buying programme network services).

The basic issue for competition analysis in broadcasting as in other industries is whether competition from other suppliers (or buyers) of the same or similar products or services prevents the exercise of market power. Competition among existing suppliers might fail to constrain the exercise of market power for any of several reasons: because a single supplier is sufficiently large relative to its competitors that it can act as a dominant firm; because firms that otherwise would compete are able to reach overt agreements on price or output; or because concentration is sufficiently high that interdependent behavior by firms results in market power. If, in addition, entry is sufficiently difficult or slow, potential competitors or entrants will be unable to prevent the exercise of market power.

Many elements of a competitive analysis of broadcast markets are the same as in analyses of other industries. This chapter focuses on aspects that are important for broadcast markets or that raise particular problems.

Market definition

Any analysis of whether a broadcast firm or group of broadcast firms can exercise market power over customers to which they sell (or over sellers from whom they buy) must consider to what extent those buyers (or sellers) could turn to substitutes.[141] If buyers have sufficiently good substitutes, attempts to exercise market power will be unprofitable. In competition policy analysis the problem usually is divided into two parts. One part considers whether entry would result in substitutes being offered by potential competitors. A second determines what other firms can use existing production capacity to supply products or services that are sufficiently good substitutes that buyers could and would turn to them if the firm (or firms) being analysed tried to raise price or restrict output or quality. This second part of the analysis is itself

considered in stages: what range of products (or services) are sufficiently good substitutes to consumers, and how wide a geographic area of firms can supply substitutes.

It is this second part of the analysis that defines the product and geographic market for a firm or group of firms, and determines what firms can use existing capacity to supply that market. It is worth remembering, however, that the concept of a defined market is a construct based on the more fundamental concept of substitutability. Market definition sets a sharp boundary between firms and products in the market that are substitutes and other products or firms that are outside the market. In practice, however, there rarely are clear breaks in the chain of product substitution that sharply limit what other products are substitutes. Consumers often have alternatives that shade gradually from very close substitutes to less and less close substitutes, and the extent to which consumers will turn to less close substitutes will depend on price. Certainly this is true more often than not for broadcast services. Put differently, the range of substitutes available to make unprofitable a 20 per cent price increase usually will be wider than those available to make unprofitable a 5 per cent price increase. The same often is true of the geographic market, since the area over which firms distribute their output also will vary with the prices charged by firms distributing to other areas.

So long as this ambiguity is kept in mind to help resolve difficult cases of market definition, the concept of a market can be a useful way of summarising information on the range of competing products and firms. In particular, some concept of a market is necessary to make use of measures of concentration, which themselves can provide useful summaries of some of the information relevant for assessing whether a single dominant firm acting independently will have the ability to control price and output, or alternatively the likelihood that a group of firms acting interdependently can raise price or restrict output.

Product market definition

Broadcast services

The increased supply of broadcast services, often using new delivery methods, and the complementary development of new programme services have complicated the definition of broadcast product markets. Indeed in some cases they blur the definition of what is a broadcast service. The extent to which such services are available, and thus the problems now presented for competition analysis, vary across Member countries. It seems reasonable, however, to project both the continued development of new services and an increase in the range of services available in many Member countries. These problems of broadcast product market definition may have to be faced in the near future even where today consumers choose from a smaller range of services, and product markets are easier to define.

New services in the broadcast industry complicate the definition of product markets by increasing the substitutes available for any particular service, while at the same time increasing variation and differentiation within broadcast and other media services.[142] For example, what once would have seemed relatively clear cut differences between television services and theatrical release of motion pictures have blurred. Each was a relatively homogenous service reasonably clearly distinguished from the other. The available television channels often offered generally similar mixes of programming and technical quality, and therefore presumably were considered fairly substitutable by consumers. Now however, television services are no longer so clearly homogenous; different delivery systems with different economic characteristics are used, and the programming supplied by different network services and delivered in different ways has become increasingly differentiated. At the same time, differences between theatrical distribution of motion pictures and broadcast or video distribution of programming are breaking down.

Broadcast and videotape distribution of motion pictures have become closer substitutes for theatrical distribution as new technology and spectrum availability make it possible for video distribution as well as theatrical distribution to tap the consumers' willingness to pay to see motion pictures. Motion pictures now can be seen uninterrupted in the home, in the same version as in theatres. The revenue potential of these new windows made it profitable to move their release times closer to that of theatrical distribution, further reducing the differentiation of the services. Finally, increased broadcast and videotape distribution has expanded the demand for programming, and the new supply of programming blurs distinctions between and likely increases the substitutability of programming first shown in cinemas and programming first shown by broadcaster or in other video release.

Product market definition will be further complicated by new substitutes if services using the higher quality High Definition (HDTV) or Enhanced Definition (EDTV) transmission standards prove economically viable.[143] Such services will add increased differentiation in video and audio quality to increased programme differentiation among broadcasting services, but will reduce differences in the quality of sound and picture between broadcasting and theatrical distribution.

In principle such developments may lead either to broad or narrow product markets, depending on whether the dominant effect is the increasing availability of video programming and the increasingly similarity of video and non-video distribution, or alternatively the increased differentiation and specialisation of broadcast services. A concrete example illustrates the range of alternatives that consumers might have available, and that therefore might have to be considered in defining broadcast product markets and determining what firms do or could supply that market.

Assume that two firms that sell programming services for distribution by cable or DBS wish to merge. Recent theatrical motion pictures are an important part of the programming on each network, and the underlying source of revenue for each consists primarily of subscription fees paid by consumers rather than advertising. There are few other such services and subscribers to these two services are a high percentage of all subscribers to movie-based subscription services, but there are many other programme networks with different programming that reach equal or larger numbers of viewers.[144]

Depending on how substitutable consumers consider different services, the proper product market definition could be either wide or narrow. At its narrowest, the product market might include only firms now supplying pay-supported programming services based on recent motion pictures. Consumers might, however, consider a variety of other types of programme services delivered in various ways as sufficiently good substitutes that they could prevent these services from exercising market power if they merged. Faced with a price increase for movie-based services, consumers might turn to other programme services delivered by cable, DBS or MMDS if they are available. Depending on their like or dislike of advertising and the types of programming carried (which may well be interdependent) programmes services that carry advertising may or may not be good substitutes. Substitution patterns also could be more complex than substituting one program service for another. For example, cable services might respond to a price increase by the merged networks by rearranging their mix of programme services. Cable services often carry more than one pay-supported movie service and, even if no single service would be a good substitute, potentially a new set of programme services would in combination be a good substitute for consumers and thus for the cable service. Also, programming on conventionally delivered television may or may not be a sufficiently good viewing substitute to constrain market power.[145] Moving away from broadcast services, motion pictures on videotape and perhaps in theatrical distribution might be sufficiently good substitutes that they should be included in the product market.

Once it is determined which products or services are sufficiently close substitutes to be in the same product market, the next question is what firms could supply them and thus should be counted as participating in the market. Some networks should perhaps be counted as participating even though the program service they now supply is not closely substitutable for the movie-based service of the networks that wish to merge. These firms should be counted as participating in the market if, in the event that the merged networks tried to raise price, they could modify the service they supply to make it closely substitutable for that of the merging networks, and could do so easily and without putting at risk substantial sunk investments.[146] A network might do this directly by adding more or more recent motion pictures to their programming, but other programming changes also might make them either alone or in combination with other services close substitutes for the merging service.

Clearly the likelihood that the merged firm could act like a dominant firm, or that increased concentration might allow the merged firm and other programmes suppliers to act interdependently will depend on how we define the range of closely substitutable alternatives and the correct product market.

This listing of possibilities only suggests the nature of the problem without offering an answer. Since market definition is primarily a matter of fact, not theory, general answers may not be valid. Some suggestions can be made, however. First, it is dangerous to assume without clear supporting evidence that market definition should follow conventional categories. Conventional categories of programme types may suggest product markets that are too narrow. Conventional categories based on programming characteristics -- (individual drama, situation comedy, documentaries, game shows, talk shows, sports, continuing or series drama or comedy) -- or on the distribution for which the programme was "intended" --motion pictures for theatrical release or made-for-broadcast programming) may suggest product markets that are too narrow. Consumers tastes do not necessarily lead them to prefer programmes in one category to those in another, so it cannot be assumed that consumers find programming within a category better substitutes than programming across categories. Indeed, many consumers are likely to prefer some diversity of programme type.[147] It would be equally dangerous to assume broad product markets on the grounds that all such services fall in the broad category of entertainment or visual media. Whether broad or narrow, such categories may be useful for other purposes but are not likely to be grounded on the principles of substitutability that must underpin an economically meaningful product market definition.

Second, facts and market definitions quite likely will differ among Member countries. The number of channels delivered by various types of distribution systems vary across Member countries. The type, quality, and appeal of the programming carried vary depending both on market factors and public policy. We saw earlier that the penetration of cable systems differs greatly among Member countries; this affects not only the number of consumers able to turn to this alternative, but also the revenues available to cover programming costs and thus the type, quality, and range of programming offered. Similarly, the penetration of VCRs and of retail distribution for videotape rental vary considerably.

Finally, a conceptual standard is needed to determine when services are not merely substitutes, but sufficiently good substitutes to be considered in the same product market. All entertainment services are substitutes broadly speaking, just as one might say all foods are, yet that does not mean all entertainment should be considered in the same product market any more than that all foodstuffs should be. The standard for sufficient substitutability is best tied to the underlying concept of a product market as suppliers of products that are sufficiently close substitutes to prevent the exercise of market power. As noted above, the set of products and suppliers that offer good substitutes to that being analysed will increase as (relative) price increases. Thus the conceptual standard for sufficiently substitutability for inclusion in a product market should, where possible, be tied to a concept of the maximum price increase that would be acceptable.

This conceptual approach works for the many private firms in the broadcast industry that charge a price for all the services they supply, which includes not only subscription broadcaster services that charge consumers, but also program producers or program networks that sell their output for a price (even though ultimately advertising may be the source of revenue support). Broadcast firms that rely on the sale of advertising airtime present a more difficult problem. The ability to raise price can be used to measure their ability to exercise market power and to define market boundaries for these firms as suppliers of advertising airtime. These firms, however, also make choices as suppliers of programming to consumers, but do not charge an explicit price for this output. Nonetheless, as seen in the previous chapter, competition in the supply of these services also affects efficiency and the extent to which programming satisfies consumers preferences. Since no price is charged consumers, ability to raise price is not available as a conceptual measure of the ability either to exercise market power or to determine market boundaries. Instead, market power in the supply of broadcast services to consumers (as distinct from market power in the supply of advertising airtime) would be manifested directly by the ability to alter and restrict the quantity and variety of programming. Although difficult to measure, there is little choice but to consider directly the ability of a firm supplying advertising-supported programming to control supply in evaluating the extent to which such supply choices are constrained by competition.

Advertising markets

Many broadcast firms also are important suppliers of vehicles for advertising messages. Airtime may be sold for advertising both by programme networks or by a variety of broadcast distributors -- for example by local television and radio stations or cable systems -- or by both networks and distributors. Competition policy should be concerned that the markets in which broadcasters sell advertising airtime function competitively, just as it is concerned that other markets function competitively. Analysing the competitiveness of advertising markets involves determining the substitutability of the different broadcast advertising vehicles and defining advertising markets. In fact, it cannot be assumed that these markets are limited to broadcast advertising airtime of one or another sort. Advertising messages also can be delivered using many other means outside the broadcast industry, and the substitutability of various types of non-broadcast advertising for some of all types of broadcast advertising also must be considered in defining advertising markets. Defining these market boundaries is not always easy since the "product" bought and sold is highly differentiated. The advertiser buying airtime, or another advertising vehicle, is buying exposure of his message to an audience; this product, the audience that is reached and the nature of the message that can be delivered, is differentiated in a variety of ways.

The geographic audiences reachable by different airtime slots that are for sale (and by different non-broadcast advertising outlets) will vary: the advertising messages carried may be distributed to national audiences, regional audiences, or to local audiences. Market boundaries cannot necessarily be drawn along the lines of audience reach, however. For example buyers may be able to combine advertising airtime slots that reach different local or regional areas to reach a wider geographic audience. This can happen either because some individual buyers are able to make the multiple purchases, or because market institutions have developed that reduce the cost of such package purchases.

The audiences reached by different advertising slots also have different demographic characteristics depending on the time at which the advertising is broadcast, the type of programming carried by programme network generally, and, more specifically the programming adjacent to or surrounding the airtime. This can be very important since different advertisers will want to reach demographically different audiences; some will want to reach demographically broad audiences and others only very limited, targeted audiences. For example, some advertisers find valuable the particular characteristics of the audiences

reached by advertising adjacent to sports programming; others seek the audience that listens to radio broadcasts during commute times. Similarly, various print media -- local, region, or national newspapers; general interest or specialty magazines -- each reach audiences with particular characteristics.

Finally, the nature of the media differentiates the product sold to advertisers. Airtime on radio and television advertising has different characteristics because of the differences in the two media, in addition to differences in the audience reached. Non-broadcast media, notably newspapers and magazines, also sell vehicles for distributing advertising messages more or less suitable for particular types of messages.

Thus a wide range of differentiated products are available to advertisers. The problem of product market definition is to determine how substitutable these differentiated products are; these market boundaries, like others, should be based on evidence of substitutability -- such as that on purchasing patterns and pricing patterns -- rather than by adopting conventional descriptive categories.

Geographic market definition

Geographic market definition in the broadcast industry generally presents fewer difficulties than product market definition. Usually it will not be difficult to identify which suppliers stand ready to supply any particular set of buyers (or, on the other side of a market, which buyers are ready to buy from particular suppliers).

The markets in which delivered services are sold to consumers often will be geographically narrow. Consumers in a particular location often have available an identifiable number of channels of delivered services from an identifiable number of suppliers; the cable and/or SMATV services offer so many channels, a certain number of channels are available over-the-air, and some channels are available by DBS. Faced with a price increase by such a supplier, consumers in one location will rarely have an opportunity to turn to suppliers who now supply only some other location. A cable systems serving city A will not be an alternative supplier for consumers in city B. Occasionally there may be an issue of whether an exercise of market power by existing suppliers might lead to a cable or SMATV service beginning to supply an area; this, however, may be better considered a question of entry than geographic market definition since new investment would be necessary. Questions also may arise about including traditional or DBS channels with weak signals, but which would be watchable if more expensive receiving equipment is used. This is a geographic question in the sense that geographic location of the consumer relative to the transmitting area affects signal strength. But it also can be thought of as a product market issue: do these channels provide sufficiently good substitutes to constrain market power given the differences in reception quality or the costs of improving reception? Notice that similar questions could arise about whether local over-the-air channels compete with cable or SMATV service if many subscribers would have to invest in costly antennas to get high quality reception of these channels.

In contrast, markets in which programme rights or network programme services are sold are generally wide. Many will be at least national in scope; usually rights or networks will be available throughout a country. With satellite distribution, programming is generally available to any location within the footprint of the satellites on which it is carried. These markets generally will be at least national in size, more because the same services or rights will be delivered easily to any location within the country than because a buyer at one location can turn to services supplied elsewhere. Sometimes, however, the same services may not be available to buyers throughout a country -- perhaps a programme service is carried only on a satellite whose footprint covers one region. Some services may offer programming of regional interest -- perhaps local sports teams -- and are only distributed regionally; or programming services primarily of

regional interest may not be sufficiently attractive to be included in the product market even if they are widely distributed. In such cases it usually will be better to define narrower geographic markets, recognising that some but not all suppliers will operate in multiple geographic markets.[148] By the same reasoning, in most cases geographic markets probably should not be larger than individual countries since at least some programme services and sellers of rights will supply to only a single country; at the same time many other programme services or sellers of rights may operate in multiple country markets.

Interpreting market concentration

The first point is that conclusions should not be drawn from market concentration data without considering the ease and likelihood of entry. The concentration of current suppliers is at best a very partial indicator of competitive conditions in the market if any attempt by them to exercise market power is likely to draw additional suppliers into the market. The analysis of entry in broadcast markets is discussed in a later section of this chapter and elsewhere in the report. Even if entry is not possible, market concentration data must be interpreted with particular care in the broadcast industry. The first two subsections discuss simple but important points that are not unique to broadcasting. The next two subsections discuss how particular characteristics of the broadcast industry or public policy may affect the way that one firm responds to an attempt by another to exercise market power, and thus affect the construction and interpretation of measures of concentration.

Competitive significance depends on market definition

Concentration says little about the likelihood that market power will be exercised unless it measures concentration among suppliers (or buyers) who in fact offer buyers substitutable alternatives. Concentration figures for markets drawn too widely or narrowly overstate or understate the constraining force of competition among current suppliers. Measures of concentration can be meaningful predictors of economic behaviour only if calculated for markets whose definition is grounded in the degree of substitutability.

This point might be too obvious to be worth making, except that concentration data sometimes are cited in the broadcasting industry without careful consideration of whether or when they are meaningful. To cite one example, data on the national concentration of ownership of cable systems often are cited without discriminating among the issues for which it is or is not relevant. National concentration may be relevant for evaluating whether cable systems exercise market power as buyers of programme services, since this is likely to be a national market, although only if there are not other competing buyers in the same market. On the other hand, national concentration data are unlikely to be relevant for evaluating the ability of cable systems to exercise market power as sellers of services. Geographically the implicit market is too wide. Cable systems in different cities are not alternatives for consumers, and if the system in city A is bought by the same owner operating a system in city B, that does not eliminate a competitive alternative for consumers. Furthermore, the implicit product market may be too narrow; cable services may well compete in local markets with other delivered broadcast services.

Analyses may have to consider multiple markets

A single merger, or alleged anticompetitive behaviour, may affect several different markets, each of which must be analysed. A simple example is a merger reviewed in 1988 by the Director of Investigation and Research in Canada.[149] Maclean Hunter Limited proposed a share acquisition of Selkirk Communications Limited. Each were large and diversified communications companies that owned radio and television broadcast facilities in various Canadian locations. Since such facilities broadcast only locally, it was necessary to analyse the various local markets in which these properties operated. The Director announced the merger would not be challenged after Maclean Hunter undertook to divest itself of stations in two local broadcast and advertising markets in which the merger would have increased concentration of ownership.

A case recently considered in New Zealand provides a second example. A partnership, HKP Partners of New Zealand, sought clearance to acquire a majority share of a pay television service, Sky Network Television, Ltd.[150] The firms involved in the partnership did not control other television services in New Zealand, but they did have interests in telecommunications services, print media, and film and video distribution in New Zealand, and were subsidiaries of US corporations with interests in telecommunications, cable delivery and programme services, print media, and film and video programme production and distribution. One of the partners provided microwave linking services to another television broadcaster in competition with services supplied by a current shareholder in Sky. In addition, at the time two of the shareholders in Sky Network Television themselves were shareholders in another New Zealand telecommunications firm. Thus to evaluate this proposal the competition authorities considered horizontal and vertical effects in several telecommunications and broadcast markets.

Another complicated example is provided by a joint venture proposed in 1983 involving United States firms with interests in film distribution, cable system ownership, and cable programme networking. Briefly, the joint venture would have been owned by Paramount Pictures, Universal Studios, Warner Communications, Viacom International and American Express. The venture would have merged and operated two movie-based, pay-supported cable networks: Showtime and The Movie Channel. The multiple, related interests of these companies meant that the analysis of the venture by competition policy authorities in the US had to consider its effects on several different markets.[151] Showtime was a subsidiary of Viacom and The Movie Channel was a joint venture of Warner and American Express. The three movie studios involved were three of the six largest in the US (measured by gross rental fees for theatrical releases). Viacom sold syndicated programming rights to traditional television stations; the movie studies also were producers and syndicators of programming for television networks and stations.[152] Viacom and Warner Amex (equally owned by Warner Communications and American Express) were two of the ten largest cable system owners in the US. The analysis involved both potential horizontal effects and vertical relationships that could be disentangled and analysed only by careful consideration of the various markets involved.

Broadcast industry characteristics

Concentration, the number and market share size distribution of suppliers in the market, is measured because it can provide information suggestive of the likely behavior of current suppliers. The question is, if one large supplier were to try to exercise market power by raising price and restricting output, would other suppliers react by expanding output enough to prevent an attempted exercise of market power from being profitable? If the market is concentrated, they may not. If most other suppliers are small, rising costs or other factors may prevent them from increasing output rapidly enough to prevent the exercise of market power. If there are only a few large suppliers, they may not have an incentive to expand output enough because it may be more profitable for them to act interdependently. Thus concentration should be

measured and interpreted with an eye to how existing suppliers would behave. In the broadcast industry, market share figures, and thus concentration data, must be measured and interpreted with particular caution if they are to provide information on supplier behavior.

Market share can be measured by either output or capacity.[153] First consider the problems of measuring the output of broadcast firms. Measuring the monetary value of output has advantages for non-homogenous output, which is what most broadcast services are. (Similarly, monetary measures of heterogenous inputs are preferable for measures of buyer concentration.) When pay-supported and advertiser-supported programme services are in the same product market, however, it will be difficult or impossible to find comparable monetary measure of their output.[154] Measures of "physical" output also may be problematic. Time spent viewing probably would be the cleanest measure of output of programming supplied to consumers, although it is not without problems and reliable data may not always be available.[155]

More basic issues appear when we consider the choice between the use of output market shares and capacity market shares. The choice makes little difference when firms match their capacity closely to their output, but output may understate a firm's competitive importance when its capacity substantially exceeds its output. Highly concentrated industries may contain several firms with quite small market shares as well as a few large firms. Inferring from high concentration that the large firms may be able to exercise market power depends in part on the presumption that firms with small market shares on the fringe of the industry will not be able to expand supply rapidly enough to make a price increase unprofitable. In general small firms may be prevented from rapid expansion either by capacity constraints -- rapid expansion of supply would sharply increase costs -- or because they sell differentiated products and buyers cannot be induced to shift rapidly in the short run.[156]

The public good characteristics of many broadcasting services suggest that capacity or cost constraints may not prevent them from rapidly expanding output. To take the clearest cases, rising marginal or per unit costs will not impose capacity constraints on owners of programming rights increasing the sale of rights to programme services, or on programme services selling to more cable or DBS or SMATV services in the footprint of the satellite on which their service is transmitted, or on those cable, SMATV or DBS services signing up more subscribers reached by their transmissions or passed by their cable. Indeed, per unit costs may fall rather than rise with the expansions of output. The lack of clearly defined capacity constraint for many firms in broadcast markets creates problems for measuring concentration in a meaningful way. It casts doubt on the economic significance of output market shares, while at the same time making it difficult to measure useful capacity market shares.

One is left with a problem requiring careful interpretation of concentration data and other evidence. The first issue to consider is to what extent product differentiation, if not capacity constraints, would prevent firms with smaller outputs from rapidly expanding output if firms with larger output shares tried to exercise market power. Evidence on the volatility of the output shares of existing firms or the ability of new firms to expand share may help. The differentiation of the services offered by broadcast firms may slow rapid shifts in market share, but there also is evidence that market shares of firms selling programme rights and programme services may change considerably over time.[157] If differentiation does not prevent substantial change in output shares, then the interpretation of output market share concentration should recognise that concentration measures calculated from current output market share is likely to overstate the ability of larger firms to dominate the market and exercise market power.

Public policy and public broadcasters

Competition policy analysis also should consider whether and how broadcast policies or regulations affect the competitive response of existing private or public broadcasters to an attempt to exercise market power. A broadcast firm might be able to exercise market power in structural conditions where it normally would not be thought possible -- the market is relatively unconcentrated or the firm itself has a relatively small market share -- if broadcast policies limit or change the ability or incentives of other firms to respond.

The first issue to consider is whether broadcast policies or regulations limit the competitive responses of private broadcast firms. Two hypothetical examples illustrate possible effects.

In the first example the question is whether merging broadcasters could exercise market power in the sale of advertising airtime. Assume a separate television advertising market that is sufficiently unconcentrated and in which the merged firm would have a sufficiently small market share that, absent regulatory limits, the merged firm could not profitably raise price because other broadcasters would find it profitable to keep their airtime price low and expand airtime sales. Now assume that regulations set a maximum on the airtime each broadcaster may sell that limits airtime sales to a quantity smaller than the competitive level, but greater than the level that would maximize industry profits. If the regulation restricts the ability of other firms to expand airtime sales, their responses may no longer prevent the exercise of market power. A variety of outcomes are possible. If the merged firm is the largest firm, the others might set somewhat lower prices, but not be able to expand sales enough to make the higher price of the merged firm unprofitable. Or the other broadcasters might find it more profitable to go along with a price increase since the regulations limit the profitability of low prices.

For the second example, assume that a number of programme networks are delivered by an established cable, DBS or MMDS service and are supported at least in part by subscriber fees. Further assume that a few of these networks are higher priced, movie-based services to which consumers subscribe separately, while the others are part of a "basic" package received with any subscription to the cable, DBS or MMDS service. Now say that two pay programme services propose a merger. Assume that there are too few pay services to deny the merged service from exercising market power, but absent regulations there would be sufficient substitutability between so-called pay and basic services that the price increase would not be profitable. To deny market power, however, the video distributor might have to increase the number of services offered in the basic package, and increase its price to cover additional costs. Alternatively, the distributor might rearrange the packages of services, developing an intermediate, optional set of programme services that includes some services previously included in the basic tier, while reducing the price and number of services of the basic tier. Such responses might be prevented if regulations control the price and composition of basic services, or if the development of new programme services is constrained by licensing requirements.

These examples do no more than illustrate the type of effects of regulation that should be considered in the analysis. The examples do not consider all the factors that would affect competition, and these regulations will not necessarily have the effects hypothesised.[158] And of course an evaluation of these policies should consider any public policy goals they serve.

The second issue to consider is how public broadcasters will respond to attempts by competing broadcasters to exercise market power. Clearly the issue will be important in the many Member countries where a substantial proportion of broadcast services are supplied by public broadcasters. In part, this is the general issue that arises in other markets where state-owned enterprises are important suppliers: will state-

owned enterprises behave differently than private enterprises, whose presumed objective is to maximize profits. There need be no single answer to the question. State-owned enterprises, including public broadcasters, may or may not behave differently than privately-owned enterprises, depending on such factors as the objectives they are charged to seek, the structure of incentives established for and within the enterprises, and whether they have preferential access to capital.

Beyond the general considerations, specific limitations, guidelines or objectives may affect the choice of programming or supply of advertising airtime by public broadcasters. To some extent the effects will show in market shares: the impact of programming choices on audiences will be reflected in viewing data, and the impact of advertising limitations, or prohibitions, in the share of advertising airtime supplied. Competition policy analysis, however, also should consider whether such policies will affect or limit the response of public broadcasters to attempts by private firms to exercise market power.

In addition to being state-owned enterprises, public broadcasters often also receive substantial revenues from public sources, either from specific television license or user fees of some sort or from general public revenues. Again some effects on programme choice or on the supply of advertising airtime (if any) will be reflected in market share data. The availability of public as well as market sources of revenue also may alter a public broadcaster's response to market changes and attempts to exercise market power, but *a priori* it is not clear in what way. A public broadcaster might respond less vigorously because it is less concerned about audience share or advertising revenue than a private broadcaster would be. Alternately a public broadcaster might respond more vigorously because it is willing to fight for audience or advertiser market share even when the cost of the fight exceeded the gain as measured by net revenue. In individual cases competition policy authorities may have to project the behavior of public broadcasters based on how they have previously responded to market changes and opportunities.

A final question is whether consumers' behaviour will be changed by being required to pay license fees. Here the answer is easier. So long as a consumer's obligation to pay is unaffected by his choices of what broadcast services he watches or subscribes to, the levy should have little direct effect on those choices and thus on consumer demands for broadcast service. For example, a license fee that had to be paid by all households with television receivers would have little effect on consumer viewing choices or demand for subscription service, so long as the fee was not so high as to reduce significantly the number of households with television receivers.[159]

Entry and other supply responses

There is general agreement that, where firms are able to enter markets easily and with reasonable speed, there is little likelihood that even large incumbent suppliers will be able to exercise substantial market power. Incumbent suppliers also may be denied market power if firms not now supplying substitutable services in the relevant product and geographic market can easily use existing capacity to supply the market.

Both supply responses, entry and supply substitution, may be important in broadcast markets. Economic factors that affect the ease of entry into programming services and video delivery services are considered at greater length in the last section of this chapter and in Chapter 7 and, especially, in Chapter 8. The evidence over the past decade of growth and expansion of new broadcast programme services and delivery services, however, certainly reinforces the general point that competition analysis should consider whether entry will be possible. On the other hand, it is considerably less clear that entry will be easy for a second or third cable, or DBS or MMDS supplier of multichannel video distribution services. The technology of broadcasting suggests that supply substitutability also may be important, especially if demand

substitutability among programme types or services is limited. Even if consumers are not willing to switch easily between programme types, it may be relatively easy for broadcast firms to use their existing "capacity" of distribution facilities or programming expertise to deliver a different type of programming that would be a good substitute for a service trying to exercise market power.

The other general point is that public policies often play a crucial role in determining the ease of entry into broadcast markets. Chapter 2 of this report described how changes in public policy in many Member countries helped encourage the growth of private broadcasting. Public policies continue to affect the ease of entry: for example, licensing requirements to use radio spectrum either for traditional broadcasting or for DBS, and various regulations affecting the construction and operation of cable or SMATV systems. Policies outside the area of broadcasting also may affect the ease of entry into broadcast markets. Telecommunications policies of Member countries can affect the availability and cost of transponder capacity on communications satellites for programme suppliers to distribute their programming and of earth receive-only stations to receive that programming. The effects of public policy on entry are discussed in more detail in Chapter 8.

Monopsony power

It is possible for buyers as well as sellers to have market power. As with market power for sellers, market power may be exercised by a single buyer of an input -- the formal case of monopsony -- or by a small number of buyers able to act interdependently -- the case of oligopsony. Competitive analyses to determine if a buyer can exercise monopsony power must consider the same sorts of issues involved in determining if a seller can exercise market power. Product and geographic markets must be properly defined to identify alternative purchasers available to sellers in order to calculate economically meaningful measures of buyer concentration. Factors affecting the likelihood of collusion or interdependent behaviour and the ease of entry by additional buyers should be considered.

Despite the similarities, however, the analysis of monopsony power in the broadcast industry is worth separate attention. Competition issues involving the potential exercise of market power on the buying side of markets are unusually prominent in the broadcast industry: issues such as whether program networks exercise market power in purchasing broadcast rights from independent producers or harm competition by relying on vertically integrated production subsidiaries for programming and therefore foreclosing independent producers. Consequently it is worth identifying more precisely the conditions under which a broadcast firm might have monopsony power and drawing a clear distinction between monopsony power and bargaining power, which have quite different effects on economic efficiency. These points are developed first by looking at the relevant issues in an analysis of whether networks are able to exercise monopsony power as purchasers from producers of the right to original programming. Following this discussion, the possibility that distribution systems, for example cable systems, are able to exercise monopsony power as buyers of network services is considered briefly.

Monopsony power and market definition

First, one must be clear about just what constitutes the exercise of monopsony power and how it reduces economic efficiency. Consider the standard model of monopsony. A single buyer faces an upward-sloping supply curve for an input. Therefore if the buyer increases the amount purchased, this raises the price he must pay for all units of the input purchased. Recognising this effect on price, the monopsonist maximizes profits by purchasing a smaller quantity of the input than would a competitive buyer whose

purchases did not affect price. The cost to the monopsonist of purchasing an additional unit is the marginal factor cost, which is greater than the price of the input since it includes the effect on expenditures of the bidding up of the input price. The cost to a competitive buyer of an additional unit of the input is its price. Since the cost to a monopsonist of buying an additional unit of input is higher, the monopsonist buys less of the input than a firm without monopsony power. The reduced use of the input reduces efficiency in two ways: the mix of input used is distorted as the monopsonist inefficiently substitutes other inputs for that over which he has monopsony power, and this in turn reduces the monopsonist's supply of his own output.[160] This formal model assumes a single buyer, but just as with market power for sellers, buying power by buyers may also be exercised by a small number of buyers (oligopsonists) acting interdependently.

In either case, however, the harm to efficiency of monopsony power depends on a single or small number of buyers facing an upward-sloping supply curve. Only if buyers know increased purchases will bid up the input price (and reduced purchases will reduce input prices) will they inefficiently restrict their input purchases. On the other hand, a buyer (or small group of buyers) facing an elastic supply curve for inputs will not be able to reduce the price paid for an input by restricting supply and will not have monopsony power.

Whether a network individually or a group of networks collectively may have monopsony power as purchasers of programming depends on whether sellers of programming have good alternatives if the networks were to try to depress prices by reducing purchases. Just as a seller is denied market power to raise price if buyers have good alternatives, a would-be monopsonist is denied market power if sellers have alternative buyers. This is a question of market definition: what is the smallest group of buyers that could profitably reduce the price they pay for an input.

Do television networks compete for programme inputs with enough other buyers that they are unable to exercise monopsony power? This, like other questions of market definition, is a question of fact to which answers vary. The range of potentially competing buyers that should be considered is, however, greater than those now purchasing similar programming. Competing buyers of programming may include not only those who now purchase a particular type of programming, but other networks or distributors who might choose to do so. Networks with vertically integrated production facilities might increase (or begin) purchases of programming of independent producers if there was an attempt to bid down its price. Sellers of motion picture broadcast rights may be able to sell not only to cable networks that now programme primarily movies, but to other networks that now use other programming. Much programming also is sold in a series of windows; altering the order or timing or windows may provide another way for owners of programme rights to reach a different and larger group of buyers.

Even if there are only a few actual or potential purchasers of video programming, they may be unable to exercise monopsony power. There are two reasons. First, while collectively a small number of purchasers of programming may face an upward-sloping supply curve of programming, they may be unable to coordinate their purchasing sufficiently to exercise monopsony power. Video programming is very heterogenous contracts often cover not only an easily identifiable price but many other terms that affect the value of the package, and contract terms are reached in individual bargaining with producers and typically are not made public. Such conditions make collusion difficult to establish and defection from tacit collusion difficult to detect and discipline. When such conditions prevail, the exercise of monopsony power is not a foregone conclusion even if buyer concentration is high.

Equally important, competition among buyers, and thus the properly defined market, is not necessarily limited to actual and potential purchasers either of a particular type of video programming or of video programming of any type. Networks and other purchasers of video programming may be denied

monopsony power because the supply of such programming is itself very elastic. If the inputs used to produce video programming can easily move into and out of video programme production, buyers of programming must compete not only with other buyers of this type of programming but with buyers of other products or services that use the same inputs.

Both labour and capital inputs may be elastically supplied to video programme production. The programme industry potentially can call on a pool of the necessary labour resources and talent considerably larger than that employed in video programme production. Similar talents often are used in motion pictures, in advertising productions, and in the theatre. Other talent may be drawn from the print media, perhaps for news or documentary programming. Still other labour working in unrelated industries may be happy to work on video programming when there is sufficient demand. Special capital equipment and facilities also may not be a limited resource for video production. Some production facilities can be easily shifted into or out of video programme production because they are owned by producers of both video and other types of programming. In many other cases, there is an active rental market for both production facilities and specialized equipment, allowing these inputs to move easily between, for example, production of video programming, of motion pictures, of advertisements, and of educational or training materials. A rental market for specialized capital also allows programming to be supplied more elastically by reducing the need for individual programme suppliers to operate on a sufficiently large scale to use specialised equipment or production studios to capacity or to commit sunk investments in order to produce programming.[161]

It is a question of fact whether alternative buyers for programme inputs or the inability of a smaller number of buyers to collude will prevent the exercise of monopsony power in a particular case. It is worth noting, however, that many analysts of the programme supply industry in the United States have concluded that the large commercial television networks are unlikely to have monopsony power. Three reasons are identified, each of which independently could be sufficient to prevent a network from having monopsony power. First and most fundamentally, many economists have concluded that the supply of video programming is very elastic. Second, over-the-air networks increasingly must compete with cable networks for programming. Third, even as few as three network purchasers of programming might find it difficult to collude tacitly on programming purchases and to avoid competing.[162]

Bargaining power: popular programming and uncertainty

Buyers in broadcast markets may be able to exercise bargaining power even when they cannot exercise monopsony power. The exercise of monopsony power and bargaining power often are confused. When buyers, such as networks purchasing programme rights, can exercise bargaining power the result will be that sellers receive lower prices and often may complain that they are the victim of the unfair exercise of power by buyers. Yet it is crucial for competition policy to distinguish the two because they have very different economic effects. The exercise of monopsony power restricts the supply of output to consumer and reduces both economic efficiency and consumer surplus. The exercise of bargaining power typically does neither.

The exercise of bargaining power by buyers and sellers is a pervasive fact of life in broadcast markets in which programme rights and inputs used to produce programming are bought and sold. This is a direct consequence of the fact that both programming and the inputs used to produce it are far from homogenous. Particularly popular programming will generate revenue substantially greater than the costs of producing and broadcasting it, and buyer and seller will bargain over price to determine who captures these net revenues. The bargaining process and the functioning of the market is further complicated, however, because when a programme is produced there usually will be considerable uncertainty about how successful

it will be, and thus about what net revenues it will generate. These factors are analysed in detail in Appendix A of this report; this section summarises the conclusions of that analysis about the economic effects of bargaining power.

When a programme is expected to earn revenues exceeding its production and broadcasting costs, the maximum amount that purchasers would be willing to pay to buy rights (rather than not acquire the rights) will exceed the minimum amount the programme producer must receive in order to be willing to produce the programming. This situation was analysed in Chapter 5. The price agreed on for the rights must be between this maximum price the buyer will pay and the minimum price the producer would accept, but bargaining, and the bargaining power of the two sides, will determine where in the range it falls. That price in turn determines the division between buyer and seller of the quasi-rent generated by popular programming, that is the excess of revenues over costs. A network (or other buyer) may succeed in capturing most of these quasi-rents when it has bargaining power -- as it might, for example, if there are few or no other buyers who could expect to earn comparable revenues with the programming.

Such bargaining power, however, is fundamentally different from monopsony power. So long as producers receive their minimum reservation price for programming, the programming should be supplied. Buyer bargaining power may drive the price for programme rights down to this reservation price, preventing producers from realising the quasi-rents earned by particularly popular programming, but should not drive the price lower; the buyer has no interest in setting a price so low that the programming is not produced. Unlike the case of monopsony power, setting a low price for programming and restricting the amount purchased does not depress the price that must be paid, that is the reservation price, of other programming. Thus while the exercise of bargaining power and the division of quasi-rent determines how much is earned by buyers and sellers, it does not change the supply of programming, and does not reduce economic efficiency.

The previous section argued that a buyer could not exercise monopsony power if the supply of programming and other inputs was highly elastic. The ability of some programming, and of some programme inputs (such as popular performers) to earn quasi-rent implies there is not a perfectly elastic supply of particularly popular programming or the inputs used to produce such programming. An elastic supply of popular programming is not necessary, however, to prevent the exercise of monopsony power. So long as there is an elastic supply of marginally profitable programming, a buyer who increases the quantity of programming purchased will not bid up the reservation prices of all other programming purchased, and a buyer will not be able to drive down the price that must be paid for all programming by reducing the quantity purchased, which is the essence of monopsony power.

Bargaining over the price of programme rights, and the operation of this market, reflects the uncertainty over the revenues a programme will earn at a time when many of the costs of programme production must be committed. Buyers of rights must commit themselves on the basis of expected revenues. Holding the rights to programming is rather like holding a lottery ticket;[163] what a buyer will pay for the ticket depends on the probabilities of different payoffs, but in the end a few tickets will carry winning numbers (the programming is very popular), some have modest payoffs (the programming is moderately successful and covers its costs) and some are losers (the programming fails to cover its costs of production). One important consequence is that different arrangements for financing programme costs affect who bears the risk created by uncertain revenues; who bears this risk and how much compensation they must receive to be willing to bear it, have important implications for market efficiency. These issues are discussed further in the next chapter.

Uncertainty about programme revenues also requires an elaboration of the analysis of what determines the supply of resources into programming and the effect of bargaining power on this process. Since returns are uncertain at production time, one cannot simply say that a programme will be produced if the revenues it earns exceed the costs of production. Instead programmes are produced when the revenues expected (by some buyer or buyers) exceed costs of production. For the market to function efficiently, the resources devoted to programme production should increase or decrease as the distribution of revenues earned by programming shifts, with more or fewer programming earning revenues that cover or exceed their costs. In other words, the level and distribution of quasi-rents (positive and negative) earned by programmes and expected to be earned affects the demand for programming.

If buyers acquire programme rights before revenues are known and have sufficient bargaining power to pay only the reservation price that covers the cost of production, producers would neither receive increases in quasi-rents earned by programming or suffer losses when they decline. While such an exercise of bargaining power would prevent producers from realising changes in quasi-rents, that does not mean it would distort market responses. In this case the buyers of programme rights would realise the increase or decreases in quasi-rents gains or losses; consequently they would adjust the quantity of programme rights they would demand, which would lead to the desired market adjustment in the quantity of programming supplied. Uncertainty over programme revenues does not change the basic conclusion that buyer bargaining power does not distort programme supply or reduce economic efficiency.

Of course the balance of bargaining power is vitally important to programme producers and networks (and other buyers and sellers of programme rights and programme inputs). Each has strong individual interest in the division of quasi-rents, which may be very large. The exercise of bargaining power, and the division of quasi-rents, however, should not have a substantial effect on economic efficiency or on consumers.

Monopsony power by purchasers of network services

The threshold question in an analysis of whether purchasers of network services can exercise monopsony power is again whether the buyers face upward-sloping supply curve for network services. A single buyer of network services could increase profits by restricting the purchase of network service if restricting purchases reduced the price paid for all services. On the other hand, the purchase of network services will not be restricted by the exercise of monopsony power if the supply curve of network services is flat and, for example, a cable system can purchase twenty-five rather than twenty network services without affecting the prices paid for the first twenty.

As with the supply of programming, the supply of network services may be very elastic even if only one or a few buyers compete to buy at particular input. If the inputs used to produce network services are themselves very elastically supplied, then an increase in the quantity demanded of network services will not bid up the price of network services. Since programme rights are an important input to network services, a very elastic supply of programme rights will help prevent the exercise of monopsony power in the purchase of network services as well as preventing the exercise of monopsony power in the purchase of programme rights themselves. Cable services or other buyers of network services will not be able to exercise monopsony power if both programme rights and other necessary inputs, for example satellite transponder space to distribute the service, are very elastically supplied. Again, this is essentially an issue of market definition. For example, buyers of cable network services and broadcast network services would be in the same market if inputs could shift back and forth between types of network services in response to a small shift in price, even though the network services themselves would not be substitutable. The market is even broader if those

inputs could shift between the cable network service and a wider set of uses without substantial changes in input prices.

If the supply of network services is not sufficiently responsive to prevent increases or decreases in demand from bidding the price of network services up or down for more than a reasonably limited period of time, then monopsony power is not ruled out. The focus of the analysis then shifts to the demand side of the market.[164] If a given network service may be purchased by many different video distributors, the analysis is complicated by the quasi-public good nature of network services. Distribution of a networks service by more systems in different locations does not require an increase in the supply of network services and an increase in inputs into network services (apart perhaps from small increases in costs of distribution and billing). Video distribution services in different output markets do not compete against each other as buyers. The number of potential buyers may nonetheless affect how elastic each perceives the supply of network service to be. Whether a network service is supplied depends on whether the sum of the amounts buyers will pay cover the cost of network supply. If each service is purchased by a relatively large number of video distributors, each distributor may perceive that whether or not it purchases a network service has only a very small probability of affecting whether the service is viable and is supplied. That in turn means its purchase decision has only a small probability of affecting the quantity of inputs devoted to network services. In this case, even if the industry supply curve for network services is upward-sloping, the purchase decision of an individual distribution services will have little effect on the costs of network services. Each delivery service will act as if it faces an elastic supply of network services on which its decisions having no effect on price. On the other hand, if the total number of buyers of a network service is small, each may perceive that the number of services it purchases is more likely to affect the quantity of network services supplied and hence also the cost of network services when the supply curve of network services slopes upward. Whether such buyers would exercise monopsony power and restrict purchases of programme services would then also depend on their ability to act interdependently.

An industry structure in which network services are purchased by many video distributors that do not compete with each other may limit the exercise of monopsony power, but potentially it also sets up a classic public goods problem. The incremental cost of supplying a network service to each individual video distributor will be low. If the network service receives no more in payment from video distributors than the sum of these incremental costs, however, revenues will fail to cover total costs; the basic costs of assembling the package of programming and many satellite distribution costs are not attributable as incremental costs of supplying the service to any particular video distributor. At the same time, a network service will be better off to accept than reject an offer from a video distributor to pay just more than the incremental cost of supplying the service if the only alternative is no sale or revenue in that market. Video distributors that do not have to compete as buyers in their local market might be able to place a network service in such a poor bargaining position. If so, the exercise of bargaining power could result in a substantial undersupply of network services.

Note that such a problem would be due to a public goods-like cost structure combined with bargaining power, not to monopsony power. The single buyer in each market would not be restricting the amount it was willing to pay because it wished to restrict the quantity of network services purchased in order to reduce the price of other network services, as in the exercise of monopsony power. Instead, each individual buyer would be hoping to free ride on payments by other buyers that would allow the network to cover its total costs and would prefer that the quantity of network services supplied not be reduced.

The potential for free riding has not prevented the emergence of many new network services to fill the channels of new video distribution services. But appreciation of the potential problem is important because it clarifies the means by which private firms overcome it. The free riding problem may not appear

because video distributors compete in output markets and therefore compete to carry the network service, giving the networks greater bargaining power. Even if they do not face competing buyers, networks can act to reduce the problem by differentiating their service in order to create a bilateral monopoly bargaining situation. Alternatively, free riding may be reduced because individual buyers are sufficiently large, not relative to the markets in which they sell but as a proportion of the total demand for a network service, that they recognise, at least in part, that they must cover more than the incremental cost of supplying them in order for the network service to remain viable.[165] Both networks and video distributors suffer if there is free riding, and therefore both have incentives to seek means to overcome it, perhaps by choosing to bargain over a smaller rather than a larger number of contracts. This may be one reason that in the United States cable networks typically negotiate master contracts with the firms that own multiple local cable systems, even though not all of the commonly owned local cable systems may then carry the network; a negotiator for the entire group of cable systems has less incentive to free ride that would individual local systems.[166] Finally, networks and video distributors may turn to a variety of other contract relationships and equity ties to reduce opportunistic free riding that harms both.

Chapter 7

VERTICAL INTEGRATION AND VERTICAL CONTRACT POLICY ISSUES

Introduction

Relationships between different vertical stages of production in the broadcast industry frequently involve more than arms-length market transactions. In many cases different stages are vertically integrated under common ownership. Many programme networks produce at least some of their programming, and programme networks also may own local over-the-air transmitting stations. Ownership ties between programme networks and cable systems are also common. Firms at different vertical stages also establish ongoing vertical relationships through detailed vertical contracts that specify not only price and quantity but also other obligations and rights of the parties. Contracts often establish such vertical relationships between independent producers and programme networks for whom they are producing original programming, and between programme networks and the video distributors, cable systems, DBS systems, or local over-the-air stations transmitting the programming.

The effects of such vertical relationships on competition frequently have been questioned. Does vertical integration harm competition by leading to the exclusion or foreclosure of independent, unintegrated firms? Is a firm able to exercise greater market power because it is vertically integrated? Do detailed vertical contracts imposing obligations or conferring rights on buyer or seller allow one or the other to exercise market power over the other, or at least does the existence of such terms indicate the presence of market power?

These are the issues addressed in this chapter. As in the previous chapter, the objective is not so much to provide settled answers as to develop tools of analysis for understanding why firms forge such relationships and their effect on the process of competition. As before, the criterion used to evaluate effects on competition will be whether practices increase or decrease the economic efficiency resulting from the decisions of firms and consumers and their interaction in the market -- which is to say, the level of economic efficiency achieved by the process of competition among firms.

It should be remembered, however, that public policy toward vertical relationships in the broadcast industry often is motivated not only by economic efficiency, but also by other goals and by both economic and non-economic concerns. These concerns also must be considered in choosing public policies. The purpose of this analysis is to make clear the effects on economic efficiency of particular practices and possible policies, so that the objectives of economic efficiency can be properly weighed and balanced against other policy objectives.

The first section of the chapter gives a very brief overview of the reasons for vertical integration or vertical contract controls and of their possible effects on economic efficiency. The second section analyses in particular vertical relationships between programme networks and programme production and more generally ways in which vertical relationships may promote efficiency. A third section considers exclusionary practices and conditions under which broadcast firms might use vertical integration or vertical

contracts to exclude other firms from access to inputs or buyers in order to increase market power or to exploit their market power more fully.

Vertical integration and contract controls: general principles

Upstream and downstream producers can form vertical relationships that go beyond arms length market transactions either by vertically integrating under common ownership or by agreeing to controls that limit their behavior in contracts that establish a continuing relationship. The two share common characteristics, and for many purposes are institutional substitutes, although usually not perfect substitutes. Both establish controls on upstream or downstream production and distribution decisions that supplant or supplement the incentives created by simple market transactions. Fully integrated subsidiaries substitute exchanges within a firm, and consequently some internal direction and coordination of upstream and downstream decisions, for market transactions and the incentives they provide. Less fully integrated subsidiaries may continue to make many market transactions with other firms, while substituting some internal controls or exchanges for markets.[167] Vertical controls in contracts either directly give one firm some control over some production and distribution decisions of the other, or indirectly control those decisions by restructuring the profit incentives of the firms. Examples of vertical contract controls in broadcasting include grants of exclusivity, rights of approval over script or cost given to network buyers of programming, and terms specifying marketing arrangements.

Why do firms form vertical relationships? There is by now a large economic literature analysing vertical relationships, much of it relatively recent, and the literature continues to develop. A brief summary can only suggest the range of reasons for and effects of vertical relationships.[168] It once was common to say that the primary justification for vertical integration was to achieve technological efficiencies: the technology of production led to lower cost when both stages were under common ownership. It now is understood that technological economies are not the sole or even the most important reason for vertical integration.[169] This shift in emphasis also has made it clear that vertical contract relationships are formed for many of the same reasons as vertical integration.

Vertical integration or vertical controls allow upstream and downstream producers to better coordinate their production and marketing decisions, including pricing. As independent, profit-maximizing firms engaging in a simple market transaction, either (or both) may have incentives to make choices that increase its individual profit at the expense of the other and at the expense of the total profits they could earn together. This result may derive from an externality -- failing to consider the effects of a decision on the profits of the vertical partner in the exchange -- or from a knowing attept to taking advantage when opportunities arise to profit at the other's expense.

In each case the private incentive for broadcast firms, like other firms, to vertically integrate or to agree to vertical contracts is the same: to increase the joint upstream plus downstream profits. Whether economic efficiency also is increased is a different question. As is true outside the area of vertical relationships, increases in profits can be compatible with increases in both economic efficiency and consumer surplus (as when firms find lower-cost methods of production), but they also may come at the expense of consumer surplus and economic efficiency (as when firms exercise more market power).[170] The analogy is direct. Vertical relationships may increase efficiency because they directly reduce the costs of conducting the transaction or allow upstream and downstream producers to make more efficient production or distribution decisions. But vertical relationships also may result, in the right market circumstances, in a coordination of decisions that allows a more complete exploitation of market power or in decisions that disadvantage rival firms and increase market power.

The remainder of the chapter builds on this general overview. The next section explores the possibility that vertical relationships may increase efficiency as well as profits. The last section examines the possibility for broadcast firms of using vertical contract terms to exploit market power or to disadvantage rivals and increase market power.

Issues of vertical contracts and vertical integration I: programme production and programme networks

The activities of producing programmes and packaging programmes sometimes are carried out by different firms and sometimes by a single vertically integrated firm. Which is the more common organisation varies. In European Member countries, historically much of the programming first distributed on television has been produced by vertically integrated programme packagers or networks. Recently there has been both some increase in programme production by independent producers and an interest in promoting this development.[171] In the United States, in contrast, programme networks have not produced most of their own programming. From the early 1970s until recently, FCC regulations and consent decrees arising out of antitrust litigation effectively prevented commercial over-the-air networks from producing their own programming. Before 1970, however, when these networks were free to produce their own programming, they also purchased rather than produced most of their programming.[172]

There has been recurring concern in many Member countries about the competitive effects both of contractual relationships between networks and independent producers and of vertical integration. Where networks deal with independent production there is concern that networks are able to purchase rights for prices that are too low, to force producers to sell rights for all distribution rather than only for the initial network distribution, or to demand other onerous contract terms. Until recently, there has been only a small number of networks in any Member country, with the number effectively limited by the number of channels that could broadcast within the available spectrum. Independent producers of programming typically have been more numerous and smaller. This contrast of numbers and size, enhanced no doubt by frequent producer complaints of unfair treatment, has raised the concern that networks have power as buyers over independent producers. Where networks produce more of their own programming, there are concerns that vertically integrated networks will discriminate against independent producers, and that vertically integrated structures will retard or prevent the development of independent producers and of a market in which programme rights for new programming are bought and sold.

Objectives other than those of competition policy sometimes underlie these concerns -- for example, the desire to reflect a diversity of views in programme production. Even where other objectives are involved, however, basic concerns of competition policy typically are important. Concerns about contracts terms usually involve an issue of horizontal market power: can networks exercise market power, monopsony power, as purchasers of programming rights from independent producers? Concern over monopsony power becomes tied to the effects of vertical relationships with a second set of issues: do vertical arrangements, whether vertical contract terms or vertical integration, either indicate the absence of competition or themselves allow an increased exercise of market power? The general conditions under which a broadcast firm could exercise monopsony power were discussed in the last chapter; the discussion here analyses reasons for vertical contract conditions sometimes seen primarily as expression of network power as buyers. Concerns about vertical integration typically focus on the possibility that it may foreclose or disadvantage independent producers and prevent a competitive market for programme rights.

Networks and independent producers

The analysis in Chapters 5 and 6 concentrated on the most basic terms of an exchange: price and quantity. Contracts between programme producers and networks are more complicated than this. Contracts for the purchase of specific distribution rights for existing, previously produced programming may be relatively simple, but even these contracts usually specify not just a price and quantity, but also what rights of exclusivity are being purchased. Contracts ordering production of new programming and purchasing rights for its initial distribution usually are substantially more complicated; these contracts may include terms that:

-- specify payments by the network for preliminary stages of production, such as preparation of a sample script and production of a sample or "pilot" programme;
-- grant the network buyer exclusive option rights to order specified numbers of additional programme episodes at specified times at specified prices;
-- grant the network rights to require that the producer use specified production facilities or share production responsibilities with another co-producer;
-- grant the network buyer specific rights of approval over scripts and other creative aspects of the programme;
-- require the producer to post bonds against completion of ordered programming or to provide other financial guarantees of performance;
-- specify fees that the network will pay the producer if particular option rights for more programmes are not exercised or if an initial order for some number of episodes is cancelled before all episodes are delivered;
-- specify whether the network is buying the rights to show the programme only a specified number of times on network over a specified period of time, or also rights to distribution by other over-the-air broadcasters -- by cable, by broadcasters in other countries, and so forth; or
-- specify any financial interests the network is purchasing in future returns generated by the programmes.

This list suggests some terms that may be included in agreements between networks and producers, but in actual contracts these may vary widely.[173] Ideally one would like to be able to explain why different contracts include different terms. Unfortunately neither the detailed data on actual contract terms nor the necessary analytical tools are now available.[174] What can be attempted is a more general explanation of the general function and effects of such contract terms. Is the purpose or effect of some or all of these terms to allow network buyers to exercise buying power over independent producers? Or do such terms reduce the costs and increase the efficiency of the transactions themselves? Or may they do both?

The following subsections analyse the nature of the contractual relationship between network buyers and independent producers of new programming, the problems that must be overcome (or minimised) for the relationship to be efficient, and the economic effects of contract terms they may adopt. These sections contain a general discussion of the factors that affect the choice of contract terms; a more detailed analysis of the advantages and disadvantages of particular broadcast contract terms is found in Appendix B.

Contracting problems

Contracts between networks and producers of new programming must do more than specify simple terms of sale, price and quantity. The contract establishes the terms of a relationship that often lasts from an early stage of programme production to final delivery. The relationship typically is formed before new programming is produced, since producers will want commitments from the network (or other buyer) before committing many resources to production. The network buyer wants to insure that it gets the product it expects for its investment both of rights fees and of any efforts it contributes to programme development. Rather than fully committing the buyer to purchase a block of programming not yet seen, which may or may not turn out to be popular, contracts may grant the network buyer options to order further work: production of a preliminary pilot episode after review of a preliminary script; production of initial programme episodes after viewing the pilot episode; production of additional blocks of episodes. Such intermediate decision points may be efficient, but they also complicate the arrangements that must be specified in the contract.

Such a contractual relationship is significantly different from a simple market exchange, where, if either party is dissatisfied, there is relatively little cost to terminating the relationship and finding a new buyer or seller.[175] Producer and network often will each make investments that will lose part or all their value if the relationship is ended before the transaction is complete; economists call these transaction-specific assets. The network stands to lose some of the returns on its contributions to programme development, on payments for early episodes, and on programme promotion. The producer also stands to lose if, as is likely, he does not receive full compensation for programme production and development costs, and perhaps for early episodes, unless some minimum number of programmes is ordered and delivered.

From the standpoint of the producer and the network, the challenge is to make sure that each acts in ways that maximize the joint profits of this relationship to which they are committed. It is not a foregone conclusion this will happen. Producer and network each can be expected to seize any opportunity to increase individual profits, even if doing so reduces the profits of the other and joint profits. Such opportunistic behavior cannot be ruled out either by market discipline or by a simple specification of performance in a contract.[176] A buyer or seller who has committed transaction-specific assets cannot eliminate all opportunistic behaviour by finding another buyer or seller since breaking the relationship is costly. Specifying performance in a contract is not a complete answer because not all contingencies can be foreseen and because enforcing a contract is costly.[177] Instead, opportunistic or self-interested behavior has to be controlled or properly directed by the structuring of the relationship either through contract or through common ownership.

The economics literature has identified a wide range of problems that buyer and seller must deal with if the vertical relationship is to maximize joint profits.[178] Before looking specifically at transactions between producers and networks, it is helpful to identify a few important objectives:

-- Control opportunistic behavior. If a party may lose some of the value of investments sunk in transaction-specific assets through opportunistic behavior by the other, such investments will be discouraged even though (absent opportunistic behavior) they would lower total costs. Opportunistic behavior may take such forms as a buyer or seller insisting on renegotiating price or other terms, particularly when conditions arise not fully specified in the contract, or the form of a seller failing to fulfil terms for quality or delivery (and thereby lowering his own costs and increasing his profits).
-- Minimize transactions costs. The transaction costs to the parties of governing behavior within the relationship should be minimized. These include costs of settling disputes and

renegotiation and of measuring performance in order to pay agreed compensation or to enforce agreed levels of performance.[179]

-- Prevent externalities from distorting production or distribution choices. When a production or distribution decision taken by one party affects the profits of the other, generally the choice made will not maximize joint profits because of the externality.
-- Overcome input or output distortions due to pricing. When buyers, programme networks or video distributors, pay prices higher than marginal or incremental cost for the programme rights or programme services, or restrict their purchases because they have monopsony power, they tend to purchase too little of such inputs if they can adjust their input mix. If both the seller of the input and the seller of the product or service using the input can mark their price up above marginal cost, the likely result is prices too high and sales too low.
-- Consider the allocation of risk and the information of the decision-making party. Production costs can be reduced if decisions are assigned to the party that is better informed, and if risk is allocated efficiently.

Producers and networks (like other buyers and sellers in vertical relationships) can be expected to choose contract terms to control these problems because they want to maximize their joint net revenue. The question is whether this private motivation also will lead to contract terms that increase overall economic efficiency (as measured by total economic surplus of profits plus consumer surplus) or more specifically that benefit consumers directly by increasing consumer surplus.

Efficiency as well as private net revenue is likely to be promoted by controlling opportunistic expropriation of transaction-specific assets and reducing transaction costs.[180] Each reduces the costs of producing output of a given value or increases the value of the output that can be produced at given cost. If opportunistic behavior is not controlled, the producer or network may be unwilling to commit transaction-specific assets, and instead will rely on less specialised, less productive inputs. Producers may, for example, be less willing to develop programming that appeals to the needs of a particular network and instead produce general-purpose programming that can be sold more widely. When the buyer or seller is willing to invest in transaction-specific assets, contractual safeguards can reduce the transactions costs of monitoring agreements and settling disputes and thereby save real resources.

The effects on efficiency and consumers' surplus of contract terms intended to prevent externalities of pricing distortions from eroding joint net revenues are harder to summarise.[181] Using vertical arrangements to control these problems may either increase or decrease economic efficiency or consumer surplus. Still controlling externalities with vertical controls often can improve economic efficiency, and often also consumer surplus. This is particularly likely if neither the upstream seller or downstream buyer has substantial market power; generally controls may reduce efficiency because they give an upstream or downstream firm with market power more ability to control product quality or pricing, and thus greater ability to exploit market power. In the absence of upstream or downstream market power, the vertical controls are likely to increase efficiency. Even if the upstream or downstream firms do have market power, vertical controls will not necessarily reduce economic efficiency. To give examples, controls that prevent double price markups or eliminate the input mix inefficiency caused by monopsony power generally will increase economic efficiency and consumer surplus; controls that correct externalities that otherwise would cause reduce greatly the incentives to make certain expenditures of an upstream or downstream producer are likely to increase efficiency, even though firms with market power may not choose the socially optimal level of expenditure. Circumstances in which vertical controls will not increase efficiency are discussed further in the last section of this chapter.

Contract remedies

Producers and networks can control behavior that reduces profits by using various terms that modify the incentives of each, that specify rights of one party to approve or control decisions of the other, and that reduce the costs of monitoring behavior and enforcing the contract. The problems are complex and interrelated, however, and rarely will there be complete, easy solutions. Contract terms have both advantages and disadvantages, and the parties have to tradeoff these advantages and disadvantages and use the combination of terms that does the best although still imperfect job of simultaneously solving multiple problems.

One important group of problems involves giving the producer incentives to make choices in programme production that maximize the joint net revenue of producer and network together, rather than only the profits of the producer. To maximize joint net revenues a programme of any given level of quality must be produced at a minimum cost. Profit-maximising tradeoffs between cost and quality must be made on the many different dimensions that affect programme cost and quality -- for example, shooting on location rather than in studios, use of special effects and stunts, use of film or videotape, and decisions on scripts and performers. Finally, programming must be delivered on time so that network scheduling is not disrupted. In theory the contract could give producers incentives to make choices that maximize joint net revenues simply by making producers residual claimants of all changes in joint net revenues; by making choices that maximized their own profits, producers would then also maximize joint net revenues. Contracts between producers often are structured to give producers profit incentives to maximize the value of programming, as happens when producers retain some interest in programme rights instead of selling them before production and delivery of programming, or when network payments will cover all costs of development and production only if the network exercises options to order additional episodes.

Other contracting problems, however, often prevent this from being a complete solution. First, since networks typically both receive the revenue generated by programming and incur costs, making producers full residual claimants likely would require costly monitoring of network accounting; both parties would recognise the difficulties of controlling a network buyer's incentive to behave opportunistically in reporting revenues and costs, and the likelihood of costly disputes. Second, making producers residual claimants makes them, rather than the networks, bear the risk of uncertain returns; this may not be efficient. Third, networks also make choices, in programme scheduling, in participating in programme development, in programme promotion, that affect net revenues; making producers full residual claimants leaves the network no incentive to make choices that maximize joint net revenues. In sum, the contract may not be able to rely solely on producer profit incentives to control producer choices, because it also must consider other objectives: minimizing costs of monitoring and enforcing agreements, allocating risk efficiently, and controlling network choices.

Consequently, contracts are likely to use a variety of other tools to insure producer performance. To give producers profit incentives to minimize costs, the fees paid for programme rights can be fixed by contract, thereby limiting the ability of producers to pass through inefficient costs. Contracts may try to control quality by specifying the use of particular inputs -- such as studios facilities, performers, writers -- or by giving networks rights of approval over scripts, choice of performers or other production decisions. Networks may require producers to post a completion bond, both to enforce performance and to screen out producers unsure of their ability to deliver. Contracts may require producers with little experience to "lay-off" some production responsibilities on other, established producers, both to insure use of the quality inputs of the established producer and to take advantage of an established producer's greater likelihood of doing repeat business with the network which gives him a greater incentive to protect his reputation by avoiding opportunistic behaviour.

Again, however, such contract terms have disadvantages as well as advantages, so that a package of contract terms must balance potentially conflicting objectives. For example, while profit incentives might do a better job of controlling producer choices than giving the network direct controls and rights of approval, limiting the risk borne by the producer and relying more on direct controls over producer choices might do a better job of balancing the two objectives of allocating risk efficiently and controlling producer choices.[182] No one package of contract terms will be best for all circumstances, but the choice of contract terms other than the simple specification of price and quality can have important effects both on the profits of the parties and on economic efficiency.

Contract terms and competition policy

We can now return to the competition policy concern of this section: the ability of networks to exercise power as buyers from independent producers. Specifically, how do various "non-standard" contract terms -- those that go beyond setting a simple price for specified network distribution rights -- affect the exercise of monopsony or bargaining power, and what issues do such terms pose for competition policy? Before looking in more detail at the relationship between such contract terms and monopsony and bargaining power, two general points should be made.

First, any monopsony or bargaining power of a network can only be exercised by and through such contract terms. The contract taken as a whole determines both the value of the agreement to the selling producer and that which it is selling. Whether or not monopsony power is being exercised, the contract as a whole determines the value of the agreement to the selling producer and what is being sold. This "price" and "quantity" of the transaction depend on what programme rights are conveyed to the network under what circumstances and contingent on whose order, what amounts are paid at what times, what obligations to perform are placed on the producer (and on the network), and so forth. Therefore if and when monopsony power is exercised to reduce the "price" paid and the quantity purchased, it necessarily must be exercised through the package of contract terms, including "non-standard terms". A concern of competition policy that particular contract terms or obligations raise problems of monopsony or bargaining power must mean more than this. It must be based on a conclusion that but for the use of a particular term, the exercise of monopsony power or bargaining power would be different and the objectives of competition policy would be better served.

The second general point follows directly: non-standard contract terms may promote efficiency. It cannot be presumed that, since they serve no "legitimate" purpose, their use can only indicate the exercise of market power imposed on one party by the other.[183] Terms may limit the behavior of one or both parties, but it does not follow that such limits are impositions. Both buyer and seller may welcome limiting contract terms: they can allow the party to make a credible promise not to follow what otherwise would be its self-interest and behave in ways that would reduce the overall value of the transaction and thus its share of that payoff.

Contract terms and monopsony power

The analyses of this chapter and Chapter 6 point to a clear conclusion. The ability of a network (or other buyer) to exercise monopsony power depends on whether certain necessary structural conditions are present, not on the use of particular contract terms. First, a buyer or small group of buyers will not be able to exercise monopsony power in purchasing an input unless they face an upward-sloping supply curve for the

input. Second, when it is more than one buyer of an input that faces the upward-sloping supply curve, the buyers must be able to collude or coordinate behavior to control price or quantity purchased.

An analysis of the ability to exercise market power as a buyer should focus on these structural conditions, just as it focuses on analogous structural conditions in analysing whether a seller can exercise market power. Focusing instead on the use of particular contracting conditions can be misleading. If the structural conditions are present that allow monopsony power, the buyer's ability to exercise it is unlikely to be affected substantially by restrictions that deny use of particular contract terms but do not change these structural conditions. If these conditions are not present, a buyer cannot exercise monopsony power, regardless of what contract conditions are used.

The point can be illustrated by analysing the complaints sometimes made that networks can exercise monopsony power by forcing producers to sell rights for non-network as well as network distribution for a low price. A network with monopsony power that purchases both network and non-network distribution rights will restrict the quantity of programmes for which it purchases these rights and thus depress the price paid for the packages of rights.[184] The network, however, could exercise the same monopsony power without purchasing non-network distribution rights; to exercise monopsony power it need only control its purchase of rights for network distribution. All it need do is offer an amount for the network-only rights for each programme equal to the price it would pay for all distribution rights minus the amount the non-network rights would be worth to another purchaser.[185] If the network pays this amount for network rights and the producer sells the remaining distribution rights to other buyers, the total amount each producer receives for all rights is then no more or less than if the network purchased all rights. Of course the change in the contract may have other consequences.[186]

If a network can exercise monopsony power whether or not it purchases non-network rights, this suggests that networks do not purchase non-network rights in order to exercise monopsony power.[187] A simple example demonstrates that a network might "force" a producer to sell non-network distribution rights for reasons that have nothing to do with monopsony power. Assume the costs of producing a programme are 100 and that there are only two sets of rights with value: network and non-network distribution. Also assume there is only one buyer of network rights, but several potential buyers of non-network rights. Finally assume at the time the contract is signed with the network, non-network distribution rights are worth 20 to the network but only 10 to anyone else, including the producer.[188] The network offers to pay either 100 for all rights, or 80 for only network rights. The network would be indifferent between these offers, but would not be willing to offer more than 80 for network-only rights. The producer would be "forced" to sell the entire package of rights, since otherwise it will only receive a total of 90 for the package of rights, less than the cost of the programming.

These numbers alone, however, do not explain why the network is willing to pay more for non-network rights, and thus why it makes an offer that "forces" their sale. One reason might be that the network is more able to bear risk. Assume both the network and the producer believe there is a 20 per cent chance non-network rights will be worth 100 in the future and a 80 per cent chance they will be worth nothing. (Also assume these are the only two potential holders of non-network rights.) The risk-free expected value of these rights for each is 20. The network is willing to accept this risk with no discount for bearing the risk. If the producer retains the rights, however, assume it would have to seek a loan to finance production costs not covered by the network payment for network rights. Further assume that, in the event non-network rights turn out to be worthless, there is a substantial chance the producer will have to default on its loan repayment. As a result, to get the loan it must pay (in the form of higher interest rates) a risk premium equal in total cost to 10.[189] Thus the net value to the producer of retaining non-network rights is 10: their expected value of 20 minus the costs of 10 imposed by bearing the additional risk. In effect, if the producer retains the rights the

total cost of production increases to 110. The network is able to outbid the producer because total costs are lower and expected joint net revenue higher if the producer does not bear the additional risk. By forcing the producer to sell these rights, however, the network is insuring a more efficient allocation of risk that reduces total production costs, rather than exercising monopsony power.[190] If acquisition of rights by a network increases efficiency in other ways, this also would allow the network to "force" the producer to sell rights.

Another contract outcome sometimes pointed to as indicating the imposition of network power over producers is the failure of network payments for rights to cover full production costs. At least two possible explanations for this phenomenon do not depend on the network exercising monopsony power.

First, if the network does not purchase all distribution rights, there is no reason to expect its payment to cover all costs of production. As shown in the analysis of Chapter 5, programming will not be produced unless the amounts received (or expected) for all rights at least cover production costs, but payments for a subset of rights need not do so. The payment for network rights might cover all production costs even though other rights also are valuable, but only if the programme is expected to generate net revenues in excess of production costs and the producer has sufficient bargaining power to capture some of these rents. The sale of network rights for programming expected to be only marginally profitable should not be expected to cover total production costs even in the absence of network bargaining power.

This analysis has another implication. The growing importance in many countries of broadcast outlets other than traditional over-the-air channels, and the developing world-wide market for broadcast rights, suggests that for much programming the value of traditional network rights may fall relative to the value of other distribution rights, those for cable distribution, for DBS distribution, for distribution on videotape, and for distribution rights in other countries by various means. For programming for which this happens, fees for network rights can be expected to cover a decreasing proportion of production costs. The forces behind this development are obvious if the value of network distribution falls absolutely as well as relatively.[191] The process of adjustment is somewhat more complicated if revenues net of distribution costs generated by network broadcasts do not decline absolutely, but do fall relative to the revenues net of distribution costs from other means of distribution. In this case, network bargaining power alone could cause payment for network rights to cover a smaller proportion of production costs if production costs did not increase. If programming of any given quality generates more revenue, however, it is likely that additional expenditures on programme quality will be profitable.[192] Total payments for rights would then cover the increased production costs, and the increased value of rights for non-network distribution would both justify the additional expenditure on programming and cover an increasing proportion of those costs.

The second reason payments for network rights, or indeed payment for all rights, often will not cover production costs is that neither programme costs nor revenue-generating ability will be certain. There will be both winners -- programming that generates revenue in excess of both distribution and production costs -- and losers that fail to cover costs. (If all programmes either broke even or generated revenue in excess of cost, expected returns would far exceed costs and market forces would draw more resources into programme production.) If producers share in the quasi-rents generated by successful programming, they also will share in the losses of programmes that fail to cover costs. This is clear enough when producers retain full claim to the net revenues generated by programming. The same forces also may prevent producers from recovering all costs even when they have sold all or most of the rights and do not have an obvious direct claim to a share of the large rents earned by successful programmes. A first case is that in which the producer contracts before production to sell all rights for a fixed price per programme episode. If the price per episode exceeds the variable costs of producing episodes, the producer will share in the quasi-rents generated if the programme is sufficiently successful that more episodes are ordered than are necessary to cover any upfront costs of programme development. In return the producer will accept some probability that

not all upfront costs will be recovered because the programme is less successful and too few episodes are ordered. Second, a producer will expect to share in the rents earned by a successful programme, even when all rights have been pre-sold for fixed fees, if the producers expects to be able to renegotiate higher fees for later episodes of successful programmes. The FCC Network Inquiry Special Staff (1980a) found that network license fees for successful programmes virtually always were increased in renegotiations. Both network and producer presumably anticipate such renegotiations, and the lower prices that networks will therefore offer and producers accept in initial contracts may fail to cover production costs if the programme does not succeed. Finally, fixed prices for programming leave producers to bear uncertainty about costs. If producers can expect to keep the gains when costs turn out to be relatively low, they also can expect to suffer occasional losses.

The same market forces that insure there will be losers as well as winners in programming also insure that while some producers earn high profits, others will suffer losses. Some production firms will fail ever to show a profit, others will have one or two successes and then suffer losses. So long as there is some prospect of high profits and no barriers to entry, market forces will insure a steady supply of production enterprises, many of which will show losses. As with lottery tickets, equilibrium is a few big winners and many smaller losers. The losers do not fail to show a profit because networks or other buyers are able to exploit them, but because networks and other buyers do not have sufficient monopsony or bargaining power to prevent some producers from succeeding handsomely.

Competition policy and the division of quasi-rents

Contract terms determine the division between buyer and seller of quasi-rents generated by successful programming, and thus will express whatever bargaining power each has. It is also possible that the ability to include some contract terms or to structure negotiations in particular ways may affect the extent of the bargaining power of producer or network. At the same time, it may not be easy to change the division of quasi-rents in predictable ways by limiting the use of particular contract terms or negotiating procedures. Negotiations between producers and networks frequently are complicated; as seen above they may involve a wide range of different contract terms. The overall value of the negotiated package to both buyer and seller can be adjusted through many different terms, and restricting the use of a contract term by which bargaining power is now expressed may not prevent the same bargaining power from being manifested in other terms.[193] The underlying bargaining power of network and producer depends to a considerable extent on underlying structural characteristics, the alternative buyers and sellers to which each can turn, and not only on the use of particular contract terms or negotiation procedures.

A fundamental question for competition policy is whether the exercise of bargaining power that affects only the division of quasi-rents should be a matter of concern for competition policy. The answer depends on the goals of competition policy. The way in which quasi-rents are divided between producer and network is unlikely, in and of itself, to have a substantial effect on economic efficiency or on downstream consumer surplus. Neither the downstream programming enjoyed by consumers or the prices they pay should be affected. Thus policies intended to alter the division of quasi-rents and the bargaining power parties are able to exercise should be based on policy goals other than those of increasing economic efficiency or consumer surplus.

At the same time, policies intended to affect the division of quasi-rents, even if intended to serve other goals, nonetheless may affect economic efficiency. The same contract terms that divide quasi-rents between producer and network also determine transactions costs and generally structure the incentives governing each party's behavior within the contractual relationship. There is a considerable risk that forcing

changes may not only affect the division of quasi-rents, but also may reduce efficiency. Such policies could be worth the cost of any such lost efficiency and of enforcement if they serve other public policy goals. In such cases the role of competition policy and its concern for economic efficiency is to have the effects on efficiency considered and taken into account.

Vertical integration of programme production and networking

Vertical integration rather than vertical contracts may be used to deal with the problems of transactions costs, opportunistic behavior, and incentive alignment discussed immediately above; this is discussed in the first subsection below. As with the vertical contracts terms, the result can be increased economic efficiency. Vertical integration, however, cannot be presumed always to increase efficiency. The second subsection discusses the possibility that firms may integrate vertically to evade constraints of regulation or other public policies. A third possibility, that vertical integration may reduce efficiency by increasing the exercise of market power, is discussed in the final section of the chapter.

Organising the vertical relationship by integration

The discussion of vertical contracts between independent programme producers and programme networks identified a variety of ways in which behavior by separate, profit-seeking producers and networks could limit their joint profits, and often economic efficiency as well. Producers and networks can control these problems with a variety of contract tools either to transfer direct control of some production and distribution decisions from one party to another, or to modify the choices made by restructuring their profit incentives. Vertically integrating programme production and networking provides an alternative set of tools that can be used to limit transactions costs and to control and coordinate upstream production decisions and downstream network decisions. Or perhaps it is more accurate to say that vertical integration modifies the set of tools. The vertically integrated firm can exercise direct control of upstream and downstream subsidiaries, but also may find it optimal to instruct subsidiaries to maximize their own profits and then to modify behaviour of the subsidiaries by, for example, restructuring the internal transfer prices "paid" by one subsidiary to another. Direct controls and profit incentives, however, function somewhat differently within a vertically integrated firm, so that while some vertical relationships may be more efficiently organised by contract, common ownership and vertical integration may be more efficient for others.[194]

Vertical integration of programme production and programme networking, like vertical contracting between these stages, may promote economic efficiency, and may do so for essentially the same reasons. Furthermore, efficiency may be promoted by the choice of vertical integration rather than vertical contracting between independent firms. Programme production and networking may be vertically integrated for efficiency reasons in market circumstances where there is little ability to exercise or acquire market power at either the programme production or networking stage. To turn the proposition around, when market conditions will prevent the exercise of market power at either stage, the presumption should be that vertical integration promotes economic efficiency. Even if there is the potential to exercise market power at one or the other stage, economic efficiency may be increased by vertical integration. To cite a specific example, if a network with monopsony power faces a competitive programme production industry, it will have an incentive to integrate backwards. Doing so eliminates the monopsony inefficiency and increases efficiency as well as profits.[195]

Public policy incentives to integrate

Various public policies may give firms incentives to vertically integrate when such an outcome is not directly intended, and perhaps not desired. Instead, the firms integrate to evade the full effect of the policy. Two examples illustrate how public policies might encourage vertical integration of programme production and network, and therefore discourage networks from purchasing programming from independent producers.

First, preventing producers and networks from using particular contract terms or forms of negotiation could increase the incentive for vertical integration. Unconstrained vertical contracting might be preferred to vertical integration, while vertical integration is preferred to vertical contracting constrained by public policy. (This of course assumes that vertical integration is not also prevented by public policy.) If the vertical relationship is formed to solve problems that reduce economic efficiency, then presumably the policy is forcing firms to choose a less efficient vertical organisation.[196] The evasion also means the policy will serve its own objectives less well.[197] If the policy is intended to encourage independent programme production by protecting producers against network bargaining power, it could have the opposite effect by encouraging networks to integrate vertically and reduce their use of independent producers. On the other hand, if the prohibited vertical contract terms reduced economic efficiency, forcing firms to turn to an alternative need not harm efficiency, although the effectiveness of the policy still would be reduced.

A second possibility is that vertical integration allows the network to evade a government limitation or levy on its net revenues. It is well established in economic analysis that regulatory constraints on a firm's profits may give it an incentive to acquire an upstream subsidiary whose profits are not regulated. Downstream profits can escape the regulatory constraint by being shifted to the unregulated upstream subsidiary with a high transfer price. Privately owned networking firms typically do not have their profits or net revenues regulated, but taxes or other levies on their net revenues could create the same incentives to integrate and shift profits if their upstream production subsidiaries are not subject to the same levy. The likely effect is to reduce economic efficiency since the subsidiary would be favoured when independent producers, and vertical contracting rather than integration, would be more efficient. The argument could apply more directly if regulations limit the profits of video distributors such as cable systems; such regulations could give cable systems an incentive to acquire upstream programme network subsidiaries if those profits are not regulated.

Issues of vertical contracts and integration II: exclusionary practices

The emphasis so far has been on ways in which either vertical controls in contracts or vertical integration may improve economic efficiency. But vertical contracts and vertical integration also may be used to increase the ability of firms to exercise market power, and in some cases to increase their market power. This is true in the broadcasting industry as in other industries. This possibility has not escaped attention.

Vertical ties are formed in the broadcasting industry by vertical contracts or vertical integration between the adjacent vertical stages of programme production and programme networking, and between those of programme networking and broadcast distribution or transmission. The effects on competition of vertical ties between each of these adjacent stages have been questioned. The practices and effects about which there is concern include the possibility that unaffiliated programme networks will be denied access to video distribution; that independent producers will be denied the ability to sell their programming; that increased barriers to entry will result from backward integration into networking (by video distributors) or

into programme production (by networks); that unintegrated video distributors will be foreclosed from purchasing integrated programme networks; and that the purchase by networks of exclusive rights to blocks of programming may increase entry barriers into networking. Such concerns have a common underlying structure: the vertical relationship will result in exclusion that harms competitors and competition. This common structure can be seen by restating the concerns:

-- A programme network disadvantages rival networks by purchasing exclusive rights to programming.
-- A programme network disadvantages would-be entrants and increases barriers to entry by purchasing exclusive rights to programming or by integrating backward into programme production.
-- A programme network vertically integrated into programme production disadvantages rival independent producers by refusing to purchase programming.
-- A vertically integrated programme network and video distributor, such as a cable system, disadvantages rival programme networks by refusing to carry them.
-- A vertically integrated programme network and video distributor disadvantages existing and potential entering rival video distributors by refusing to allow them to carry the integrated programme network.
-- A video distributor disadvantages rival distributors by signing an agreement to be the exclusive distributor of a programme network.
-- A programme network disadvantages rival networks by signing an agreement with a cable system that the cable system will not carry other, similar networks.

This list includes competition policy concerns whose effects on competition often are considered under different labels: purchase of exclusive rights, requirements contracts or exclusive dealing, exclusive territories, foreclosure of unintegrated upstream or downstream producers by vertically integrated firms, and increasing entry barriers by vertical integration. The list suggests, however, that these practices have a common pattern: to exclude a rival producer either from purchasing a particular input or from selling an input it produces to a particular purchaser of the input.[198] The list also reinforces a point made earlier: that vertical contract terms and vertical integration raise similar analytical issues. A programme network might exclude a rival network from purchasing particular programming either by vertically integrating with the producer of the programming and then refusing to sell outside the integrated firm, or by signing a contract purchasing exclusive distribution rights.

Exclusion and foreclosure

Exclusion -- or foreclosure, as exclusion by vertical integration sometimes is called -- does not in and of itself, necessarily, harm competition or economic efficiency or reduce consumer surplus. Exclusion *may* result in harm to competition in broadcast markets, but the existence of exclusion is not sufficient to show competition has been harmed. Let us first see why exclusion does not necessarily harm competition in broadcast markets, then develop an analysis to show conditions under which it does.

Consider a simple hypothetical case of vertical merger that results in foreclosure. Assume there are five programme networks in the same market. Initially each purchases rights to 100 hours of original programming a month from independent producers, of which there are also five. Then one of the networks, Network One, acquires one of the independent producers, AA Productions, and announces that henceforth its newly acquired production subsidiary will supply all its programming needs. The result is exclusion or foreclosure: the other four networks are foreclosed from purchasing the programming of AA Productions,

and the four remaining independent producers are excluded from selling to Network One. Assuming there had been roughly equal market shares all around, the foreclosure or exclusion affects in each case a not inconsequential 20 per cent of the pre-merger market. What are the competitive effects?

At one extreme, there would be no effect at all, if before the merger Network One already purchased all its programming from AA Productions and AA Productions sold all its programming to Network One. Vertical integration would replace vertical contracting between Network One and AA Productions, but there would be no effect on other producers or networks. A small extension is to assume that before the merger AA Productions supplied 100 hours of programming a month, but sold to all five networks, while Network One bought from all five independent producers. There still need be no competitive effect so long as programming from the other four studies is reasonably comparable to and substitutable for that of AA Productions. The four unintegrated networks face a reduced supply of programming, but that is matched by the reduced demand from four rather than five networks; from the perspective of the producers, they face a reduced demand, but supply to the market also has declined. With supply and demand both declining (shifting left) by the same 100 hours a week of programming, price and competition in the programme input market and in final downstream markets (in which programming is sold to consumers or airtime to advertisers or both) should remain unchanged.[199] The difference between the two examples is that in the second there will be some rearrangement of distribution patterns.

These examples have been contrived so that the unintegrated firms do not need to adjust the amount they buy or sell, and therefore suffer no effects other than the need to adjust the patterns of distribution. Now consider what happens if before the merger AA Productions supplied only 50 hours a month of programming to the networks. After the merger, AA Productions, now a subsidiary of Network One, increases output to 100 hours of programming a month. Unintegrated producers, which before supplied a total of 450 hours per month, face a demand for only 400 hours of programming (at an unchanged price). Now clearly the merger does have an impact on the independent producers: they must contract the quantity they supply (assuming no further changes in the market demand for programming).

Rather than consider the competitive effects directly, let us first construct and analyse an analogous hypothetical in which there is no vertical merger. The starting point is the same: five networks purchase a total of 500 hours of programming a month from the five independent producers. A sixth independent producer, New Productions, now enters and succeeds in selling 50 hours of programming a week. To keep the examples symmetrical, assume (arbitrarily) that AA Productions is unaffected and supplies 50 hours of programming both before and after entry. The four producers other than AA Productions and New Productions now face a residual demand for 400 hours of programming, down from the 450 hours they supplied before entry. The four independent producers will have to contract the quantity they supply, and will suffer losses if they have sunk investments in video programme production that cannot be transferred to other uses without a loss of value. After a process of adjustment, the market should return to essentially the same equilibrium position. While individual competitors may have been harmed, the process of competition has not; if anything the process of competition has worked to increase efficiency because an apparently more efficient supplier, the entrant, has partially replaced supply by the older producers. Indeed, this is a prototypical example of the distinction conventionally drawn in competition analysis between harm to competitors and harm to the process of competition that reduces economic efficiency.

It is only a small step back to analyse the competitive effect of vertical integration. The situation is essentially the same: four producers must contract their quantity supplied, and may suffer losses as a result, because part of the demand for programming is satisfied by a new source of supply. The only essential difference is that the new source of supply is the expansion of supply by a vertically integrated subsidiary, rather than a new independent entrant.[200] As with entry, market equilibrium should be essentially unaffected

once the market supply adjustment has taken place.[201] Like entry, vertical integration may harm competitors without harming competition or reducing efficiency.

Vertical integration does not necessarily lead to foreclosure or exclusion; commonly owned upstream and downstream subsidiaries may continue to make market exchanges with other firms. These simple examples, however, demonstrate that even if vertical integration does lead to exclusion or foreclosure, the efficiency of the competitive market process is not necessarily harmed. As Perry (1989, pp. 245-246) has noted, "vertical foreclosure is a definition rather than a theory". When vertically integrated subsidiaries make exchanges and substitute intra-firm exchanges for market exchanges, by definition there will be some foreclosure. But if foreclosure is the equivalent of the substitution of internal for market exchange, there can be no presumption that it will reduce efficiency. Vertical integration and internal exchange may be a more efficient way of organising some vertical transactions than market exchange.

Essentially the same argument applies to vertical contracts that establish a long-term vertical relationship between firms or otherwise grant exclusive rights. As with vertical integration, the exclusion does not necessary harm the competitive process or reduce efficiency.

That said, exclusion or foreclosure cannot be presumed to be always benign; efficiency and competition may be harmed. What is needed is to identify the particular uses of exclusion that can harm competition and the circumstances in which those uses of exclusion may be effective. Economic analysis has identified two broad sorts of ways in which exclusion or foreclosure, either by vertical integration or vertical contracting, might harm competition and efficiency. First, vertical integration or contracts may allow a firm that already possesses monopoly or market power to exploit that market power more completely. Second, in some circumstances exclusion may allow a firm or small group of firms to acquire additional market power, or to monopolise a market.[202]

Exclusion to exploit market power

This literature focuses primarily on identifying circumstances in which an upstream monopolist can more effectively exploit its existing market power by forward vertical integration, or by using vertical contracting to acquire equivalent control of downstream choices. The upstream monopolist may have no incentive to foreclose firms at the other level; it may be able to fully exploit its market power by the pricing of its input. Indeed competition at the other level of the industry may help the monopolist, as when it prevents a double monopoly markup of price that reduces profits.

In other cases, however, the monopolist may be unable to exploit his market power fully without some sort of vertical control or exclusion of firms at the other vertical level. One well-known case is that in which the downstream firm uses both the monopolist's input and other inputs that are competitively supplied in variable proportions. Control over downstream choices, achieved by vertical integration or a vertical restraint such as tying, can both remove the constraint of input substitutability on pricing of monopolist's input and prevent the choice of an inefficient input mix, which in itself reduces profits. Another case is that in which vertical integration or controls are necessary to implement price discrimination that would allow the upstream monopolist to more fully exploit monopoly power. The monopolist might want to charge a different price for the inputs it sells to different downstream firms with more and less elastic derived demands, but be unable to do so because the downstream firms can resell the input and arbitrage the price discrimination. Or profitable price discrimination might be impossible because downstream customers with differing demand elasticities are served by competing downstream firms. In still another case, direct price discrimination might not be possible because consumers with differing demand elasticities cannot be

identified, but implicit price discrimination would be profitable; the implicit price discrimination, however, might require a low price on the product the monopolist supplies and a high, monopolistic price on a complementary product.[203]

This is at best a sampling of a literature too large and diverse to summarise adequately in a few paragraphs. What can be done is to flag the potential importance of these issues for competition policy toward the broadcasting industry. Competition policy should consider the possibility that a broadcast firm with market power might more completely exploit that power by using vertical integration or vertical contract restraints to control production or distribution choices at other vertical stages. As one possible example, a particular programme network it might be able to exploit its market power more effectively by controlling the ability of the video distributor to substitute other networks as inputs, or might price discriminate more effectively by gaining control of downstream pricing of other video services.

Several questions should be answered before concluding that vertical integration or vertical contract controls do allow more effective exploitation of market power. The first question is whether the broadcast firm in question in fact has and potentially could exercise horizontal market power in some well-defined market. This involves the standard issues of horizontal market analysis discussed in the previous chapter, such as market definition and determination of the number and size (or competitive "weight") of existing suppliers of good substitutes, and the potential for entry and supply of substitutes from new suppliers. If the precondition of horizontal market power at one vertical stage is satisfied, the second question is whether the observed or proposed vertical relationship would allow more effective exploitation of that market power. Firms with market power at one stage may be able to exercise that power without the aid of vertical integration or contract controls; they may, however, use vertical integration or contract controls for other purposes that promote efficiency. One should not conclude that vertical integration or vertical contract restraints allow more complete exploitation of market power unless a well-specified, coherent analytical story, consistent with the facts of the case, can explain the specific means by which the vertical relationship has that effect.

Finally, once it is determined that a vertical relationship does allow a more complete exploitation of market power, the overall evaluation of competition policy may depend on the goals and enforcement practices of competition policy. (And of course more generally the goals of other public policy may be important.) Vertical integration or a vertical contract restraint may simultaneously allow the more complete exploitation of market power and serve purposes that by themselves would increase economic efficiency.[204] The efficiency effect could dominate, with the result that prices to consumers and consumer surplus increase, despite the increased exercise of market power and increased profits. In such cases, the issue for competition policy is whether a defense of efficiency can justify the exercise of market power.[205] Alternatively, profits might increase in part at the expense of a fall in consumer surplus.[206] If the rise in profits is larger, total surplus and economic efficiency increase. In such a case the evaluation depends on the weight competition policy gives to the goal of increasing overall economic efficiency relative to that of increasing the consumer surplus component of total surplus.

Exclusion to increase market power

Broadcast firms also might be able to use exclusion or foreclosure to increase their market power, employing vertical integration or vertical contract terms to disadvantage a rival firm at the same market level. The firm disadvantages its rival by excluding it from access either to a supply of some inputs or to some buyers of its output.[207] Most analyses in the economic literature focus on the possibility that the rival is

disadvantaged because the exclusion raises its costs.[208] By disadvantaging one or more rivals at the same market level, the firm may acquire the ability to raise price, -- i.e. additional market power.

A look back at the list at the beginning of this chapter shows the relevance of this analysis for competition policy toward broadcasting. The listed practices and effects all follow the structure suggested by this analysis: the possibility that one broadcast firm may disadvantage rivals with which it now competes (or potential entrants against whom it might compete) by acquiring exclusive access either to some inputs or some buyer. The harm to competition implicit in these concerns is that the exclusion not only disadvantages actual or potential rivals but allows the firm to raise price and exercise increased market power.

Exclusion will not always either disadvantage rivals or confer market power. The value of this analysis is that it provides a coherent analytical story of mechanisms by which foreclosure or exclusion could reduce market competition, and helps structure an inquiry into whether exclusion in a particular case is likely to reduce competition. The next section develops a framework for analysing how exclusion or foreclosure can reduce competition. The following section suggests how this analysis can be applied to possible exclusion in the broadcast industry.

It should be pointed out first that the economic analysis of foreclosure and its ability to harm competition is controversial.[209] Some analysts have argued that vertical foreclosure or exclusion will not increase market power; others agree that simple foreclosure theories are unacceptable, but counter the general criticism with revised theories. The disadvantaging rivals theories discussed here are in large part responses to critiques of earlier foreclosure theories.[210] Recent work in the economics literature suggests that reasonably complete and rigorous models can be constructed in which vertical foreclosure increases market power.[211] At the same time, additional work clearly is needed to clarify the conditions under which exclusion or foreclosure will or will not lead to increased exercise of market power.[212]

Elements of a theory of increasing market power by exclusion or foreclosure

Krattenmaker and Salop (1986) have suggested a useful analytical framework for determining whether vertical exclusion or foreclosure can harm competition.[213] Exclusionary practices can harm competition and reduce economic efficiency, and likely consumer surplus as well, if each of several conditions are satisfied.[214]

The ability of excluded rivals to compete must be harmed

The exclusionary practice must reduce the ability of rivals to expand output and prevent an increase in price and reduction in output by the excluding firm from being profitable. This is accomplished if exclusion or foreclosure increases the costs of rivals (which reduces the quantity they profitably can supply) or more directly impairs their ability to make sales. These are not necessary consequences of exclusion or foreclosure. Take the case in which after backwards vertical integration rivals no longer can purchase inputs from acquired supplier -- as in the example above of a programme network acquiring a production subsidiary. The exclusion will not increase the costs of rivals (programme networks) if other, unexcluded inputs (programme rights) of comparable quality are available at the same cost, or if a supply of unexcluded inputs will be made available by entry of new suppliers.

A showing that rivals will be harmed by a specific mechanism should be made. Several means by which exclusion could raise rivals' costs have been identified in the literature.[215] One possibility is that a

firm acquires exclusive use of the entire supply of low-cost or high-quality inputs, leaving rivals to rely on substitute inputs that are higher-cost or less productive. A second is that a firm excludes rivals from a sufficient quantity of an input that the rivals' demand for the remaining, restricted supply bids up the competitive price. Rivals' input costs will be increased in this way only if exclusion decreases supply available on the market by more than demand, and if the supply curve for the input is upward sloping. If a firm acquires exclusive rights only to a quantity of inputs equal to that it previously purchased, the residual demand and supply in the market would be reduced by the same amount with no effect on input price. If the supply curve is perfectly elastic input price will not increase even if the quantity withdrawn from the markets exceeds the reduction in demand. A third possibility is that after exclusion rivals deal with a reduced number of input suppliers who then are able to exercise market power and raise the input price rivals must pay. Clearly whether exclusion has this effect depends on the post-exclusion input market: the number and size distribution of suppliers of inputs to rivals, conditions of entry (including the ability of the rival to begin his own upstream subsidiary), and so forth.

Other means could be listed by which exclusion potentially could raise rivals' costs (or otherwise impair their ability to expand output and constrain market). The examples given are sufficient, however, to make the basic points. Specific hypotheses of the means by which exclusion disadvantages rivals should be formed and tested against the evidence.

Ability to exercise increased market power after exclusion

Exclusionary practices may not allow firms to exercise increased market power even if they succeed in preventing some excluded rivals from competing effectively. Other rivals or new entrants, not affected by the exclusion, could prevent the exercise of market power. Exclusion of this sort falls into the category of behavior that harms competitors but not competition. Furthermore, if firms do not gain market power from exclusion (or the ability to more fully exploit existing market power), then it is likely they have another, pro-efficiency motivation for the vertical arrangement.

At the same time, competition policy should consider whether exclusion that harms rivals also gives the firm the ability to raise price. The exclusionary practice might harm nearly all existing rivals. Those who are not disadvantaged might face other barriers that prevent them from expanding sufficiently -- for example, they might be fringe firms unable to expand rapidly without increasing costs, or government policies might limit their ability to expand. Alternatively, it might be more profitable in the restructured market for unexcluded rivals to coordinate their pricing with the excluding firm rather than to expand output. Entering firms may not be a factor either because exclusion also disadvantages them or because other barriers, including government policies, prevent or substantially slow the rate or extent of entry.

In other words, an analysis of horizontal competitive conditions in the market in which the excluding firm sells its output is needed to determine if it will be able to exercise increased market power. Krattenmaker and Salop (1986, p. 264) suggest that the analysis could define a post-exclusion relevant market as unexcluded firms plus firms that have acquired exclusive rights. The analysis would first look at conditions of entry into the post-exclusion market; if it was not easy (either because of the exclusionary practice or for other reasons), the analysis would consider the level of concentration in the post-exclusion market and how much concentration increased over the level in the wider pre-exclusion market, much as in a horizontal merger case.[216]

A somewhat different case arises when existing rivals are not disadvantaged but integration or contractual exclusivity may raise entry barriers. If it is determined that potential rivals could be

disadvantaged, the next question is to what extent the potential of entry constrained the exercise of market power absent exclusion. Exclusion of potential entrants would be less of a concern if (i) with the present market structure there is little danger that incumbent firms can exercise market power even in the absence of a threat of entry, or (ii) other conditions unlikely to change would block entry in any event. As always in broadcasting, the possibility that public policy may restrict entry should be considered.

The ability to disadvantage rivals (or potential entrants) and then to profit by raising prices are minimum, necessary conditions for exclusionary practices to harm competition. Two other conditions, however, also should be considered to determine whether would-be victims can protect themselves, and whether the advantages of exclusion will come at too high a price to be worthwhile.

Do rivals have counterstrategies?

Rivals may be able to protect themselves so that the exclusion or foreclosure does not limit their ability to compete. The most obvious counterstrategy is to find an alternative source of the input. If alternative inputs are not immediately available, rivals may have strategies that will make them available. For example, suppose vertical integration leaves a rival facing a monopoly supplier of an input; without a counterstrategy the rival will pay a higher price for the input and its costs of production will be increased. It may, however, be profitable for the rival to acquire the input supplier; the internal exchange of the input then will take place at the marginal cost of supplying the input and the rival is no longer at a disadvantage in its output market.[217] Another counterstrategy might be to encourage entry of an alternative input supplier, either simply by committing to purchases in a long-term contract to reduce the entrant's risks of losing costs that must be sunk to enter, or by agreeing to additional payments that do not affect the marginal costs of an input, much as in the previous strategy.[218]

If firms always had profitable counterstrategies to protect themselves from exclusion, there would be little need for competition policy concern. How often firms will have counterstrategies to protect themselves is both at the centre of the controversy over foreclosure, and a subject on which more work is needed.[219] There are models, however, that demonstrate that profitable counterstrategies are not necessarily available.[220] Counterstrategies are not necessarily profitable when exclusion allows the firms to gain profits from increased market power. If the suppliers of the potentially disadvantaged rival receive enough of that gain, it will not be profitable for the rival to offer the supplier enough to induce it to return to a market structure in which those supracompetitive profits are not earned.[221]

Excluding rivals must be profitable

The firm that wishes to exclude a rival from access to a supplier or access to a buyer usually will have to pay for that exclusion. Refusing to sell to the excluded rival (or refusing to buy from the excluded seller) often will cost the supplier (or buyer) something in foregone profits. The firm that wishes to exclude rivals will have to make good those foregone profits.[222] In the broadcast industry, a cable system that agreed to exclude rival programme networks, or a programme network that agreed not to sell its service to a rival video distributor, generally would forego some net revenues. (Otherwise the exclusivity agreement is redundant; the rival network would not be carried without the agreement.)

A firm may well be able to pay for exclusion, if the exclusion allows it to exercise increased market power. Increased market power implies an increase in the total profits of upstream and downstream firms involved in the industry (unless there is not a separate, offsetting inefficiency from the arrangements). No individual firm, however, may receive a large enough share of those profits to compensate for the excluding input supplier (or buyer) for its foregone profits.

Of course, if exclusion does not increase the exercise of market power, it generally will not be profitable to pay for exclusion. This is clear if a firm is unable to exercise any market power after excluding some rivals. It may be somewhat less obvious in other cases. If the firm whose practices are questioned already is able to exercise market power, exclusion might add little or nothing and therefore be worth little. For example, a broadcast firm fully protected from entry by government policies would have little incentive to vertically integrate or make other exclusionary arrangements in order to disadvantage potential entrants.

Applications

Whether foreclosure by vertical integration or exclusivity gained by vertical contract threatens competition and economic efficiency will be a question of facts along with analysis. The facts of a case must be consistent with an analytically coherent story of how exclusion could harm competition. Accordingly pronouncements about whether a particular type of exclusion can or cannot harm competition should be made with caution outside the detailed factual context of particular cases. All that is attempted here is to use the analysis above to identify some important factors in determining whether and when the broadcast industry practices listed at the beginning of this section might threaten competition.

The first step for competition analysis is to determine whether or not there is foreclosure or exclusivity. This may be clear on its face, as when vertical contract terms explicitly grant exclusivity. It often will be less clear where different vertical stages are commonly owned. Foreclosure or exclusion is a matter of choice for a firm that owns subsidiaries at different vertical levels of an industry. Foreclosure or exclusivity will not always increase market power or generate additional profits; nor will it always be profitable for efficiency reasons for commonly owned upstream and downstream subsidiaries to trade only with each other. Thus it is not surprising that common ownership or equity ties do not always result in complete foreclosure and elimination of market transactions. Programme networks owned wholly or in part by one or more cable system often continue to sell services to unaffiliated cable systems; those same cable systems continue to purchase network services from programme networks unaffiliated with any cable system and from networks owned all or in part by another cable system. Thus the first step of the analysis is to determine whether there is evidence that vertical integration or contracts lead to exclusion or foreclosure.[223] Only when there is such evidence must we determine whether exclusion is likely to harm competition or efficiency. To do so, the analytical framework developed above can be used.

First consider the necessary condition that rivals must be disadvantaged. Evaluating this condition requires an analysis of the alternatives open to the rival in the input (or output) market. The broadcast cases listed involve excluding rival programme networks from purchasing particular programme inputs, excluding rival video distributors from purchasing programme network inputs, and excluding programme networks from selling to video distributors. Could rivals be made less effective competitors by such means? A closely related issue is whether rivals can avoid the disadvantage by a counterstrategy.

In many cases rival networks' ability to compete is unlikely to be harmed by the exclusive rights to programming or programme production a network gains by contract or vertical integration. Contracts granting one network exclusive network distribution rights for the programming will not harm rival networks if they can turn to unexcluded alternatives; not only other programme producers but the same production firm (if perhaps not all the same inputs) often will be available for other projects. Similarly, if there are a number of production firms or an elastic supply of programme production services, vertical integration of one programme network and programme production will not raise the costs of programming for rival

networks.[224] Nor will acquisition of exclusive rights to particular programming disadvantage rival networks when other programming capable of generating similar net revenues is available.

More complicated issues are raised by exclusive rights to programming of proven popularity that clearly can generate positive net revenues. Examples might include rights to popular sporting events or to a group of popular motion pictures. Rivals may not be disadvantaged because they can be effective competitors with alternative programming. The most obvious such alternative would be programming of a similar type and popularity, but programming may be a good substitute without being either. Rival networks may be able to compete with programming of a different type; as pointed out in Chapter 6, one should not assume that conventional programme categories establish good boundaries for product markets used in competition analysis. Rival networks showing less popular programming will have smaller audiences and lower revenues, but also pay less for programming; networks showing more popular programming may pay higher rights fees that reflect the quasi-rents generated by the popular programming.[225] Another important question is whether exclusivity results in any limitation of supply other than that inherent in the limited supply of popular programming. Is less of the programming shown than would be if a single network did not have exclusive rights? Exclusive rights to popular programming may allow more effective capturing of the quasi-rents generated by the limited supply of a type of popular programming, but not change the supply of the programming. In other cases, exclusive rights may confer some ability to exercise market power and restrict the amount of programming shown. [226]

Whether video distributors would be disadvantaged by being excluded from purchasing programme networks raises many of the same issues. Again it is a question of the number and type of programme networks from which they might be excluded, and the substitutability of different programme networks. One context in which these issues are raised is where multichannel video distributors using one technology may disadvantage rivals using other technologies -- for example, cable systems may disadvantage DBS or MMDS operators -- by denying them access to the same programme networks. The rapid increase in the number and variety of programme networks raises doubt about whether there are no strong barriers to the entry of such networks. Furthermore, video distributors have played an active role in encouraging this growth. They often have participated as equity partners, either at the formation of the networks or during their developing to provide additional equity, suggesting that video distributors potentially might be able to develop alternative sources of inputs, a form of counterstrategy.[227] Still, careful analysis may be needed to determine if, in some circumstances, exclusion may allow increased market power and restrict the supply of distributed video programming.

Programme networks clearly must find video distributors to buy their services.[228] Programme networks excluded from one video distributor may in some cases have alternatives, but in many cases will not, at least in the same geographic area. Generally, however, the issue will not be the effects of exclusion from all video distribution, but exclusion from a subset of video distributors, for example exclusion from video distributors with which a rival network is vertically integrated. A programme network excluded from video distribution in some areas could be disadvantaged if its average costs are increased because some costs do not decline in proportion with its reduced revenues. This is likely to be the case with some central costs of administration and signal delivery. Costs of programme rights are a less clear case; costs of non-exclusive rights could decline more or less proportionately with revenues and subscribers. If the network purchases exclusive rights to programming, however, the costs of those rights would not decline substantially.[229] Purchasing exclusive rights might in this way increase the network's vulnerability to exclusion, but at the same time make exclusion less likely. Buying exclusive rights to programming increases differentiation from other networks; it therefore may increase the cost to video distributors of exclusion and hence the amount one network would have to pay (explicitly or implicitly) for the exclusion of the rival.

The second issue is to what extent a programme network or video distributor would be able to enjoy increased market power if it could disadvantage a rival by exclusion or foreclosure. Part of the analysis necessary to answer this question involves the usual competitive analysis of a market, such as the number and competitive importance of rival networks or distributors in the same market and the ability of new suppliers to enter; these issues were discussed in the previous chapter. The other element of the analysis will be determining to what extent rivals and potential entrants are disadvantaged by the exclusions. Programme networks that excluded rival networks carrying similar programming from some distributors might be able to gain relatively little market power if consumers consider networks carrying a wide variety of programming closely substitutable; in that case the network would still have to compete with other networks unaffected by exclusion. Their ability to exercise market power also would be limited if programme networks could enter without being disadvantaged. Entry may be a less potent source of competition for video distributors if they can disadvantage present rivals. If so, one question is, will competition from rival distributors who are unaffected by the exclusion or could protect themselves prevent an increase in market power? For example, if a cable system could disadvantage actual or potential MMDS distributors, would competition from over-the-air broadcasters prevent the exercise of increased market power? A different possibility is that rival networks or distributors can protect themselves against exclusion by vertically integrating or by contract arrangements, but that entry will be more difficult. Then the analysis should consider, first, whether in fact potential entrants will find supply more costly or risky; second, how competitive is the market in the absence of entry; and third, is entry already blocked by other economic conditions or by public policy? The market power payoff to erecting an entry barrier will be small if competition is robust without entry, or if entry already is blocked.

The final issue is whether it will be profitable to pay for exclusion. As seen above this is a difficult issue, but important factors are, first, how much is market power increased by foreclosure and how great is the sum of additional profits earned by upstream and downstream producers as a result, and second, what share of these profits is captured by the firm that must compensate whoever supplies the rival (or buys from him) for any foregone profits? These issues seem more important when it is realised that many cases in which programme network or video distributors would seem to be able to gain advantage by excluding a rival involve exclusive access to programming that itself is particularly popular and therefore can command quasi-rents. In such cases the network or video distributor might benefit if exclusion could be achieved costlessly, but be quite unable to pay for it. Reducing competition downstream by exclusion may either fail to add to total profits or reduce them. Exclusion may eliminate a means of distribution and a source of profits without compensation. Or creating downstream market power may reduce total profits, for example, by creating a double monopoly markup of price.[230] If exclusion does increase total net revenue, it may be for reasons that have more to do with further exploiting the net revenue potential of a limited supply of the input than with creating new downstream market power. For example, exclusion may allow increased downstream price discrimination or prevent horizontal externalities between networks or video distributors with the same programming. The analysis will be improved by recognising that additional profits have such a source, rather than flowing simply from the creation of additional market power; as noted above, using vertical controls for such purposes may have more ambiguous effects on economic efficiency than would simply creating additional market power.

Chapter 8

CONCENTRATION OF MEDIA OWNERSHIP

Public policy in many Member countries long has been concerned about the effects of concentrated ownership of different media outlets. The concern may be about concentrated ownership within a single broadcast or non-broadcast media -- for example, common ownership or control of television stations or networks, of radio outlets, or of newspapers; about concentrated ownership more broadly within the broadcast industry -- for example, common ownership of television and radio properties, or terrestrial and cable television properties; or about concentrated ownership of broadcast and print media -- for example, common ownership or control of television or radio and newspaper properties. None of these concerns are new, but they have been reinvigorated by recent developments. The last decade or so has seen the development of large firms with ownership interests in many different print and broadcast media properties, often in many different countries. Furthermore, firms with existing broadcast or print media interests have participated in the expansion of private broadcasting; in many cases the firms operating new terrestrial broadcast services, new program services for cable or satellite distribution, and cable distribution systems have ownership ties with firms with established broadcast or print media interests, as well as with each other.

Many Member countries have set specific limits on concentration of media ownership, while others rely on more general competition policy rules on ownership concentration. These policies of Member countries are reviewed in Chapter 10. Public policy on media concentration often is based in large part on objectives and concerns other than those of competition. Still, concern about concentrated ownership is based at least in part on concerns about the effects of concentration on competition. In keeping with the approach of the report, this chapter concentrates primarily on competition policy issues raised by concentration of media ownership generally and, more specifically, concentration of ownership in the broadcast industry. The last section of the chapter looks briefly at the relationship between competition policy objectives and the other objectives, such as pluralism, on which policies toward media concentration may be based.

The economic analysis of the effects on competition of concentration of media ownership begins by distinguishing three types of relationships: horizontal ties, vertical ties, and conglomerate ties. Each is discussed in this chapter, but the discussions are relatively brief because they can rely on the detailed competitive analyses in Chapters 6 and 7 of horizontal and vertical relationships in the broadcast industry.

Horizontal media concentration issues

The first issue for a competition policy analysis of media ownership concentration is whether a particular pattern of common ownership or control of media interests so reduces the substitutable alternatives available and increases horizontal concentration that it allows an increased exercise of market power. The first step in analysing this issue is to determine if either media in question would supply the same relevant product and geographic market as the other if they were not commonly owned or controlled. If not, then

other, closer substitutes constrain the exercise of market power by either, and common ownership and control is unlikely to increase the exercise of market power.

The necessary market definition analysis was discussed in Chapter 6. As pointed out there, various broadcast media -- terrestrial television, radio, video services delivered by cable to DBS -- may be broadly substitutable, but may or may not be sufficiently close substitutes to be in the same product market. The entertainment and information services supplied to consumers by broadcast media and various non-broadcast and print media also may be broadly substitutable, but generally are not considered to be sufficiently good substitutes to be in the same product market.

On the other hand, the advertising airtime or space sold by broadcast and print media may be sufficiently good substitutes to be in the same product market. For example, consumers may not consider reading newspapers and listening to local or regional radio good substitutes, but advertisers nonetheless may (or may not) consider advertising in the two media good substitutes. Advertising airtime or space in broadcast and non-broadcast media will be differentiated, but (as discussed in Chapter 6), the degree of substitutability and whether they should be considered in the same product market will be a question of fact. The facts and thus the answers may differ depending on institutional arrangements in particular countries. For example, advertising space in newspaper distributed regionally or locally might be in the same product market as some broadcast advertising where the broadcast industry is organized to allow radio or televisions broadcasters to sell airtime for local distribution of advertising. Broadcast and newspaper advertising would be less substitutable if all broadcast advertising must be distributed nationally and newspapers have primarily regional or local distribution. Similarly, analyses of facts will be necessary to determine whether advertising airtime sold by different types of broadcasters is sufficiently substitutable to be considered in the same product market.

Geographic markets also have to be defined. Do the different media interests in question supply different local or narrow geographic markets, with neither a good alternative source of supply for consumers of the services of the other? In that case, common ownership has no effect on horizontal concentration. Alternatively, are they competitive suppliers of services in national (or international) markets? Do they each supply several of the same separate, narrower geographic markets, where the levels of concentration and the potential for exercising market power differ across the markets? Also the growing internationalization of broadcasting may mean that some relevant markets are larger than individual countries. Even if the geographic market is not truly international, some suppliers may participate in markets in several countries, or entry for some types of broadcast services may be relatively easy for firms supplying other countries.

Whether the concentration being analyzed involves common ownership of different broadcast properties of the same general type, of different types of broadcasting, or of broadcast and non-broadcast media, careful analysis of the facts will be necessary to determine the degree of substitutability of the services supplied by the firms, and thus the likely effects on horizontal market competition. Different media firms should not be assumed to operate in the same relevant market because their services share broad general characteristics, nor on the other hand should different categories of media be assumed to be in different relevant markets. In other words, as emphasized in Chapter 6, conventional classifications of media, whether broad or narrow, cannot be taken as product market definitions without analyses of substitutability.

Of course, defining relevant product and geographic markets is only a first step. Even if the media in question are in the same product market, competition analysis should go on to consider other factors affecting whether common ownership makes the exercise of market power more likely. Common ownership may increase concentration, but if the relevant market is nonetheless unconcentrated, little risk will be posed

for the strength of competition. For this reason, if the facts indicate relevant markets are broad, this often will have conflicting implications for competition analysis of the consequences of common media ownership: on the one hand, broad relevant markets mean more types of common ownership increase horizontal concentration, but on the other hand broad relevant markets also may mean that overall concentration is low, so that common ownership poses less threat to competition. Of course the converse will be true if facts indicate relevant markets are narrow. Looking at concentration also makes clear that for competition analysis it is the share of the market controlled and overall concentration that matters, not the number of properties owned. Even assuming they are in the same relevant market, it is impossible to judge, for example, whether ownership of some number of radio or television (or radio and television) outlets (stations or networks) poses a threat that market power will be exercised without knowing something about the overall size and concentration of the market and the market share of the commonly owned properties.

The need to analyse the competitive implications of common ownership in terms of market share and concentration rather than number of properties commonly owned has another implication. Media potentially subject to a restriction on common ownership may compete in different local markets with quite different levels of concentration. Consider private radio stations with only local distribution. The number of radio stations in each local market (and perhaps of suppliers of other media services in the same relevant market) often differs substantially from one area to another within the same country. In markets with a small number of radio stations, common ownership of a given number of them therefore might mean that both market concentration and the market share of the combination is likely to be high, while in other markets with many more radio stations common ownership of the same number of them would suggest neither high concentration or large market share.

Competition analysis of common ownership also should consider ease of entry. The ability of new firms to enter some broadcast markets may be limited directly or indirectly by the number of licenses to operate that are available, which in turn often is a consequence of spectrum limitations. With new services, however, neither spectrum limits nor licensing may block entry by new firms supplying some types of broadcast services. Depending on whether the appropriate market definitions, entry may be a possibility even in markets supplied by licensed broadcasters. Hence, the possibility of entry should be considered before deciding that common ownership and increased concentration threatens competition, and market definition will be important in determining if entry barriers block all or only some types of suppliers that could participate in the market.

Vertical media concentration issues

Common ownership or control of media also may create vertical links. Chapter 7 discussed vertical links between programme production and programme networking, and between program networks and video distributors. The media interests owned by so-called media conglomerate firms may create other vertical links with broadcast firms, or create parallel vertical links. There may be advertising and marketing linkages between print media and video distributors, program networks and program or cinema producers. A producer may acquire rights to produce a motion picture or video program based on a book published by a division of the same firm, or the publishing division may acquire rights for a book based on characters or ideas originally presented in motion pictures or video productions. A firm with production interests may acquire interests in both video and cinema downstream distribution channels.

Some analysts of broadcast and media industries have argued both that these media combinations are driven by the need of media firms to insure access both to inputs and to outlets for their products, that is to avoid exclusion, and that the combinations themselves pose clear risks of exclusion that will harm

competition.[231] The analysis of Chapter 7, however, suggests that vertical ties will neither necessarily result in exclusion nor harm efficiency and allow the exercise of increased market power. In the first place, common ownership does not necessarily lead to exclusion. Commonly owned upstream and downstream firms often continue to transact business with other firms; in many market circumstances to do otherwise would not be not be profitable. Secondly, even if there is exclusion, in the sense that vertically integrated subsidiaries do business primarily or solely with each other, it does not follow that efficiency or the competitive process is harmed. Only in certain market circumstances will firms be able to use vertical relationships either to exploit market power or to increase market power. Finally, vertical integration, and other forms of continuing vertical relationships, should not be seen only as potential threats to competition; they also can promote efficiency.

Consequently it should not be presumed that common ownership of media at different vertical levels will lead to exclusion or foreclosure, or that if it does (in the sense discussed in Chapter 7) competition will be harmed and the ability to exercise market power increased. Chapter 7 already has discussed the analysis necessary to determine if vertical ties are likely either to allow increased exercise of market power or to increase efficiency. It should be remembered that analyses of vertical relationships typically turn on whether conditions in either the upstream or downstream market -- concentration, ease of entry, and so forth -- make it likely that market power could be exercised. As a result, the same issues discussed above (and in Chapter 6) of market definition and entry conditions also will be relevant for analyses of vertical relationships.

Conglomerate relationships

Commonly owned media interests may have neither substantial horizontal nor vertical relationships in any relevant market. They then fall in the category of conglomerate relationships. Economic analysis finds that conglomerate relationships pose little threat to competition since, by definition, they neither increase horizontal concentration nor create vertical exclusion.[232]

Conglomerate relationships also might seem not to share the potential efficiencies of horizontal or vertical combinations: the potential to achieve scale or scope economics, or to increase contracting efficiencies. If it were clear that conglomerate relationships were unlikely to promote economic efficiency, then conglomerate relationships could be limited (presumably based on other policy objectives since they do not harm competition) without cost in terms of the objectives of competition policy. The potential of conglomerate relationships for promoting should not be dismissed that easily. While it is fair to say that the economic analysis of conglomerate relationships is still developing, some work does suggest that conglomerate firm organization can increase efficiency in some cases. For example, Williamson (1985, esp. Ch. 11) suggests that conglomerates may allow the development of an efficient internal capital market. Central management and direction of cash flows among related activities may be able to take account of internal information to direct capital to high-value uses within the firm more efficiently than could external capital markets. Such work is at too early a stage to support strong conclusions, but it does caution against easy acceptance of the proposition that conglomerate relationships, which themselves do not harm competition, can be limited without any threat to efficiency.

Objectives other than competition

Public policy toward media concentration often is based in large part on policy objectives and concerns other than those of competition policy -- such as preserving pluralism and the expression of a

diversity of views. Rather than create a policy conflict, however, these other objectives and the objectives of competition policy may sometimes reinforce each other. Both categories of objectives share a general concern with the consequences of increased concentration of control, although they may imply different criteria for what is an acceptable level of concentration, and thus may not lead to the same policy limits.

Competition policy analysis of the effects of ownership concentration may provide a useful perspective for evaluating not only these effects, but the effects of concentration on other policy objectives. Competition policy analyses of the extent to which various media supply close substitutes and whether common ownership is likely to allow increased exercise of market power also may inform analyses of the effects of concentration on the diversity of views expressed, and on the alternative media outlets available for expressing different views. Similarly, economic analyses of whether any rival firms and what rival firms are disadvantaged economically by vertical ties or exclusivity may inform the analyses of the effects of such relationships on pluralism and diversity of views.

Chapter 9

MULTICHANNEL VIDEO DISTRIBUTION: THE ROLE AND EXTENT OF COMPETITION

Introduction

The growth of multichannel video services in some Member countries has raised concerns about their ability to exercise market power. While other multichannel distribution technologies are beginning to be important in some countries, there is greatest concern about the ability of cable systems to exercise market power. Cable is not an important method of video distribution in all Member countries, or even always the most used alternative to traditional over-the-air broadcasting. Still cable distribution has a prominence in some Member countries that no other new distribution method has; none of the other new distribution services can approach cables' subscriber penetration rates of, for example, nearly 90 per cent in Belgium, 70 per cent in Canada, and 55 per cent in the United States.[233] This penetration is underlined by the number of new cable programme services that have developed, particularly in North America but also elsewhere.

Any market power the new video distributors may be able to exercise tends to affect consumers more directly, or at least more perceptibly, than market power exercised by traditional over-the-air broadcasters. Private and public over-the-air broadcasters rely on advertising revenue and (in the case of public stations) on user fees or other public revenues; the only price they control is that charged advertisers for airtime. Consumers were (or are) affected by any market power they exercise either indirectly through increased advertising costs or through effects on the quantity, quality and diversity of programming, which while important are not so obvious. An exercise of market power by the new distribution services is likely to directly raise prices paid by consumers.

Reinforcing concern about cable market power is the common perception that there can only be a single efficient supplier of cable distribution services in an area, and the reality that rarely are households served by more than a single cable distributor. Furthermore, that distributor often becomes the sole supplier of video programming to subscribing households, usually delivering the channels otherwise available off-the-air and often any channels that might be received by DBS as well. The perception of cable systems (or other multichannel distributors) as actual or potential predominant suppliers of video services underlies not only competition policy concerns with market power and efficiency, but also concerns about the effect of cable and other multichannel distributors on other public policy objectives, which may be constitutionally based, such as freedom of expression, availability to the public of a diverse range of views, and access to means of expression. The focus of this chapter, however, is again competition policy issues.

This chapter concentrates on competition policy issues raised by the possibility that cable systems, or other multichannel video distributors, may exercise market power as suppliers of delivered video services. (The previous chapter focused on whether cable systems could extend market power by vertical exclusion.) The issues considered here are, first, even if there is only a single multichannel video service available, will traditional broadcasters or other video, entertainment or information services provide sufficient competition to prevent the exercise of market power? Second, what are the prospects for competition among multichannel video providers? Does cable distribution have natural monopoly characteristics that either

prevent entry by and competition among cable systems, or mean such competition will reduce rather than improve efficiency? What are the prospects for competition among multichannel video distributors using different transmission technologies? Third, if competition is either weak or leads to inefficiency, does regulation offer a more reliable way of achieving the goal of economic efficiency? The analysis identifies different forms of regulation, their potential benefits, and the major difficulties faced in designing regulations that would allow efficiency in the supply of multichannel video services. A final section considers how competition policy might try to make the most of opportunities for market competition by eliminating obstructions to competition.

Public policy in Member countries generally plays an important, or even determining role in establishing the market conditions under which cable and other multichannel distribution services are supplied. In many Member countries public policy constrains the pricing of cable services. Other policies may directly regulate the services supplied, in addition to the indirect effects of price regulation. Policies directly and indirectly affect the ability of new suppliers to begin providing video distribution services (or to supply competing over-the-air video services). Therefore it may seem anomalous to begin (as this chapter does) by discussing how effectively competition from existing suppliers could constrain the exercise of market power by a cable supplier whose choice of pricing and services was not directly regulated, and to ask next what role relatively free market entry could play in constraining the exercise of market power, and only then to ask how price or entry regulation might perform. The objective, however, is to identify the relevant issues in comparing how efficiently video services will be supplied with and without price regulations, with and without entry controls, and with varying degrees and types of regulation. Comparisons of these alternatives are relevant whether in the presence or absence of price regulation, whether there are relatively open or controlled entry policies, and whether the question is to adopt a regulation, to eliminate it, or to modify it.

Competition from traditional broadcasters

Could market forces prevent cable distribution systems from exercising market power? There is no reason to expect this question to have the same answer in all markets or Member countries; the answer certainly is not "no" everywhere (or even everywhere cable distribution services are available). Market conditions vary. In Member countries where neither cable nor other multichannel services are firmly established, economic viability may seem a more immediate issue than market power. Still, the discussion both of competition from traditional broadcasting and of the process of entry may be relevant not only for market power issues in the future, but also for understanding the development of multichannel services. This section considers the extent to which competition from traditional broadcasters might constrain the exercise of market power by cable systems or other multichannel distributors. The next section considers the role of entry and the prospects for competition from other multichannel video technologies and for competition between cable systems. In both sections the objective is to identify the important issues for analysis and to present some of the available evidence, rather than to provide final answers to policy questions.

Much of the evidence presented here is from the United States, where the question of cable market power has been widely discussed and analysed in the last several years. One cannot assume that the evidence necessarily applies to other markets. But this discussion should indicate the kind of evidence that can be considered. The analysis of the US cable services has been developed in the context of a particular policy debate that clarifies the nature of some of the evidence. Cable systems in the US generally are granted franchises (which may or may not be exclusive) by local authorities. The Cable Communications Act of 1984 established a variety of national policies controlling local franchising and subsequent local regulation of cable. One provision in effect deregulated rates for basic cable systems that were subject to "effective

competition." The Federal Communications Commission (FCC) was given the job of setting criteria for determining when there was "effective competition", and thus for establishing a safe harbor within which local governments were precluded from regulating the price of basic cable service.[234] Originally the FCC ruled that cable systems faced "effective competition" if at least three over-the-air broadcast signals were available. Most communities did have three or more broadcast signals available over-the-air, so the practical result was that as of the end of 1986, rates for the basic service of most cable systems were not subject to regulation.[235] Rates for premium or pay services already were unregulated. The recent policy debate has focused on the effect of this deregulation, and on whether (a) the FCC standard for "effective competition" should be revised, or (b) new legislation should change the policy on rate regulation. Both issues have been discussed in recent FCC proceedings. The FCC considered and in 1991 adopted somewhat more restrictive standards for effective competition.[236] In another proceeding the FCC collected and analyzed evidence on competition in cable services and prepared a report for Congress.[237] Much of the evidence available was prepared for or presented in these two proceedings.

Structural analysis: market definition and substitutes

Consumers rarely are able to choose between competing cable systems. Thus the first question is whether and to what extent alternatives other than cable distribution provide substitutes that can prevent cable systems from exercising market power. This of course is the question of product market definition discussed in Chapter 6. In principle, services from outside the broadcast industry, cinema, entertainment on videotape, could be sufficiently good substitutes that they should be in the same product market as cable services (or those of other multichannel video distributors). While the possibility has been discussed both in general policy analyses and in some judicial proceedings and cannot be ruled out, there is little hard evidence at this point that provides strong support for the possibility.[238] Competition also could come from other multichannel video providers: cable systems could (and sometimes do) face competition from DBS, SMATV SMATV, or MMDS systems, or from another cable system. These other technologies, however, are still establishing themselves in the marketplace (with the exception of SMATV), and it is convenient to discuss their role in the next section in the context of entry.

That leaves consideration of the competitors to cable service available in all Member countries: over-the-air or traditional television broadcasters. Over-the-air broadcasters cannot as a group offer as many channels of programming as can many cable systems. How good a substitute they provide to cable service, however, is a question of fact, as pointed out in Chapter 6. And of course the answer may be quite different in different Member countries, if only because the number of over-the-air channels and their programming differ.

In the United States, MMDS, SMATV and DBS serve relatively few customers, and in most areas it is very doubtful that they now have any substantial ability to restrain cable system market power. (They may of course be more significant competitors elsewhere or in the future in the US.) As a result, the policy review of cable market power focused attention on whether traditional broadcasters constrain cable market power. Three regression studies presented in the FCC proceedings estimated statistically the extent to which prices for cable basic service are affected by varying number of broadcast stations serving the same area.[239] All found that broadcast stations offered sufficiently good substitutes to affect the price of basic cable services; cable prices on average were lower in areas with more broadcast stations. The studies also found, however, that one or two broadcast signals apparently were not sufficient to fully constrain pricing, since they found not only that cable prices fell when there were at least some broadcast stations, but that the average price of basic cable service dropped as the number of broadcast stations available increased. The additional effect on cable pricing of each additional station, however, grew smaller as the number of stations

increased. The studies found that after about 5 or 6 broadcast stations any further decrease in average cable prices either was no longer statistically detectable, or was relatively unimportant.[240]

One should be very cautious about drawing any general inferences from this study of a particular market, but two observations can be made. First, the evidence supports the possibility, if not the certainty, that the market power of cable systems offering on the order of 35 or more channels of programming may be substantially constrained (if not eliminated) by a considerably smaller number of over-the-air channels, so long as most consumers can easily get high-quality reception of those channels without subscribing to the cable service. Comparability in number of channels of programming therefore would not seem a necessity for a video distributor to offer consumers a competitively significant substitute. At the same time, the evidence provides little support for comfortable presumptions that only a few alternative channels of programming necessarily will be a sufficient alternative to prevent cable systems from exercising market power. At least in these markets, a sufficient number of consumers appear to have a sufficiently strong demand for additional programme choices that it was profitable for cable systems to raise prices when the over-the-air alternative consisted of only two or three channels of programming.

Direct measures of supracompetitive pricing or profits

Competition policy authorities and the courts generally are more accustomed to relying on structural indicia of competition than direct evidence on pricing or profits.[241] Nonetheless, it is worth considering briefly the value of two types of direct evidence presented in the recent US proceedings: evidence on increases in prices for cable service since the lifting of regulations at the end of 1986, and evidence on whether the market value of cable system owners includes capitalised supracompetitive profits. Such additional evidence may be more important in the broadcast industry that in others because of the particular difficulties in measuring and interpreting concentration that were described in Chapter 6.

In the US case, studies were made of the average prices charged for basic cable services and for three premium cable networks.[242] Prices for the most popular tier or group of basic services increased somewhat more rapidly than inflation from end 1986 to end 1989. Over the same period the average number of channels included in this basic tier also increased, so that the average real price per channel showed no overall increase. Nominal prices for the pay channels showed little change over the longer period from end 1984 to end 1989; prices of all three channels increase from end 1984 to end 1986 (by less than 2 per cent) but by end 1989 were close to or slightly below their end 1984 level. Thus real prices for all three pay channels fell.

This evidence on pricing is interesting, but by itself the pattern of prices and price changes over time is not sufficient to distinguish between hypotheses that cable systems did or did not exercise market power unless the level of costs or changes in costs are known. Knowing that the real price per channel did not increase does not determine whether price rose relative to cost unless we know whether real costs per channel were constant or falling.[243] Some analysts also pointed out that increases in the number of cable subscribers and increases in the number of channels of programming offered and in expenditures on programming showed no evidence of the output restriction associated with the exercise of market power.[244] These facts, however, are not necessarily inconsistent with the exercise of market power and a restriction of output; since both demand and supply curves almost certainly were shifting, output might have increased more but for supracompetitive pricing.

Evidence on cable system profitability was presented in the form of estimates of the q-ratio for cable owners.[245] The q-ratio is defined as the ratio of market value of a firm to the replacement costs of its

assets. Economic theory predicts a q-ratio of one for the simple case of a firm that controls no scarce resources, faces no unusual risks, earns no supracompetitive returns and is not protected by entry barriers. Estimates of the q-ratio for the cable industry in the US were in the range of 3 to 4.5. Control of naturally scarce inputs, including special managerial expertise, or unusually high levels of risk could increase the q-ratio without implying supracompetitive profits. Estimating the q-ratio accurately is made difficult by problems of estimating replacement values, especially of intangible assets created by expenditures on research and development, advertising, and marketing, and also by the volatility of market valuations of firms. Both the FCC and the Department of Justice in its comments concluded that despite these problems the q-ratio estimates suggest some ability of cable suppliers to exercise market power.[246]

Possibilities for entry and competition among multichannel suppliers

The exercise of market power by one multichannel video distributor also potentially could be prevented by competition from one or more other multichannel video distributors. It remains to be seen, however, whether and to what extent the market will support more than one multichannel distributor. More than one type of service is available in several Member countries: cable, DBS, SMATV services all are available in parts of Europe. For the most part, however, not more than one such service directly serves a substantial portion of the population or is well-established as a viable service alternative for much of the population. DBS is still a relatively new service whose future growth and position remains unclear. Much of the programming transmitted by DBS now reaches a substantial proportion of its subscribers by cable. A DBS service might constrain cable market power despite also providing intermediate distribution for cable systems, but only if the costs to subscribers of direct reception and the range of services offered made it a good substitute rather than only a good alternative in areas where cable systems had not been built. MMDS service is available in only a few Member countries. Early MMDS systems in the U.S, usually offering only a single channel, enjoyed some commercial success in the late 1970s and early 1980s distributing cable networks in cities where cable systems were slow to be built (in several cases due to delays in awarding cable franchises). When and where cable systems were built, however, these MMDS systems generally have not been effective competitors. Now spectrum and licensing arrangements have been made in some Member countries for MMDS systems with substantially increased channel capacity; it remains to be seen how effective they will prove as competitors.[247] SMATV distribution serves substantial numbers of subscribers in some Member countries and is a fairly mature technology. Indeed a SMATV system technologically is essentially a small cable system serving a single complex of dwelling units. As such, it can serve only consumers living in apartments or other dwelling unit concentrations served by SMATV. Its ability to grow and offer substitute service more widely will depend both on the economics of what would become essentially competing cable services and whether public policies limit the ability of SMATV systems to grow and compete.

Whether these technologies offer the prospect of effective competition among multichannel video distributors depends not only on whether they will be viable, but on whether they will be viable as competing services in the same market, or whether only one or the other service will be commercially successful in individual markets. If DBS is widely established before cable, will cable systems also be built so that consumers have available substitutes? For example, the United Kingdom, where DBS service has a relatively large number of direct subscribers, also has a relatively low availability of cable services, and some have questioned whether the relative success of DBS may slow the development of cable systems.

No attempt will be made to here to predict specific market outcomes. Those will depend on both economic factors and public policy, neither of which is easily predicted. What will be done is to see what

can be said from the perspective of economic analysis and efficiency about the prospects for and the consequences of entry.

Questions about entry

Views about the economic role of entry are strongly affected by the perception that multichannel video distribution -- most particularly cable distribution -- may have natural monopoly properties. That is, a single supplier may be able to deliver some number of channels to some number of consumers at lower cost than could two or more suppliers. (Two or more suppliers might either divide up the customers, or divide up the supply of channels, or some combination.)[248] If multichannel video distribution has such cost characteristics, it raises questions first about the prospects for entry. If only one multichannel video distributor can be viable, to what extent will the single supplier be constrained by potential entry even if not actual entry? If more than one multichannel supplier is viable, will entry promote efficiency and increase consumer surplus by reducing price, or inefficiently increase overall costs of supply? Such questions about unconstrained market entry also suggest closely-related questions for public policy toward entry (even if one considers only the single goal of economic efficiency). Would efficiency be promoted by a policy of reducing limitations on entry, or by one of controlling or restricting entry in order to prevent entry that would otherwise occur and inefficiently raise costs? If entry of multichannel suppliers and competitive pressure is limited, either by market forces or policies controlling entry, would regulation of the prices and service of multichannel distributors improve efficiency? These are broad questions on which disagreement is certainly possible, even if only a goal of economic efficiency is considered (certainly not the only goal considered by Member countries in forming such policies). The analysis of this section identifies the various economic effects of entry.

Before looking at these questions, however, it should be pointed out that much of their importance depends on a premise: that competition from other multichannel video providers is necessary to prevent the exercise of market power. It may be that traditional, over-the-air single-channel broadcasters, perhaps together with videocassettes and other entertainment or information sources, now or in the future will provide sufficiently good substitutes to prevent a single multichannel provider from having substantial market power. As seen in the previous section, it is not clear how much market power a single multichannel provider will have, or how much market power it will have in various geographic markets. Without such power, any natural monopoly characteristics of multichannel video distribution may give a supplier a "monopoly" over one distribution method, but not a monopoly in any meaningful product market. Furthermore, to the extent that other alternatives limit how much a multichannel video supplier can raise price above cost, that will limit the efficiency costs of a multichannel supplier exercising any market power available to it.

Evidence on costs

The first issues are whether a single multichannel video provider will have lower costs than two or more suppliers, and how great are any cost advantages. Simply looking at the technologies of cable, DBS and MMDS distribution suggests that unit costs would decrease with increases in the number of subscribers served by a system able to reach a given number of subscribers. A cable, DBS, or MMDS system must invest in facilities to receive programming (assuming satellite distribution by programme networks). DBS and MMDS systems must invest in facilities to transmit the programming to subscribers, and cable systems must install central "headend" distribution facilities and the cable system itself that passes potential subscribers. These are costs that would seem to be either fixed and independent of the number of subscribers (if not the number of households capable of subscribing), or costs that would increase less than proportionately with the number of subscribers. Each also will have other costs that do depend strongly on

the number of subscribers: not only the individual customer's receiving equipment for DBS and MMDS or the connecting cable and converter electronics for cable, but also programming, billing, and other administrative costs. Technology alone, however, is not necessarily a good guide to cost conditions.

Better evidence comes from statistical analyses of the actual costs of suppliers. Cable distribution seems to offer the likeliest case of lower unit costs for a single provider. Statistical studies of costs, however, have found relatively small economies. Econometric cost studies of cable systems in the US suggest that if two cable systems overbuilt the same area and divided subscribers between them, total costs per subscriber would be about 10 to 15 per cent higher than if the same subscribers were served by a single cable system.[249] There are no comparable statistical studies of DBS or MMDS costs, but the nature of their technologies does not suggest they would have a greater proportion of fixed costs than do cable systems.[250]

Analysis of the entry process

If we accept that a single multichannel video distributor will have some unit cost advantages, the next step is to analyze the implications of this cost structure for the process of market entry. We look first at the simpler case of whether head-to-head competition is likely between multichannel distributors using the same technology, and later analyze the implications for entry and competition between different distribution systems using different technologies. The most important issues are whether entrants can be viable competitors, and how price, costs, and efficiency are likely to be affected either by having a single (or a small number) of viable entrants, or by potential entrants.

An analytical bench mark

The analytical model of a contestable market provides a helpful bench mark for this analysis. A contestable market has no barriers that limit the mobility of capital and resources either into or out of an industry. Firms have no sunk costs so they may very rapidly either enter or exit a market; entering and existing in themselves are costless. The only costs are those of supplying output and these are the same for all firms (incumbents and potential entrants).[251] Prices depend only on the current quantity supplied.[252] These are not realistic assumptions for multichannel distribution, but this model will let us see the consequences of conditions in this industry different from those assumed in contestability analysis.

Unrestricted entry and exit insures that the number of firms that supply the contestable market and the prices they charge are completely controlled by costs of production. Entry could never result in more than one firm in the industry in equilibrium if production by a single firm were always less costly than production by more than one. A new firm can enter and replace the incumbent firm, however, which prevents an incumbent from setting price higher than average cost.[253] Under the assumptions of contestability, if the incumbent charges more than cost, either for its entire output or for any part of it, entry will be profitable. The entrant can begin supplying before the incumbent changes prices, and supply at that price will earn profits for the entrant since (by assumption) it can produce at the same cost as the incumbent. Prices may fall after entry, causing the entrant (or incumbent) to exit,[254] but the prospect that entry will be followed by exit, even exit of the entrant, does not deter entry. Temporary, hit-and-run entry is rewarded by any profits earned in the period (however brief) between entry and the subsequent fall of prices, since neither entering or exiting itself costs anything (other than the costs of producing the output on which it made a profit). Thus in a contestable market there is no potential either for successful entry that inefficiently increases costs, or for inefficient supracompetitive pricing from a single supplier. Potential competition will

eliminate market power if single firm supply is most efficient, and actual plus potential competition will constrain pricing to cost if supply by a small number of firms is efficient.

Multichannel distribution technologies do not fit the assumptions of contestability.[255] All require sunk costs, investment in facilities that will at best be much less valuable in alternative uses.[256] In each case an entrant also will need substantial time to construct the necessary facilities, and perhaps to obtain required licenses or franchise authority. An entering multichannel distributor certainly cannot expect to begin service before the incumbent is able to change price (unless regulation prevents the change). In any case, the profitability of entry by a multichannel distributor will depend primarily on price and market conditions after the incumbent reacts to entry, since the new entrant that has committed substantial sunk investments must stay in the market or suffer substantial losses.

Entry in an industry with sunk costs

Post-entry price and output, and thus the profitability of entry, will depend on the anticipated post-entry interaction between incumbent and entrant.[257] After entry there are likely to be only two or a few suppliers in the market, so pricing will be better described by oligopoly pricing models than perfect competition.[258] Price (or prices in the case of differentiated products) will depend on characteristics such as product differentiation, overall elasticity of demand, cost characteristics of the firms, and on the nature of their interaction.[259] There is no presumption here that firms collude on price, but only that each recognises that the other's choice of price or quantity affects its own profits, and that each chooses its most profitable price or output given its beliefs about the other's probable responses.

Two differences from the contestability model follow from these conditions. First, post-entry oligopolistic rivalry may result in a price higher than the average costs of either entrant or incumbent firms. Therefore entry may be profitable even though total costs of supply would be lower without a second supplier. The possibility that market entry will increase the total cost of supply cannot be ruled out, although entry in such conditions also is far from certain. Second, an incumbent that wants to deter entry need not choose a pre-entry price and output that would, if maintained after entry, make entry unprofitable. In particular, potential entry need not constrain an incumbent multichannel provider to charge no more than a sustainable price (equal to average cost) or a limit price. An incumbent has little reason to limit pre-entry profitability if doing so has little effect on post-entry profitability for an entrant, and thus little effect on whether entry will occur. In this situation the incumbent may as well maximize pre-entry profits, and deter entry by his post-entry reactions.[260] In all likelihood, then, actual entry will lower price; potential competition is not likely to constrain pricing as much as a competing supplier.

Sunk costs play one more role: they give an incumbent a strategy that may deter entry or affect its scale. By committing or sinking investments in capacity, a multichannel provider lowers the marginal cost of serving an additional subscriber, which changes its pricing response to entry and thus the profitability of entry. A cable supplier that sinks the investment necessary to cable an entire city may be able to preempt entry by a second cable company; having sunk the investment, the incumbent's most profitable reaction to a second cable company would make entry unprofitable.[261] If the cable company did not cable its entire area, it is likely to react less aggressively to entry, since the marginal cost of serving those customers includes the cost of extending its cable. The result might be that both cable companies cable all parts of the area, that each cables partially overlapping sections of the area, or even that the second company is able to preempt cabling of the area by the first company. Thus market outcomes may differ depending on whether one multichannel provider sinks investment before a potential entrant, or instead entry and the committing of investment by more than one supplier is roughly simultaneous. Which occurs could depend on opportunity

and business acumen, on differences in when technologies are developed and ready to install, and on the timing of necessary public policy approvals. Furthermore, firms often choose not only whether to sink investment, but how much to commit. This is clearest for cable supply where choices can be made about how much cable to lay and when. DBS or MMDS suppliers, however, also might be able to choose how much investment to sink by deciding on whether to purchase receiving equipment and rent it to customers rather than to have customers buy their own equipment.[262] Finally, sunk investment will not always be a successful deterrent to entry, even if it makes entry more difficult. If deterrence is unsuccessful, the firm will have to decide if the most profitable strategy is accommodation with the rival it cannot profitably deter or aggression to limit market share.[263]

Effect of market entry on efficiency

More realistic models of the entry process make clear that analysing both the likelihood of entry by rival multichannel video distributors and the effect of entry on efficiency is more complicated than in a contestable market model or other simple entry models. In the first place, entry and service from more than one multichannel video distributor may be possible and viable even though it increases the total cost of service. Despite the cost increase, however, entry may promote economic efficiency and increase consumer surplus. By itself, the increase in cost would reduce efficiency. Having more than one supplier, however, also can be expected to reduce prices and expand output. This effect by itself increases consumer surplus and efficiency. Different suppliers may further increase consumer surplus if they offer differentiated products.[264] Thus in principle the net effect of entry, or multiple suppliers, may be either to increase or decrease efficiency or total surplus. Any loss in efficiency due to increased costs may be more than offset by an increase in efficiency due to lower prices. The analysis also implies that even if total surplus would be greater with a single supplier, entry changes the composition of total surplus as well as its size. In this case a single supplier has lower costs and higher prices, so profits are higher and consumer surplus lower than with two or more suppliers, even if total surplus (the sum of profits and consumer surplus) is greater. (The possibility of regulating the price of a single supplier is considered in the next section of the Report.)[265]

To this point, the analysis has considered only how entry affects pricing and the ability of firms to take advantage of economies of scale and scope. As a result it understates the efficiency benefits of entry and potential entry. Implicitly the analysis has assumed that all incumbent and potential suppliers are equally efficient; formally they all operate with the same cost functions. Nor does entry or the threat of entry affect the costs or efficiency with which an incumbent video distributor supplies a given amount of service. Entry affects costs only by reducing the extent to which they can take advantage of economies of scale or scope. In market economies, however, entry plays another role at least as important in promoting efficiency: entry (and exit) help insure that products and services are supplied by those producers who have the lowest cost. Even if both the single incumbent multichannel supplier and potential entrants have unit costs that fall with the number of subscribers, entry could still reduce the total costs of supply. Two reasons can be distinguished; both potentially are important sources of efficiency.

First, a single incumbent firm protected from entry simply may not produce as efficiently as possible. Experiences of firms who have had regulatory barriers to entry lowered suggest the potential for substantial cost reductions when firms are subject to entry, even when the underlying technology may allow for economies of scale and scope. Lower costs may be realized because more efficient entrants take over much of the supply, or because the pressure of actual or potential entry pushes incumbents to produce more efficiently. Potential entry may be much more effective in constraining inefficient production by incumbents than in constraining supracompetitive pricing. The incumbent probably can lower prices in response to entry much more easily and quickly than it can improve productive efficiency.

Second, entrants may use different, lower cost technologies than the incumbent. Entrants may use lower cost technologies because technology has improved since the incumbent began service. Over the past decade the costs of all types of multichannel distribution -- cable, DBS, MMDS, and SMATV -- have had their costs reduced or the capabilities increased by substantial technological changes. There is every reason to think this process will continue. Alternatively, an entrant or second supplier might have lower costs, for at least some group of customers, because it uses a different method of distribution than the incumbent, say DBS or MMDS rather than cable. The lower costs of this distribution may be themselves the result of technological improvements.

The most important effect of entry on efficiency and costs may be ongoing, dynamic pressure on incumbents to keep costs low and to determine which technology has the least cost, both for each group of potential customers and at each time when the technology changes. Per customer cable service costs may vary substantially; both the number of subscribers per mile and the costs per mile of cable may vary. Costs and reception quality of MMDS and DBS may vary with the level of interference and signal strength at particular locations. It may be efficient to supply some customers with cable and other with DBS or MMDS, notwithstanding economies of scale or scope. Or if not efficient today, it may be in a few years.

Sustainability

Entry might reduce efficiency through a different mechanism if multichannel video supply is a natural monopoly, but one that faces problems of sustainability. In the cases looked at above entrants had no cost advantage; entry was sometimes viable because the most profitable response to entry left prices high enough to accommodate the higher costs of two suppliers. Sustainability analysis suggests another reason why incumbents may be unable to deter entry that increases cost and reduces economic efficiency. An entrant may be able to produce a subset of the natural monopolist's output at lower cost. The fact that a range of products or markets would be supplied at lowest total cost by a single supplier (a natural monopolist) does not guarantee that the single supplier can find any set of prices for those products that raises enough revenue to cover its total cost without also requiring the purchasers of some subset of the products to pay more than it would cost an entrant to supply only that subset.[266] If the single firm in this situation can not protect itself against selective entry, the end result may be either that costs are higher because production of these products or services is split among several firms, or that separate production of some products becomes so costly that they no longer are supplied.[267]

Smiley (1990) suggests a situation in which a cable system could face sustainability problems. Costs may be lowest if a single cable system provides services to an area made up of neighbourhoods with differing costs of services and levels of demand. The cable company can be thought of as a monopolist providing multiple products, namely service to each of the neighbourhoods. To cover its total costs, the company might have to set a price for service in a high density neighbourhood (which is therefore relatively low cost to serve) that exceeds the costs of serving that neighbourhood alone. This makes the cable company vulnerable to selective entry by a company serving only this neighbourhood. A system serving the entire area might then have to lower price to this profitable neighbourhood, either in response to entry or to deter it, with the result that it no longer covers its total costs. In the long run, when it had to renew its fixed investments, it would withdraw from serving less profitable neighbourhoods. Alternatively, the cable system might never begin serving the less profitable neighbourhoods if it could foresee the problem this would create for selective entry.

Sustainability is a potentially serious problem in theory. Judging its practical significance requires understanding the assumptions on which the theoretical analysis depends. There are two parts to the analysis. One part is primarily a statement about the relationship between structure of costs, and especially the costs of producing different mixes of output, and the structure of prices and revenues.[268] This has no implications for entry without adding a second part to the story: a model of the entry process that allows inferences from this cost and revenue structure about post-entry pricing and the profitability of entry.

Simple sustainability analysis draws its analysis of post-entry pricing and profitability from the theory of contestable markets. It asks whether a natural monopoly in a contestable market can always find prices that will protect it from entry -- which is to say sustainable prices. Remember that contestability theory assumes a complete absence of entry (or exit) barriers, and that incumbents are subject to entry whenever entrants could cover their costs at the incumbent pre-entry price. Subadditivity insures that the incumbent can find prices that prevent it from being replaced by either one or more entrants that together produce the same set of outputs. Sustainability analysis shows that subadditivity is not enough, however, to insure that an incumbent always can find prices that cover its costs and also prevent an entrant from finding some subset of the incumbent's output that it can produce profitably. In this case, it is said that sustainable prices do not exist, or more simply that the natural monopoly is not sustainable.

With this background, several points can be made about the likely practical significance of sustainability problems. First, lack of sustainability is only a possibility. Since many natural monopoly (subadditive) cost and demand structures are sustainable, the conditions that lead in theory to sustainability problems may not exist. It is difficult to state general conditions that rule out or establish the presence of sustainability problems. But it is worth noting that some conditions that make sustainability more of a problem probably do not apply to multichannel video providers serving different areas. Sustainability can be a problem when the several products of the natural monopolist are highly substitutable, and especially when this is combined with strong scale economies in the production of individual products.[269] In the case of a cable service or other multichannel services supplying to different areas, however, there should be almost no demand substitutability between these products.

Second, multichannel video suppliers do not operate in contestable markets. Even if the cost and demand structure of a single supplier does not satisfy the theoretical conditions for sustainability, it still may protect itself against entry. As pointed out earlier, neither pre-entry nor post-entry pricing by multichannel video distributors can be expected to follow the contestability model. Incumbents need not limit themselves to pre-entry prices that just cover costs and are sustainable, and after entry need not maintain the pre-entry price (unless required to do so by regulation). The most profitable post-entry price is unlikely to be the same as the pre-entry price and will not necessarily be high enough to cover all sunk costs. Therefore potential entrants may be deterred because they expect entry to be unprofitable even though no maintained price by an incumbent would deter entry. On the other hand, if entry does occur in selected markets, it will not necessarily drive the incumbent out or make supplying of other markets no longer profitable, because while entry may lower price, it need not drive price to cost (either total or marginal cost).[270]

The third point is that simple sustainability analysis does not allow for techniques of price discrimination or bundling that allow firms to capture more consumer surplus. In fact, cable suppliers often use various bundled pricing plans. Leaving aside the effect on entry, such pricing may either increase or reduce efficiency. In the context of sustainability, however, they may give a multi-product monopolist more flexibility in finding how much of their fixed costs they recover from the sale of different products; by using such pricing the cable service may not have to recover as much of its fixed costs from "high profitability" neighbourhoods or markets, making it easier to protect itself from selective entry while continuing to serve less profitable neighbourhoods.

Summing up

A verdict on entry by multichannel video distributors requires balancing of several effects.

It is uncertain to what extent competition among multichannel video distributors could develop and constrain market power. Analysis alone does not demonstrate that entry or potential entry of competing multichannel video distributors necessarily will prevent the exercise of market power if competition from over-the-air broadcasters is insufficient to do so. The issue also is not settled by empirical evidence from the market. The prospects for competition among multichannel video distributors using different technologies remain unclear. The possibility cannot be ruled out, but the extent to which several distributors using different technologies will be viable in the same market and will offer alternative sources of supply to the same consumers rather than being complementary distribution methods remains to be seen. The prospects for competition between multichannel distributors using the same technology, two cable systems or two DBS systems, seem less promising although perhaps not impossible. As seen above, this too cannot be ruled out on theoretical grounds, even if there are scale or scope economies. Market experience provides little encouragement that such competition will be viable. In the US head to head competition between competing cable systems is relatively rare, although entry by a second cable system is not formally banned in many locations. On the other hand, there are instances of such competition, and it is unclear to what extent indirect policy barriers may limit entry.[271] In the UK, head to head competition between DBS suppliers ended in merger.

The case that entry, when and if it occurs, will promote efficiency is stronger, although here too the arguments are not unmixed. The analysis identified two possible ways in which unrestricted market entry might reduce efficiency; neither will be a problem unless the costs of supply by a single multipoint video distributor are lower than total costs with more than one supplier. The first possibility is that entry will prove viable despite the increase in cost because post-entry price remains above cost. The second possibility is that sustainability problems will make it impossible for a multichannel distributor to protect itself against selective entry, leading either to increased costs or loss of service, or both. In practice neither problem may be a threat to efficiency. Entry is likely to lower prices (if a single distributor could exercise market power), so that on net economic efficiency may be increased even if costs also increase. The cost structure of multichannel video distributors may not create even potential sustainabilty problems, and if it does, in practice the firm may have sufficient tools to defend itself. Against these possibilities that entry might reduce efficiency must be set the substantial potential that leaving entry decisions as much as possible to the market will encourage suppliers to be more efficient, and will lead to more efficient choices among different distribution technologies and to more efficient decisions of when new and improved technologies should be adopted. The choice of a policy of controlling entry should consider how the policy will deal with these issues as well as control the possibility of lost static economies of scale and scope.

Entry control also might yield social benefits from a source not discussed above. Entry by a multichannel video distributor may impose social costs that the provider does not have to pay. One example is the inconvenience imposed on the public by the installation of cable. Another would be the use of scarce duct space by a cable company, or spectrum by a DBS or MMDS company, if the companies did not have to pay a price for these inputs equal to their opportunity cost. An entrant who receives such "inputs" for free (or below cost), may find entry profitable when it reduces overall efficiency (taking into account these additional social costs), and that would not be profitable if the entrant bore the full social costs. If entry controls prevent such inefficient entry, they provide benefits. Of course, entry will not necessarily be inefficient just because social costs exceed private costs, so the existence of such social costs does not establish the benefits

of entry controls. There also may be more direct and accurate ways to insure such social costs are properly considered in entry decisions.

Regulation of multichannel video distribution

There is not such certainty that market forces of competition and entry will work efficiently that improvement by regulation can be ruled out. Consumers or advertisers may not always have sufficiently good alternatives to prevent an established cable system or other multichannel video provider from exercising market power. There is no assurance that its exercise always will be defeated by entry. Economies of scale and scope, together with the necessity for an entrant to commit substantial sunk investments, may prevent other multichannel video providers from entering and becoming viable competitors. Limits on spectrum may prevent entry by additional over-the-air broadcasters. This holds out the possibility for improvement by regulation, but there also is no certainty that regulation in practice can improve even on imperfect market outcomes, at least without introducing inefficiencies of its own. This section looks at some of the potential benefits and costs of different forms of regulation of multichannel video distributors. In principle other private broadcast suppliers might face limited competition, making regulation to constrain the exercise of market power plausible, but the discussion here concentrates on regulation of cable systems or similar multichannel video distributors.

Regulation of pricing

Potential benefits and costs of price regulation in general

Price regulation offers the potential benefit, in terms of economic efficiency, of achieving the same efficient pricing as would competitive market forces. In other words, regulation would seek to replicate the results of a competitive (or contestable) market; regulation, rather than market competition, would constrain the regulated firm from raising price and limiting supply. (Of course broadcast regulation often seeks other objectives. Here, however, the issue is how regulation might achieve objectives of efficiency.)

Price regulation risks imposing costs, again in terms of economic efficiency, because regulation predictably will fall short of replicating efficient market outcomes. Even with the best will in the world, regulators will not have enough information both to make optimal choices and to overcome the additional distortions of firm behavior created by the new incentives of regulation itself.

The question is whether imperfect market forces or imperfect regulation perform better and will do a better job of insuring an economically efficient supply of video services. Previous sections have looked at the possible limitations of market forces. This section looks at the limitations of each of two forms of price regulation.

Price regulation can try to limit prices to levels that just cover the costs of an efficient supplier. Regulators do not have independent information on what would be an efficient level of costs, however, so they must rely primarily on measures of the regulated firms, actual costs or rate of return.[272] It is now well understood that this leads to a variety of distortions. First, techniques of controlling rate of return on capital may distort choices of inputs, of the rate and direction of technological change, and of product or service quality. Second, because prices are based on actual cost, the regulated firm no longer has the same profit incentive to minimize its costs. Regulators may try direct oversight of productive efficiency, but again the lack of independent information will limit success. When actual costs (and thus prices) exceed the costs of an

efficient supplier, overall efficiency is reduced, because prices are higher than optimal, restricting the quantity supplied and consumed, and too many resources are used to produce that level of output.[273]

An alternative is to regulate price directly, without constantly monitoring costs or return on capital, in order to adjust price to increases or decreases in costs. Forms of this type of regulation are known as price cap regulation (in the United States) or (in the United Kingdom) as RPI - X regulation (where RPI is the Retail Price Index and X some number set by the government). The general objective is to give the regulated firm incentives to produce efficiently rather than relying more completely on direct controls. The advantages of such regulatory methods over cost of service regulation have been widely discussed in some Member countries, and versions have been adopted, for example for telecommunications regulation.[274] Regulation of cable service pricing in some Member countries also has directly controlled prices and the rate at which they may be changed, without attempting to set prices based on detailed measures of cost or profit.

Such regulations are likely to avoid some of the cost inefficiencies and distortions of cost of service regulation because firms have more incentive to minimize costs. This gain, however, does not come without a cost. If future costs (or the rate of productivity gain) were known, the present price level (or rate of change) could be set to match them; firms would still have incentives to produce efficiently, but behaving as efficiently as possible they still would end up unable to earn supracompetitive profits. Of course, the problem is that future costs cannot be known; firms may then end up earning positive economic profits, which is to say that prices are higher than optimal (although they may be lower and more efficient than under cost of service regulation). The tendency for prices to exceed costs is reinforced if regulators must be particularly concerned, for reasons either of legal constraints or concern for the regulated firms' ability to tap capital markets, that firms continue to earn at least minimally satisfactory returns on their investment even if costs turn out to be higher than expected.[275] A second important problem for direct price regulation is control of quality. If only price is fixed, the regulated firm may have an incentive to increase its profits by reducing quality. Effective competition constrains a firm's choice of both price and quality; regulation that controls only prices still allows the firm to exercise market power and reduce efficiency by choosing a profit-maximizing level of quality for the regulated price. In practice, incentive regulation plans do recognise this problem and attempt to control quality,[276] but this introduces additional problems and complications that reduce the apparent simplicity of direct price regulation.

Difficulties of regulating prices of video services

Price regulation of delivered video services, e.g. cable services, is subject to these general difficulties and limitations. If anything, the particular characteristics of video services make the problems more difficult; video services are highly differentiated, programming quality is very difficult to measure objectively, and both services and their costs are changing rapidly. The problem for regulators is not simply to determine prices for a given set of services that prevent the exercise of market power, but to design regulations and prices that do not distort incentives to change the number of channels of programming offered, the mix of programming offered on various channels, and the quality of programming offered.

First consider some of the problems of applying cost of service regulation to the services of a multichannel video distributor. Attempting to limit prices to measured costs is made more difficult because programming inputs make up a substantial part of costs. Market prices for programming services are based in part on bargaining over the division of any rents generated by specially attractive programming. If regulators accept any price paid as a cost, the result could be to pass rents along to programme services, including rents from the exercise of market power that regulation is meant to control. Attempts by regulators to control programme input prices and costs run serious risks of distorting the quality and supply of

programme services. If the profits of programme services are not controlled there is a strong artificial incentive for vertical integration between (regulated) firms delivering programming to consumers and (unregulated) programming services; an integrated firm could shift profits upstream away from the regulators' control by raising the internal transfer price "paid" for programming. The integrated firm would have a strong incentive to favour its own programme services over other programme services, even if its owned programme services were less efficient or attractive to consumers. Trying to solve these problems by extending cost of service regulation upstream to programme services would greatly increase the economic variables regulators would seek to control, without solving the basic problem of applying cost of service regulation to a business many of whose input costs involve bargaining over differential rents. The same problems would shift one more step upstream to control over prices paid for programme rights themselves.

A price cap form of regulation would avoid the problems of measuring and controlling programming costs, but introduces similar problems of controlling quality. Constrained to a particular price or average revenue, the video supplier may still be able to exercise market power and increase profits, but reduce overall economic efficiency, by reducing programming quality.[277] Regulators might be able to measure and prevent degradation of transmission quality,[278] but it is difficult to see how regulators could control programme quality. If prices or average revenue are regulated for bundles of channels, under what conditions could changes be made in the number of channels of programming included in the bundle, in which programme services were included in the bundle, in the number of hours of programming on any or each channel, or in the quality of the programming of a service that is carried? If prices or average revenue were controlled for individual channels, would the service have to offer each channel for sale individually or could prices be set for bundles? If bundles could be sold, how would revenue received be allocated? Would changes be allowed in the types of programmes carried on an individual channel? Prices might be regulated for only a basic set of channels in order that would provide customers access to the might be regulated to insure that simplify and limit the extent of regulation; the objective might be to limit the exercise of market power in setting a basic price of access to the cable or other services. Doing so, however, would raise difficult questions of defining what channels of programming are to be included in the regulated group, and the greater the demand for channels left unregulated, the less such regulation would limit the overall exercise of market power.[279]

Preventing a degradation from an unchanging optimal level of programme quality would be difficult enough, but the true problem will be even more difficult. Video services, and especially multichannel video services, are hardly settled, mature services in which little change can be expected in the optimal level of service and price. Past development clearly shows how a synergistic growth in delivery systems increases the revenue potential of programming services, which draws more resources in programming, which in turn increases the demand for delivered video services. These changes affect both the quality of programming on individual channels and the number of channels supplied. As a result, the optimal level of programme quality can be expected to change substantially over time, and may well increase. Thus the problem of monitoring quality over time involves not simply preventing degradation of quality, but determining whether quality of programming and the number of channels of programming is increasing as rapidly as it ought to be. Thus even when a dimension of quality is easily measurable, as is the number of channels of programming offered, it is very difficult to control quality of service.

These problems interact with the problem of determining how prices should be allowed to change over time. The optimal price level is affected both by these changes in optimal programme quality and by changes in technology that affect the costs of delivering service. These are difficult to measure or project, so it will be hard to say whether price (adjusted for inflation) should increase or decrease; technical productivity may be increasing relatively rapidly, but it is entirely possible that it is optimal for some of the gain to be realised in improved quality of service, rather than in reduced prices. These problems are not dealt

with simply by tying reviews of the price cap to the observed profitability of video suppliers, reducing the price cap or its rate of increase if the multichannel provider earns profits considered excessive. First, doing so reintroduces the distortions of cost of service regulation because it makes prices depend to some extent on realised costs and profits. Second, tightening the price constraint without directly controlling quality will simply give the firm an incentive to further decrease quality, or to increase it less rapidly than it would otherwise. Such a feedback mechanism may squeeze the profits of video suppliers, but at the cost of also constantly squeezing the quality of service and reducing rather than increasing efficiency. On the other hand, settling for regulations that make sure that prices or real inflation-adjusted prices do not increase may not do much more to control market power than market forces. A useful caution is provided by the evidence in the United States that unregulated price per channel for basic cable service has not increased more rapidly than inflation, and by the analyses that suggest why that is not necessarily inconsistent with the exercise of market power (or with the absence of market power).

Regulation of video transport

Delivered video services use two broad types of inputs (among others): programming inputs and video transport services. Thus far we have looked at regulation of the delivered video services themselves. If a multichannel video providers has market power as a supplier of delivered video services, the source of that market power is likely to be control of the supply of video transport, not control of programming. If programming is competitively supplied, then an alternative way of controlling market power is to regulate the input that is the source of the market power rather than to regulate the price of delivered video services.

How could this be done? In what is probably the most common industry structure, the multichannel video distributor sells delivered video services to consumers. (Advertising airtime may be sold by the video distributor or the programme network or both.) There is no explicit price paid for the input of video transport. There is, however, an implicit charge for video transport. This implicit charge equals the additional revenue that the video distributor earns by distributing a programme network minus both any payments to the programme network that the video distributor makes and the costs of customer billing and of any marketing efforts.[280] This implicit charge can be turned into an explicit charge that may be regulated by requiring the video distributor to sell video transport services to programme networks, which in turn would sell their delivered services to consumers (or airtime to advertisers or both).[281] The charge for video transport may then be regulated. The usual presumption is that video transport would be available to any purchaser at a nondiscriminatory price.

This solution would require each programme packager to handle billing and collection and other relationships with subscribers. It likely is more efficient for the video distributor to handle these arrangements for all programme networks carried on the channels it distributes. This could be done by allowing the video distributor also to sell, for example, billing and collection services to programme networks. The video distributor also might provide other services, such as marketing services.

This is not the industry structure that has evolved in most Member countries for cable services, although a structure somewhat like it has been used for some DBS services. In other countries, however, public policy has encouraged or required that delivery services be provided separately from programme services. The separation of programming from delivery services has been a common feature where cable delivery services have been supplied by the public telecommunications operator (PTO). Many analysts have suggested that the apparent convergence of telecommunications and broadcast services, certainly in technical transmission characteristics but perhaps also in the nature of the information or service provided, will make supply by the PTO of at least delivery service increasingly desirable or even inevitable. Such a development

could make more common an industry structure in which programme services are separated from the supply of at least some delivery services.[282] Supply of broadcast delivery service by the PTO raises particular issues considered below. This section discusses more general issues raised by separating delivery and programme services.

The advantage of this form of regulation is that it avoids the problems of trying to regulate the price of video programming. The price of programming services and the choice of programming remain unregulated market-directed choices. If there is an elastic supply of programme packaging services and competition among programme packagers, programme packagers will be unable to earn supracompetitive profits.[283] Despite this deceptively simple structure, however, there still are a number of potential problems and possibilities for lost efficiencies.

First, regulation of the price of video transport will be subject to the inefficiencies of price regulation discussed in the previous section. If prices are controlled to cover actual costs, the incentive of video distributors to be efficient suppliers will be reduced. If price rather than cost of service regulation is used, the allowed price may be set above cost, and there could be problems of controlling quality (although these should be more easily controlled since programme quality would not be at issue). Regulation, and its potential inefficiencies, also may have to be extended to billing and collecting, marketing or other ancillary services provided by video distributors. If these services cannot be provided at comparable cost by the programme networks themselves or by others, video distributors will have some market power in the provision of these services.[284] If the objective is to provide nondiscriminatory access to video distribution services, the prices of ancillary services will have to be regulated to be sure they are not used to discriminate among programme networks in ways that would increase profits of the video distributor.

Second, the policy will only be effective in controlling market power if control of the rights to video transport services are not concentrated. For example, assume that long-term leases to channels of video transport are sold at regulated prices below the profit-maximizing price. If a single lessee is able to control leases for all channels, it is likely to be able to exercise market power.[285] Thus arrangements whereby one firm invests in multichannel video distribution capacity, and then either leases the facilities to a single operator, or operates the facilities for a single video supplier, will not by themselves prevent the exercise of market power even if the price charged is controlled. If the capacity is not sold in a block, it still may be necessary to insure that control does not become concentrated by merger or other transactions.[286]

Third, having programme services rather than the video distributor sell to consumers may either raise costs or lead to pricing that reduces efficiency. Video distributors typically sell at least some programming in bundles. The model of having competing programme services selling directly to consumers suggests that instead a price would be set for each programme service that did not rely only on advertising revenue, and consumers would be able to decide whether or not to purchase each individual programme service.[287] It clearly is possible to design multichannel systems to control subscriber access to each individual channel and to handle billing, but both fixed investments and variable operating and billing costs almost certainly will be increased, perhaps substantially.[288] [289] Charging a separate price for program networks, rather than selling them bundled with basic subscription to the video distribution service, also might inefficiently restrict consumption; in general the price charged would exceed the marginal costs of having an additional subscriber to a programme service.[290] Programme networks might make arrangements to sell their services together in bundles to avoid these problem, but agreements on how to split revenue might be difficult, and would pose substantial risks of horizontal agreements between competitors on pricing.

A fourth problem is perhaps the most serious for distribution systems capable of delivering many channels, as cable systems can deliver 50, 70 or 100 channels of video programming. A multichannel video

distributor required to set a uniform price per channel for video transport must set that price equal to or above average total costs per channel of construction, operation, and maintenance in order to recover total cost. Average costs per channel, however, typically will exceed the marginal or incremental cost of supplying an additional channel of cable capacity. Charging a uniform price equal to average cost, therefore, inefficiently reduces the supply and use of video distribution services if the number of channels demanded does not exhaust the channel capacity of the technology.[291] If the uniform price is higher than average cost, because its level is unregulated or regulation fails to constrain price to the level of the average costs of an efficient supplier, the restriction in the number of programmed channels will be that much greater.

Uniform pricing of video transport may reduce the number of channels of programming supplied not only relative to a theoretical optimum but to the number supplied by an unregulated multichannel video distributor.[292] Such a distributor will continue to add channel capacity so long as it adds to profits -- that is, whenever the additional revenue generated covers the incremental costs of supplying the channel capacity plus the incremental costs of acquiring the programme service. Thus on the margin, the video distributor will add channel capacity so long as the programming carried is sufficiently profitable to recover an implicit charge for video transport equal to the incremental costs of supplying the additional channel of capacity.[293] The multichannel video distributor covers total costs by setting very different implicit prices for video transport for different programme services; in effect the multichannel video distributor may act like a nearly perfectly discriminating monopolist in setting implicit charges for video transport for different programme services.[294]

The net effects on economic efficiency of a change to a uniform price for video transport is uncertain. The restriction in the number of channels of programming offered by itself reduces economic efficiency and consumer surplus. The prices charged to consumers for delivered video services, however, should decline, both because of competition between programme services and because the average amount paid for video transport should decline if regulation hold its price close to the average cost of supplying video transport. The lower price encourages an increase in the consumption of delivered video that is efficient and increases consumer surplus.[295] The net effect on efficiency of these changes will depend on how many channels of programming are lost by the move to uniform price for video transport, and the value to consumers of that programming.

The question is whether in practice requiring uniform pricing of video transport would substantially reduce the channels of programming supplied. The importance of this effect could be estimated by calculating how many of the channels of an unregulated system are filled by programming that pays an implicit access charge lower than the average costs of the video transport. We are not aware of detailed, up-to-date studies of this question. There is, however, some evidence both that implicit charges for video transport vary greatly and that on large capacity cable systems the programming on a substantial number of channels pays quite low implicit access charges.[296] This evidence is far from conclusive, but at least suggests the issue's practical significance.

The source of the problem is the requirement that all video program services be charged a uniform, nondiscriminatory price for video transport. It may, however, be difficult to find a formula for nonuniform pricing that does not introduce problems of its own. Two quick examples illustrate the point without trying to review all possible pricing plans. One standard solution for this type of problem is to use nonuniform pricing schedules with some sort of quantity discount. It may be difficult, however, to design schedules that set low prices on the margin for additional channels but that do not also encourage a concentration of the control of channel capacity and thereby undermine competition among programme services.[297] Another alternative would be to charge different prices for video transport to different types of programme services depending on their "ability" to pay prices higher than the marginal costs of video transport. The difficulties

of determining eligibility for different rates and the potential for distorting the types of programming offered, and for costly regulatory disputes are obvious.

A fifth issue is that the effects of the requirement to sell video transport could threaten the viability of a system whose ability to cover costs was questionable.[298] By reducing or eliminating the ability to sell programme services in bundles, the requirement could both increase costs and make it more difficult to capture in revenue the value of service to consumers.[299] The requirement to charge a uniform price for video transport would make it difficult to set profit-maximizing (and efficient) lower prices for any services that are complements rather than substitutes for other programme services. Low prices for services that are complements would increase rather than decrease demand for other services; services could have this effect because the low price attracts subscribers to the system. New systems also could face difficulties if they could not charge low prices early in the operation in order to build demand for their system and to encourage the growth of programme services.[300] Regulation could block this either because the system was not allowed to charge a price below some measure of cost in the early years (which could be strongly resisted by any services that competed with the video system) or because regulation would not allow the higher returns necessary in later years to allow a normal return on investments of their life. Some of these restrictions may either increase economic efficiency and consumer surplus, or have ambiguous effects (particularly on total surplus) when their effect is to reduce supracompetitive profits; but if the added net revenues are necessary for the distributor to cover costs and remain viable, they are much more likely to reduce economic efficiency and consumer surplus.

Bidding for the public franchise

A policy of requiring bidding for a public franchise has been proposed as an alternative either to unrestrained private pricing or to conventional regulation of pricing. The proposal assumes there will be only a single supplier of cable services with market power, either because natural monopoly characteristics make a single supplier more efficient or because being the first supplier confers such advantages that later entry is not viable.[301] The proposal is that potential suppliers bid for a public franchise or license to become the single supplier of cable service to an area for a specified period. The license is not awarded to the firm willing to pay the most to the government for the license; that bidding process would allow the winning bidder to exercise market power (with the resulting inefficiency), although the government would capture the profits. Instead the franchise or license is awarded to the firm that agrees to charge the lowest price to consumers for providing the specified level of service. The firm winning the public franchise is then bound by contract to observe the terms of its bid. If there is sufficient competition at the bidding stage -- a sufficient number of bidders compete for the license or franchise, all bidders have equal access to the inputs necessary to supply output, and bidders are unable to collude -- this process should result in pricing equal to average cost of supply (leaving aside for the moment contracting problems and other complications).[302] Rather than constraining market power by competition between suppliers in the market, the bidding constrains price by competition for the market to be the single supplier. Rather than relying on continuing regulatory oversight and choices, the process relies on a binding contract that only need be enforced to insure that the single supplier provides an acceptable quality of service at an acceptable price.

Clearly this bidding process can work only if there really is competition at the bidding stage; awarding of franchises without competitive bidding or where few firms choose to bid is unlikely to produce a "competitive" result. Even if the initial bidding process is competitive, however, in practice a variety of problems with selecting the winning bidder, with enforcing the contract, and with renewing licenses when they expire may limit the process's efficiency.

The process of picking the winning bid is not so straightforward as it may sound. In the first place, where the supplier sets multiple prices for different services, it will not be obvious which is the "lowest". Cable systems often set several prices: for example, one for a basic set of program services, others for one or more premium program services, another for initial attachment to the system. Which is the winning bid when no firm proposes uniformly lower prices for all services? Even if the government authority could eliminate all bids of pricing schedules that would yield revenue in excess of cost (including the opportunity cost of invested capital) and thus could prevent monopoly profits -- which in practice will be difficult -- the remaining price packages could yield quite different levels of consumer satisfaction. Picking the price package that yielded the most consumer satisfaction would be difficult. Still more serious problems arise when the quality of service is no longer taken as given. Firms may not all propose the same level of service, or may not all be considered equally able to achieve it. Choice of the winning bid then must be based not simply on the lowest price, but on the best price and quality combination. A higher price and higher quality may be preferable for consumers, but at the same time not all increases in quality will be worth the higher cost and price. Clearly it will be difficult for public authorities to determine what combination of quality and price maximizes consumer satisfaction.

A third issue is that public authorities may not base their choice of quality on the criterion of maximizing consumer welfare. In setting minimum system specifications for bidders or in choosing among systems proposed by bidders that exceed minimum specifications, authorities may require investments whose costs exceed the benefits they offer to consumers. Such choices would increase costs (and probably prices) and reduce efficiency. Evidence from the US suggests the problem is more than hypothetical. One study of a sample of cable franchises awarded in the US in the mid-1980s found that on average about 25 per cent of total construction costs went to provide system capabilities -- such as institutional networks linking public or educational facilities, surplus channel capacity, and channel capacity or studio facilities for local programming with limited audiences -- that appeared neither to be commercially viable nor to offer returns valued highly by many consumers.[303] Of course commercial viability may not be an adequate measure of whether investments increase consumer welfare if investors do not fully capture the returns. Nor can the possibility be ruled out that such investments are justified by policy objectives other than economic efficiency. Nonetheless, the magnitude of such costs, and the fact that in many cases studied in the US such facilities lay idle for substantial periods, suggests that the potential for reduced efficiency should be taken seriously.

Once a franchise or license is awarded, problems arise in enforcing the terms of the contract specifying service and price. The contract cannot in practice consist of specifications of service and price that never may be changed; too many circumstances will change in the future that could either prevent supply on fixed terms from remaining viable or could make the agreed service clearly suboptimal. Nor can the contract be written to completely specify how all terms should change contingent on all possible future circumstances. Some contingencies can be provided for -- for example, specified adjustments in rates based on inflation or percentage of households subscribing -- but in practice it is impractical to negotiate terms for all contingencies, or even to anticipate all contingencies. Thus in practice there will be a need for government authorities to do more than enforce contracts; in effect some terms will have to be renegotiated. Even if contract terms are unaffected by changed circumstances, authorities will have to monitor performance to insure contract terms are satisfied. The resulting need to monitor and enforce contracts, and to renegotiate contracts terms as circumstances change, means that franchise bidding cannot in practice eliminate a degree of continuing regulatory oversight and determination of prices and of service provided. Indeed, contract enforcement will face many of the same problems of quality enforcement and of adjustment of pricing and service to changing conditions that were discussed above for price cap regulation (which also involves enforcing a contract).

Furthermore, some analysts have argued that operators of the franchise will be able to act opportunistically to force renegotiation of contract terms even where external conditions would not make that necessary (part of the opportunistic behaviour is likely to be the claim that external circumstances that are responsible). Once the public franchise has been awarded and the system built, it is argued, authorities will find it difficult to enforce contract terms. Since it will be difficult and costly to invoke the ultimate sanction of shifting the license or franchise to another firm, public authorities will be inclined to compromise, which will make them vulnerable to opportunistic behavior by the license holder.[304] If firms can force renegotiation for improved terms, price and service level will not be constrained by competition for the market. Other analysts, however, point out that the public authorities are not without weapons in post-award negotiations. Current license holders stand to lose sunk investments if displaced, since investments in the network are probably not fully recoverable if the license is lost, and a reputation for poor performance or for forcing renegotiations of terms may prevent the firm from winning a franchise elsewhere, and authorities can threaten to replace a private operator with public ownership.[305]

Finally, the efficiency of the franchise bidding process depends on the results of franchise renewals as well as on initial awards. Without some limit to the term of the franchise, price and service terms that became very inefficient could be locked in, or as the terms of the contract became older and its terms less relevant to current conditions the franchise bid process would become less and less distinguishable from simple regulation. With limited terms for franchises, efficiency also depends on the terms struck when the franchise is awarded. At renewal time, however, the condition of competition among a reasonably large number of equally placed bidders is unlikely to be satisfied. Clearly the incumbent and new bidders will not be equally placed. While incumbents will have the advantage over newcomers, the balance of advantage between supplier and public authorities in bargaining over renewal terms is less clear.[306] On the one hand incumbents will have a variety of advantages over newcomers, so that it will not be pushed hard by competing bids, limiting the threat by authorities to turn to other operators. On the other hand, incumbents also have more at risk than newcomers if their bid fails at renewal time, given their sunk investments.[307] In addition, whether authorities with a strong bargaining position are a good substitute for competing bidders depends on whether they have equally good information on what are the best possible terms on which service can be supplied, and on what criteria they base their choices.

These institutional and contracting problems mean that competition for the market through franchise bidding cannot be substituted for competition in the market as simply as in the original analytical model. If the simple analysis does not establish the efficiency of the bidding for a public franchise, however, neither does the further analysis prove its inefficiency. Empirical evidence is needed to determine what outcomes are most likely, but unfortunately little is available. The only systematic studies of which we are aware, from the US, present a mixed story, and of course may not be applicable to other Member countries.[308] On the positive side, one set of statistical studies found that, despite the possibility of opportunistic behavior by firms winning franchises, cable prices were on average lower in jurisdictions where franchising authorities and agreements limited pricing of cable services. (The data were from the period before municipal regulation of basic cable rates was largely preempted by the 1984 Cable Act.) Public authorities apparently retained sufficient advantages to enforce some of the contract terms. The studies also found little evidence that incumbents were able systematically to negotiate more favourable terms in contract renewals than in the original franchise awards. On the other hand, the studies also found evidence that franchise contracts and their enforcement failed to constrain pricing to levels that just covered costs, and found evidence (cited above) that the process of awarding franchises may have led to excessive costs. A final problem is inherent in the plan of awarding a franchise to a single supplier. Terms of the franchise presumably will limit entry, and efficiency gains will be lost when a new supplier using a more efficient technology is excluded.[309]

Policies to support market competition

Competition in broadcasting markets can be supported by enforcing the same competition rules in this industry as in others. Horizontal mergers can be scrutinized to determine if they substantially increase the ability of the merging firms to exercise market power in a well-defined market. Horizontal agreements on price or market sharing can be prohibited. These standard competition policies can be applied to mergers or agreements between video distributors or programme networks. Exclusionary agreements or practices (as discussed in Chapter 7) can be examined to see if they pose a substantial risk of disadvantaging rivals and allowing an increased exercise of market power.

The enforcement of competition policies is an important tool to encourage competition and efficiency, but it may not be sufficient to prevent the exercise of market power. Multichannel video providers might still be able to exercise market power because, in the current market environment, other suppliers of video services do not offer sufficiently good alternatives to constrain market power and additional suppliers of video distribution services would not find entry profitable. If cable or other video suppliers can exercise market power, regulation might try to take the place of constraining market forces. As we have seen, however, that too is likely to have its costs. These costs of regulation may be reduced by changing the design or administration of regulations, but there is little prospect of eliminating their costs -- any more than there is any prospect that all unregulated markets in the economy will function with complete efficiency. There is then a choice between imperfect markets and imperfect regulation; regulation will not necessarily be the better choice on economic grounds, just as it is not always the choice in other markets where structural conditions lead to high concentration and little prospect of entry.

Competitive effects of broadcast policies

Another line of policy should be considered. A variety of public policies influences both the ability of existing suppliers of video services to offer good substitutes and the potential for entry. Changes in these policies could strengthen market competition, allowing existing video suppliers to be more effective competitors, or making new entrants viable competitors, or both. Now it should be recognised immediately that these policies often have objectives other than promoting competition and economic efficiency. There is no claim that these policies should be changed because the goals of competition policy should take primacy. Instead, the third line of policy would be to analyze the effects of these policies on market competition, as well as on the other goals they may serve. It may be found that policies can be modified to encourage competition without substantially reducing their ability to achieve other goals as well, or it may be that a different balancing of competition and other objectives is found to be in the public interest. It should be noted that this third policy line is not so much a new departure as a continuation of a process of reevaluating broadcast policy that has been underway in many Member countries for some time. As described in Chapter 2, changes in public policies have played an important role in the expansion of private broadcasting and in the increasing role of market forces in determining the supply of broadcast services.

The remainder of this section reviews briefly categories of broadcast policies that might limit, first, the ability of existing broadcasters to compete, and second, the ability of new broadcasters to enter and constrain market power. The range of broadcast policies in Member countries is considerable, however, and no attempt is made either to review them all or to do more than suggest some effects they could have on competition. More careful analysis would be necessary to determine the actual effects of particular policies.

Policies affecting the ability of traditional broadcast to constrain market power

The extent to which existing over-the-air broadcasters can prevent multichannel video distributors from exercising market power will depend on the attractiveness of their programming. Public policies can affect their programming directly or indirectly e.g. by changing the payoff to investments in programme quality. Broadcast policies in many Member countries directly constrain programming. Broadcasters may be required to show minimum amounts of particular types of programming, or minimum amounts from particular sources -- for example, programming produced by independent producers or in the home country. Requirements may also constrain scheduling. Whatever the other benefits of such restrictions, by constraining broadcasters' choices they may create a programme schedule less attractive to viewers, making such channels poor substitutes that are less able to constrain an exercise of market power.[310]

Policies that restrict the programming broadcasters may choose may or may not have a large effect depending on how much less attractive is the programming that broadcasters choose from the restricted set that satisfies regulations. This is not simply a question of whether some programming that would satisfy the restrictions is of equal quality or attractiveness -- whether independently produced programming or programming produced in the home country can be equal in quality to programming produced in other countries or produced by the network's own subsidiary. What matters is the quality or attractiveness of that programming which it will be profitable for broadcasters to choose -- a question of the costs of programming as well as their quality. Suppose a broadcaster has a schedule slot it would prefer to fill with a programme produced and previously broadcast in another country, but is required to show original programming produced in the home country. It may be entirely possible to produce locally programming of equal or superior quality that would attract audiences as large or larger. Producing programming of that attractiveness, however, might be much more expensive, not because the foreign programme was subsidized, but because the incremental cost of supplying the rights to this broadcaster are much lower than the incremental cost of supplying a newly produced programme. Constrained to choose from among new programmes produced locally, it may be most profitable to choose a substantially lower level of attractiveness and cost.[311]

Other policies may indirectly affect the attractiveness of programming. Member countries restrict the sale of advertising airtime by traditional broadcasters, both private and public. Broadcasters may be limited in the quantity of airtime they may sell both across the broadcast day and at particular times. They may be restricted in the placement of advertising; regulations may control the number of advertising blocks per hour or whether programming may be interrupted by advertising or how often it may be interrupted. Restrictions may be placed on the products that may be advertised.

Such restrictions may directly affect competition in advertising markets if television advertising airtime is a separate product market.[312] Restrictions on the total advertising airtime sold by all broadcasters would drive up the price of airtime in separate television airtime markets (assuming the restrictions were binding).[313] The regulations could have the effect of enforcing the same market result as a monopoly supplier of airtime if the restricted quantity sold were close to the monopoly profit-maximizing quantity of airtime; in this case the restrictions would increase broadcaster advertising revenues. Alternatively, restrictions on the quantity of advertising that applied only to some broadcasters, perhaps to public channels, might allow a small remaining number of private channels to exercise market power in the sale of advertising airtime.[314]

Regulations on advertising also may affect the market power of multichannel video distributors as sellers of delivered video service by affecting the programming of competing broadcasters. Restrictions on advertising affect programme choice if they change the incremental revenue a broadcaster earns from any given increase in viewers. If increases in audience generate smaller increases in advertising revenue, this

reduces the payoff to investments in programme quality necessary to generate the audience increase. A reduced return to an incremental expenditure on programme attractiveness will reduce what the broadcaster can profitably spend to acquire rights to more attractive programming.[315]

Restrictions on the quantity of advertising airtime stations may sell will reduce the incremental revenue earned from an increase in audience if television advertising is not a separate market (so the restriction does not increase the price per minute of airtime per hundred viewers) or if the restrictions push the quantity of airtime sold sufficiently below the profit-maximizing level. Restrictions on the scheduling of advertising, apart from affecting quantity, may reduce the value of the airtime to advertisers by reducing its impact; fewer viewers may see advertisements if they are bunched at the ends of programmes or are shown in longer blocks.[316] Whether restrictions on what products may be advertised will have much impact depends on whether they cause a substantial downward shift in the overall demand for television advertising airtime.

Policies affecting entry

Public policies also can affect the competitive environment if they discourage the entry of additional video distribution capacity when incumbent suppliers exercise market power, or discourage more or less simultaneous entry by several multichannel video distributors.[317] Policies can deter entry by directly blocking it, or by reducing expected profitability. Again, one needs to analyse the competitive consequences of policies so that competitive objectives can be considered along with other objectives in designing and choosing policies.

Entry by multichannel video distributors using each of the available technologies may be directly controlled. Cable systems usually require authorisation, and no more than one system may be authorised to serve an area. Conditions of access to public rights of way, or to duct space or utility poles, can prevent or increase the cost of installing cable. SMATV systems may be denied the right to cross public rights of way, or may have to bear the cost of becoming an authorised cable system. DBS, MMDS or new traditional broadcast channels all require some authorisation to use spectrum. Any new system also may require specific permits to build facilities. The need to acquire licenses, authorisations or permits, even when not absolutely blocking entry, can increase the cost of entry or delay it.

Other policies may increase the costs of providing service for a multichannel video supplier or reduce demand and revenues. Restrictions on programming or on advertising, as discussed, could have these effects. An earlier section discussed how requirements to sell video transport at a uniform price could reduce the profitability and viability of a new cable system. Video suppliers may use, or be required to use, inputs provided at regulated or publicly controlled prices: e.g. satellite uplink or downlink services, landline transmission, duct space or utility pole attachments for cable. A video supplier's ability to enter and supply service profitably will be limited if regulation or lack of alternatives dictates use of such inputs and they are priced higher than their cost of supply or than the opportunity cost of their use for an input whose supply is limited. Profitability also will be reduced by requirements to provide particular facilities for which revenue will not cover cost -- for example, cable systems might have to provide channels for public uses or studios and transmission channels for public service or public access channels. Requirements to use particular technical standards could raise the costs of supply for the video distributor or reduce the demand of consumers if the standards affect their costs (for example, by requiring different receiving equipment). If the costs imposed (on supplier and consumers) exceed the value to consumers of the resulting improvement, profitability will be reduced. Limitations on the placement or size of receiving (or transmitting) antennas could have similar effects by raising the costs of suppliers or consumers or by degrading the quality of service. Prohibitions on common ownership of video distribution and programme networks could reduce

profitability if such vertical relationships are efficient arrangements for reducing transactions costs or transferring capital to programme networks that must be developed to provide service to new video distributors.[318] Restrictions on equity ownership by foreign interests could have similar effects if they would have established efficient vertical relationships, or capital is not otherwise available at comparable terms.

That such policies may deter entry is clear when they impose higher costs (or absolute prohibitions) on potential entrants than on a first multichannel video distributor. The potential entrant may face higher costs either because it will use a different technology (to which different policies apply) or because it would be the second supplier. Some policies clearly have this effect because they apply only to one technology or to second suppliers. Other policies that ostensibly apply uniformly may nonetheless impose different costs; for example, applying for a license could be more costly for a second supplier if the procedure gives the incumbent supplier grounds on which to oppose or delay approval.[319]

What may be less clear is that policies that seemingly impose the same costs or conditions on entrants and incumbent suppliers also may deter entry that would be efficient and increase competition. Some policies require entrants to commit certain investments as a preconditions of providing service. These might be costs of acquiring licenses, or fixed costs of building required facilities. The entrant is not at a simple cost disadvantage if the incumbent had to make the same investments. Nonetheless entry may be discouraged when the costs imposed by regulations are sunk and unrecoverable if entry fails. Expenditures to acquire a license, or to build specific facilities, are likely to have a sharply reduced value in alternative uses. The firm puts these sunk costs at risk if it chooses to enter. Because bearing risk is itself costly, the firm will choose to enter only if it expects an above normal return on those sunk investments in the event of success. Those higher returns must compensate for the possibility of no (or below market) returns. Policies increasing the costs that must be sunk to enter raise the cost of entry by raising the cost of exiting if entry fails.[320]

Policies that establish a minimum acceptable scale for entrants, rather than allowing them to choose their initial investment, also could deter entry by increasing the investments that entrants must sink. For example, entry by a second, competing cable company might be deterred by requiring that the entrant must agree to serve the entire area served by the incumbent.[321] Entry by a first cable company also could be deterred, particularly if it had to compete with existing DBS or SMATV suppliers, if a franchise is only available on conditions of agreeing to install cable to specified areas or to a certain number of households.[322] The policies discussed in this and the previous paragraph appear only to provide for equal treatment of entrant and incumbent (and may be supported on those grounds), but they nonetheless can disadvantage entrants and allow incumbents to exercise market power by increasing the risk of entry.

A second group of policies does not increase sunk costs, but instead increases the continuing cost of supplying customers or reduces demand. Entrants do not face higher costs if the same cost or demand disadvantages also are faced by incumbent video suppliers, but entry or supply by more than one multichannel video distributor may still be discouraged. Such policies shrink the size of the overall market, or slow its rate of growth. This can discourage multiple suppliers for reasons that involve both the effects of sunk costs by incumbent suppliers and scale economies of entrants. As we saw earlier in this chapter, incumbents may be able to commit to reacting more aggressively to entry by sinking investments in capacity. Conversely, the most profitable reaction to a new rival often will be less aggressive if the incumbent has not already committed some of the investment necessary to serve the same customers sought by the new entrant. For example, a simulation study found that two cable firms were much more likely to survive in the market if they entered simultaneously, or the second entered before the first could cable the entire serving area.[323] When markets are larger, or grow more rapidly, a second or third multichannel distributor may find more opportunities to enter and find enough customers paying a high enough price to be viable (given its own scale

economies) without having to fight for many of those customers with an existing supplier committed to an aggressive response by sunk investment. In a small market, even nearly simultaneous entry by a second provider may look unprofitable because, given its scale economies the first supplier has committed enough sunk investments that his most profitable response to entry will prevent the entrant from earning profits; the market is too small for two rivals to be profitable.[324] In a larger market, however, an incumbent may have sunk only some of the investment necessary to serve the entire market and therefore may find it more profitable to accommodate entry.

Entry by public telecommunications operators

A final policy affecting a potential supplier of video distribution services deserves separate mention. In several Member countries the public telecommunications operator (PTO) is not allowed to supply video distribution service (or may do so only in very limited ways). There has been considerable discussion of whether this policy should be changed, in part because PTOs are viewed as possessing advantages that would make it particularly likely they could enter successfully and constrain the exercise of market power by cable systems.[325] There are two bases for the advantages the PTO could enjoy as an entrant. First and most simply, the PTO could take advantage of the scale or scope economies implicit in the capacity of fiber optic cable. It is argued that a fiber optic "pipe" to the home would have sufficient capacity to offer at low incremental cost a wide range of services including video services, standard voice telephony, and a variety of other services in between and in addition. The second advantage builds on this view to suggest that the emerging technologies are blurring distinctions between broadcast services and narrow-band telecommunications services; as the two converge a variety of wide-band services will emerge that encompass and go beyond both. Again, the PTO will enjoy advantages if allowed to offer video services and wide band services that are close substitutes for video services.[326]

The issue would be relatively easy from the standpoint of competition policy if it were only a question of whether a potentially efficient supplier should be allowed to enter. This, however, is not the only issue because the PTOs generally also are regulated dominant or monopoly suppliers of a range of telecommunications services. Regulation will affect the behavior of the PTO as an entrant, and thus the consequences of entry for efficiency and competition in broadcast markets and on efficiency in markets for telecommunications services. For example, cost of service regulation can give the regulated firm incentives to cross-subsidise activities in which it faces competition in order to monopolize those activities even though it is not the most efficient supplier.[327] In that model, entry by the PTO could both allow replacement of cable systems even if the PTO were a less efficient supplier, without increasing competition in video markets, and increase prices charged for some telecommunications services. It is not claimed this would be the result of allowing regulated PTOs to enter. Regulation can try to control such behavior, and the incentives and behaviour of the PTO, in both video and telecommunications markets, could differ with other regulatory regimes. Instead the general point is that an evaluation of the effect of allowing PTO supply of video services requires evaluating the effects of telecommunications regulation and the effects of changing the policy on both broadcast and telecommunications markets.[328] Such an evaluation of telecommunications regulation is well beyond the scope of this report.[329]

Chapter 10

COMPETITION POLICY AND THE BROADCAST INDUSTRY IN MEMBER COUNTRIES

Introduction

This chapter reviews the application of competition policy to the broadcast industry in Member countries and the European Communities. The discussion of policy in each jurisdiction covers three areas. First, the discussions describe the extent to which general competition legislation applies to broadcast firms and any other legislation relevant for competition policy toward broadcasting. Second, they review any specific limits that apply to broadcast or cross-media ownership concentration. Third, they review important court cases or decisions by competition policy authorities involving the broadcast industry.[330]

Australia

Broadcasting is subject to Australia's general competition law, the *Trade Practices Act 1974*. There are, however, special rules on the concentration of media ownership under the *Broadcasting Act 1942* that are generally regarded as more onerous than the merger test in s50 of the Trade Practices Act, which currently prohibits mergers if they create or enhance market dominance. (The Government has announced its intention to amend the Act to prohibit mergers which substantially lessen competition.) A stated objective of the media ownership rules is to ensure competition both within and between radio, television and the print media. Substantial modifications, including modifications to ownership rules, were made to the act of 1942 by the *Broadcasting and Television Amendment Act 1985*, the *Broadcasting Amendment Act 1987*, and the *Broadcasting (Ownership and Control Act 1987*.

The rules on concentration of ownership of television stations at present prohibit any person from having a prescribed interest in (a) commercial television licenses whose combined service areas cover more than 60 per cent of the declared population of Australia; (b) two or more commercial television licenses in the same Territory or State; (c) both a license for a station with a Multi-channel service (i.e. a station that transmits the services of other licensees within its service area) and a license for another non-competitive station; (d) licenses for two or more stations in an Approved Market; or (e) licenses for two or more stations in Tasmania. A prescribed interest in a commercial television license is defined in the Act as, broadly, a shareholding, voting interest or financial interest in excess of 5 per cent held directly or indirectly in a licensee company, or the holding or control of a license.

The current rules on ownership of radio licenses prohibit holding a prescribed interest in (a) more than 16 commercial radio licenses in Australia, (b) more than one radio license within a defined radio service area (with allowance for up to 30 per cent service area population overlap between licenses); or (c) in commercial radio licenses that together cover more than half of the radio services in that State. A prescribed interest in a commercial radio licenses is defined in the Act as, broadly, a shareholding or voting interest in excess of 15 per cent held directly or indirectly in a licensee company, or the holding or control of a license. Substantial changes in these rules have been proposed, as noted below.

Rules also limit cross media ownership. Within a Defined Service Area a person may not hold an interest (as defined in the act) in more than one of the following: a license for a commercial television station, a license for a commercial radio station, or an associated newspaper.[331] A person who publishes or controls a newspaper or has a shareholding or voting interest in excess of 15 per cent in a newspaper has a prescribed interest in that newspaper. The Act does, however, protect (or "grandfather") some holdings of excess interests acquired prior to certain dates, although no increases in those interest are allowed.[332] These rules have led to considerable changes in media interests since their adoption, with significant uncoupling of cross-media linkages.

The *Broadcasting Services Bill 1992* revises, and in some cases relaxes, the ownership rules. Current limits on ownership of commercial television licenses generally are maintained in the Bill, although the limit on the aggregate audience reach of owned licenses is increased to 75 per cent from the current 60 per cent. Provisions on radio ownership have been significantly liberalised in the Bill; there are no limits on the total number of radio licenses that may be owned within a State or nationally. Limits on the permissible number of licenses within a market have been liberalised to allow ownership of two radio licenses in a market. The Bill also includes no cross media ownership limits on persons having control of both radio licenses and either television licenses or newspapers.[333] The remaining cross media ownership limits apply only to commercial television and newspapers. A Government paper on the provisions of the Bill explained that among the reasons for liberalising the rules on radio ownership are the growing number of radio services (the example of twenty-eight stations in Sydney was cited) which results in "the declining power of individual services to influence", the diminishing scarcity of means of delivery due to new methods (such as digital radio) that will allow new radio channels in the market, and the increasing niche or local character of the service.[334] Finally, the Bill replaces existing definitions of ownership and prescribed interests with new provisions on what constitutes control of a broadcasting service that are intended to deal more flexibly with business ownership and control structures than do existing rules.

Judicial or regulatory cases applying competition policy rules or law to the broadcast industry were not reported.

Austria

No cases applying competition policy to broadcasting were reported as the public services of the Austrian Broadcasting Station (ORF) has exclusive broadcasting rights and private broadcasting originating within Austria is not allowed.

Canada

The broadcasting sector in Canada is not exempted from the application of the Competition Act by provisions either of that Act or of the Broadcasting Act. The broadcast sector is subject to the enforcement and reviewable practice provisions of the Competition Act, and changes of ownership may trigger the merger provision of the Competition Act. Canadian case law, however, has developed a "regulated conduct defense" according to which natural and artificial persons, whose specific conduct infringes the Competition Act and yet is regulated pursuant to the authority of a valid statute, may claim that the impugned conduct is justified and thereby should be exonerated. This defense may or may not be allowed by the court or tribunal in light of the specific facts and circumstances of a given case.[335] The Competition Act also mandates the Director of Investigation and Research (the "Director") to appear before regulatory commissions to make representations

as to the effects upon competition of any decisions taken. The Director has appeared before or submitted comments to the Canadian Radio-television and Telecommunications Commission (CRTC) on several broadcast issues.

Concentration of broadcast ownership is limited by the CRTC under its licensing authority. The Broadcasting Act does not specify allowable concentration or directly require the CRTC to limit concentration, but the Commission does so in consequence of a portion of the statement of objectives in the Act: "the programming provided by the Canadian broadcasting system should be varied and comprehensive and should provide reasonable, balanced opportunity for the expression of differing views on matters of public concern", which is taken to imply diverse sources of ownership. The CRTC has not developed a written policy or guidelines dealing with concentration of ownership per se, but instead has chosen to deal with ownership on a case-by-case basis to allow greater flexibility. In general, CRTC policy for television has limited ownership to one station in each language in each market. CRTC ownership policy for radio generally has limited a single company to one AM and one FM station in each market, at least in each language. Cable systems also are licensed by the CRTC, but limits have not been set on the concentration of ownership on the grounds that cable companies have monopolies in the areas they are licensed to serve; the CRTC has looked favourably on the creation of larger cable units. Finally, the Broadcast Act requires Canadian ownership of the broadcasting system and, by long-standing order-in-council, the CRTC may issue licenses only to Canadian citizens or to corporations 80 per cent owned by Canadians.

Cross ownership of broadcast and other media, particularly newspapers, has also been a recurring source of concern within Canada. In 1982 Cabinet issued a directive to the CRTC defining circumstances in which broadcasting licenses for newspaper proprietors should be issued or renewed when markets for these enterprises overlap. In 1985, however, the directive was withdrawn and the CRTC indicated that it would henceforth be less concerned about such issues in light of increasing competition in broadcasting markets, which reduced the possibility of the monopolization of information and increased the need for financially strong, competitive enterprises.

The CRTC also has been concerned about vertical integration within the broadcasting industry, especially broadcaster ownership of production facilities and its implications for the viability of independent producers. The CRTC has as a consequence attached conditions to the licenses of some networks requiring the use of independent producers.

In 1988 a share acquisition involving broadcast properties was reviewed by the Director of Investigation and Research under the Competition Act.[336] The matter involved the share acquisition of Selkirk Communications Limited by Maclean Hunter Limited, both large communications companies whose holdings included radio and television broadcast facilities in various areas of Canada. As originally proposed, the transaction raised concern about its potential impact on competition in the Calgary and Lethbridge broadcasting and advertising markets; the transaction would have given MacLean Hunter control of two major commercial television stations and two AM radio stations in Calgary, and two television stations in Lethbridge. To address these concerns, Maclean Hunter undertook to divest itself of an AM radio station and television station in Calgary and a television station in Lethbridge. After the companies announced they would divest these properties, the Director announced he would not challenge the acquisition.

The Director also has submitted comments to the CRTC on the competitive effects of several matters. In 1984 the CRTC considered a request by various companies authorised to provide pay television programme services that they be allowed to restructure themselves into two regional monopolies.[337] (Pay television services were first authorised in 1982.) The applicants argued that factors associated with direct

competition in major markets had led to fewer subscribers and lower revenues than projected and, with expenditures remaining high, to deteriorating financial conditions. In his submission the Director argued that the Canadian content conditions of the licenses were the primary cause of the financial difficulties and proposed revisions. The Director argued that reducing the time required to be devoted to programming with Canadian content would improve financial performance, without eliminating competition between pay television services, by allowing the companies to invest more money in new productions and first exhibition rights, rather than relying on so-called shelf product. On the other hand, argued the Director, even if the request for regional monopolies were granted, revisions in the content requirements were likely to be necessary for the services to become profitable. The CRTC, however, approved the restructuring into two regional monopolies. The Commission decided that the pay television services faced substantial competition from commercial television, video cassette recorders, and other services in a broad "home entertainment" market.

In 1989 the Director submitted comments to the CRTC on proposed changes in the regulation of cable television subscriber fees. The Director recommended that the criteria the Commission use to evaluate cable regulation and fees should include in particular a concern with the monopoly franchise position of cable systems and the consequent need to protect consumers from the abuse of monopoly power, and in general a concern for consumer welfare. To further these objectives, the Director recommended that the Commission "should permit market forces to play a greater role in the cable television industry". Consumers "should be provided a degree of choice wherever possible, and must not be compelled to choose one delivery mechanism over another. The possible introduction of local telephone companies as competitors to cable television operators, as well as alternative delivery mechanism such as SMATV systems, MMDS and DBS, represent that element of choice, and accordingly should not be unnecessarily constrained from providing an alternative to those who do not wish to subscribe to cable."[338] In his comments on particular proposed changes in the regulation of fees, the Director emphasized that regulations should restrain the ability of the franchised monopoly cable licensees to increase prices excessively and earn economic rents, minimize regulatory incentives for excessive or inefficient expenditures, and minimize the opportunity for cross subsidy of discretionary programming and non-programming services from regulated basic services.

A year earlier, in 1988, responding to a request for comments by the CRTC on the regulation of Master Antenna or SMATV systems, the Director had recommended that regulatory constraints on these systems should be eliminated where not essential in order "to encourage beneficial competition between alternative delivery technologies."[339]

Denmark

The general competition law in Denmark is the Competition Act, which became effective 1 January 1990 replacing The Monopolies Act 1955. The Monopolies Act 1955 did not apply to pricing and business activities regulated or approved by public authorities under other statutory rules, and therefore did not apply to radio and television broadcasting. The Competition Act does apply to all kinds of business activities, including broadcasting. Only provisions on transparency, however, apply to business activities by public authorities, which are responsible for many broadcasting activities in Denmark (see Chapter 3); the applicable provisions include those specifying the duty to notify agreements to the Competition Council, allowing the Competition Council to order enterprises to submit information, and authorizing the Council to carry out investigations and report results. While the Competition Act gives the Council powers to intervene directly only in the activities of private enterprises, in the case of business activities performed or regulated by public authorities, the Competition Council may approach the competent public authority and point out any potentially harmful effects on competition.

Thus far there has been no enforcement activity under the Competition Act in the broadcasting sector. In an earlier case under the Monopolies Act, the Monopolies Control Authority found that the activities of the advertising company, TV2 Reklame A/S, such as setting prices and allocating advertising time, should not be subject to its control. The company had been formed in 1986 by the Minister of Cultural Affairs to handle advertising broadcast on the new independent public service station TV2. In addition, the Monopolies Control Authority published a report in 1989 on its investigation of conditions in the broadcasting sector.

Finland

The provisions of the Finnish Act on Restrictive Business Practices apply to the broadcast industry. So far there have been few cases enforcing competition rules in the broadcast industry. The most significant case investigated by the Office of Free Competition involved Helsinki Televisio Oy, a cable television company operating in the Helsinki region, which tried to prevent the entry of another cable television company. Recently the Office of Free Competition also investigated discriminatory practices by Radiobooking Oy, a nationwide advertising company owned by local radio stations. In both cases, the practices were found to be anticompetitive and prohibited.

France

French competition law is applicable and has been applied to several cases of discriminatory practices and abuses of dominant positions both before and after the adoption of the most recent competition law -- the Ordinance of 1 December 1986. During the 1980s several pieces of legislation were adopted that transformed the regulatory system applying to the broadcasting industry. Since the adoption of one of these, Act No. 89-25 of 17 January 1989, the provisions of the Competition Ordinance relating to concentrations have been supplanted by specific controls by a special regulatory authority -- the Conseil Supérieur de l'Audiovisuel (CSA) -- of the concentration of broadcasting firms. These specific controls do not apply to concentrations between programme makers, advertising agencies etc., who remain subject to the provisions of the Competition Ordinance. The broadcasting companies themselves are subject to restrictions relating both to the number of operating licences they may hold as well as to the amount of shares that one person may hold in a given company.

As are other EC Member States, France is also subject to the regulatory provisions and competition rules of the common market. There have been several EEC Court of Justice decisions of significance for the broadcasting sector in France, in particular an appeal by the French television channel La Cinq against a decision of the Commission not to grant interim measures against the European Broadcasting Union which had refused to admit it as a member. The European proceeding is not dealt with in this section but is discussed in the EC section.[340]

Before 1986 the then Competition Commission dealt with several cases under the old competition legislation (the Price Ordinance of 1945). One that particularly deserves mention concerned the purchase of rights to show cinema films on television[341]. The Commission found that despite the existence of special regulations in the sector and the monopoly conferred (at that time) on the three public channels, the rules of competition were applicable. The three channels were considered to have a dominnant position on the market for the purchase of films for showing on television and to have interfered with the normal operation of the market by fixing the price for the purchase of broadcasting rights from the distributors at a level that

did not provide an adequate return to the film distributors. The Commission however decided to exempt this infringement from prohibition of an abuse of a dominant position on grounds of the legal constraints to which the public programme services were subject. It did however recommend that a code of good conduct should be established to govern relationships between distributors, television companies and other operators.

Since the establishment of the Competition Council under the 1986 Price and Competition Ordinance, the Council has been called upon to give opinions in several cases involving the media.

In 1987 an Association of Advertising Agencies asked the Competition Council for an advisory opinion on five questions about advertising in the media and concentration in the advertising and broadcasting industries. In its response the Council described the characteristics of the television advertising market, noting the interpenetration between the private broadcasting channels and the advertising companies. (In fact the opinion dealt with the relationships between various advertising intermediaries and both broadcast and non-broadcast media, but only the portions of the opinion dealing with broadcasting are discussed here.)

The Council then formulated several principles that should govern the application of competition policy to the broadcasting sector and in particular to television advertising. The first was that competition within the advertising industry and between it and related activities was desirable both for its market effects and for achieving the objective of pluralism. Thus collusive practices between advertisers might well be considered anticompetitive under the 1986 Ordinance. Second, the Council observed that a relatively small number of advertising agencies were responsible for the purchase of a large share of broadcasting advertising airtime. The Council concluded that as a result there was an imbalance in the relationship between advertisers and broadcasting companies that gave the purchasers buying power. The broadcasters might be therefore in a state of economic dependence that might be liable to abuse; if a particular advertising intermediary, which itself might not hold a dominant position, brought pressure to bear on a broadcasting company, that company might have few other alternative airtime purchasers to which to turn.

The Competition Council has also issued two decisions concerning requests by the television channel La Cinq for interim measures.[342] In the first of these cases La Cinq complained to the Competition Council about certain provisions in the internal regulations of the French Radio and Television Organisations (OFRT) which denied La Cinq access to the retransmission of international sports events by Eurovision if one of the senior members of the ORTF wished to televise the event. This constituted discrimination, according to La Cinq, which interfered with its operations to such an extent that it requested interim measures. This request was rejected by the Council on the grounds, among others, that La Cinq had not specified what measures it wished to see taken. On appeal, the Court ruled that the measures were implicit in the petition of La Cinq and overturned the Council's decision.

The case turned on the Court's assessment of La Cinq's financial difficulties. The Court considered that the negative effect on the channel's finances resulting from the imbalance in programming that reduced its audiences did cause serious and immediate harm to its interests which would justify the taking of interim measures.

When the substantive case against the OFRT was decided,[343] the Competition Council decided that the regulation did discriminate against La Cinq in that competition was restricted between La Cinq and the other channels, which had been admitted to the Eurovision system before La Cinq. The Council imposed a fine of FF 100 000 on the OFRT.

The second case concerned La Cinq's complaint against the French Football Federation (FFF) for refusing to allow it to televise football matches. The Council again rejected the request for interim measures on the grounds that La Cinq had not established the extent, seriousness or immediacy of the harm either it, the sector or users would suffer. The Court of Appeal on 10 February 1992 again disagreed with the Competition Council, considering that FFF's behaviour was likely to constitute a prohibited practice under articles 6 and 7 of the Ordinance or under 85 and 86 of the EEC Treaty.

Two other Competition Council cases have involved the broadcasting sector in some way. One concerned agreements among the Actors and Entertainers Trade Union, audiovisual bodies and television programme producers. The dispute concerned provisions that the union had agreed with all the main television channels except La Cinq and M6 which established that they would not commission or co-produce programmes with producers who did not agree to the negotiated salary scales. La Cinq and M6 were boycotted for not agreeing to the salary convention. La Cinq and M6 complained to the Competition Council that adherence to the convention would drive them out of the market, that the programme producers had given in to the union's demands in order to weaken them, and that this was an abuse of a dominant position. The Council considered that the agreement amounted to a boycott and imposed fines ranging from 2,5 million F to 100 000 F on the union and the television channels.[344]

The second case also involved a boycott organised by the Union of Advertising Film Producers this time of a producer, M. Champetier. M. Champetier had offered advertisers his services at prices between 30 and 40 per cent lower than the union. The Council decided to enjoin the union to put an end to its boycott. The union refused and a fine of 250 000 F has now been imposed on it for refusing to obey the initial injunction.[345]

Finally, one recent case decided by the Competition Council concerned the market for television programmes reserved for cable networks.[346] A complaint was made by a cable programme service, TV Mondes, against an operator of a cable distribution system for not allowing its programme service to be shown except at a rate of remuneration much lower than that applied to similar programme services and not justified by the quantity of programming offered by TV Mondes. Hence the cable operator was considered to have discriminated against TV Mondes, which found itself in a state of dependence on the operator. A fine of 1 000 000 F was imposed on the cable operator. In its general analysis of the market situation, the Council also found that the exclusivity clauses contained in the broadcasting contracts between the cable operators and the producers were not necessary and ordered their deletion.

The broadcast legislation of 1986 contains two main kinds of restrictions on ownership and control of broadcast authorisations -- one relating to the shareholdings that any one person may have in a given broadcasting enterprise and the other relating to the number of operating licences that any one enterprise may possess.

No person or enterprise may own more than 25 per cent of the capital or voting rights of a company which has been granted an authorisation to operate a national terrestrial television service. If a person or enterprise already owns 15 per cent of the capital of such a company, he or it may not acquire more than 15 per cent of the shares of another company holding the same type of authorisation. This percentage is reduced to 5 per cent if the same person already holds five per cent of the capital of two other broadcast companies holding authorisations.

No person may hold more than half the capital of a company holding an authorisation for a television or radio service broadcast by satellite. If this share is lower than 50 per cent but above one third, the same person may not own more than a third of the capital of another company holding the same type of

authorisation. If the same person owns less than a third but more than 5 per cent of the shares of each of two other companies, he may not own more than 5 per cent of the capital in a third company holding the same type of authorisation. This legislation also applies to foreign companies broadcasting by satellite a service originating in France, but appears not to cover the peripheral radio stations operating terrestrially.

For reasons of pluralism, broadcasting companies are also restricted in the number of authorisations they may accumulate, both at the national and local levels. As regards terrestrially transmitted television, no one company may hold more than one authorisation to operate a national service (defined as a station serving more than 6 million people). No one broadcast company with an authorisation to operate a radio station serving more than 30 million people can be authorised to operate a service of the same type unless the population to be served does not exceed 15 million.

As regards broadcasting by satellite, television or radio, no one broadcast company may operate more than one other service of the same type.

In order to be authorised to operate services of a type different from the subject of the first authorisation, there are further rules on combining authorisations relating to the different media. For example, the operator of a national terrestrial television service may obtain an authorisation to operate another television service to be broadcast by satellite, even if he has already acquired an authorisation to operate a radio service serving more than 30 million persons, provided that he does not own a national daily newspaper.

As regards local restrictions on television, one operator may obtain any number of authorisations as long as none of them serves a population of more than 6 million and they do not cover the samegeographical area. For radio, the same operator may not accumulate authorisations covering more than 30 million people.

As regards different types of services, the same principles apply as at the national level. Thus an operator of a radio service covering an audience of 30 million can obtain an authorisation to operate a national television service provided he is not involved in cable distribution or the press.

As might be expected, control of mergers and acquisitions is exercised at the time of issuance of the authorisations.

Germany

The provisions of the German Act Against Restraints of Competition (ARC), including merger control provisions, apply to radio and television broadcasting. There are neither exemptions nor special provisions. The Federal Cartel Office (FCO) has responsibility for reviewing broadcasting mergers. Participations of less than 25 per cent are not subject to review unless they allow a competitively significant influence. Corporate mergers also may qualify for exemption from review under the "minor market" clause depending on their level of turnover; mergers between local radio stations may not be subject to review under this provision. The FCO also is responsible for proceeding against restrictive co-operative arrangements between broadcasters and abusive practices of individual programme providers if the influence on the market extends beyond the territory of a Land; if it does not, the Land cartel authority, part of the Ministry of Economics of the Land concerned, is responsible. In a recent judgment the BGH has ruled that public broadcasters are subject to control under the ARC when acquiring programmes.[347]

Both the Land broadcast laws, enacted by individual *Laender* between 1984 and 1988, and the "Rundfunkstaatsvertrag" (inter-state broadcasting treaty) concluded by the *Laender* in 1987, contain provisions controlling media concentration.[348] The concentration control provisions of the Land broadcasting laws are designed specifically to insure journalistic competition, or diversity of opinion, while the German federal competition legislation protects economic competition. Nevertheless, individual *Laender* expressly demand that a merger control proceeding be conducted by the FCO as a pre-condition of licensing for broadcasters.

The inter-state broadcast treaty allows a private operator to broadcast throughout the federal area only one full programme and one specialised programme by radio and TV, and set limits intended to keep a broadcaster already disseminating a Federation-wide full or specialised programme from capital participation exceeding 25 per cent in another broadcasting undertaking. Individual *Laender* set various limits on media concentration for broadcasters operating within their jurisdiction. Public service broadcasters in several *Laender* may own shareholdings in private broadcasters of up to one-third of capital and voting shares.

Press enterprises are not prevented from participating in broadcasting, according to decisions by the Federal Constitutional Court, but ceilings are set on participations. In Lower Saxony publishers who control more than 20 per cent of the total circulation of local newspapers in the transmission area must not supply more than 50 per cent of the local or regional broadcasts of a programme. There are similar provisions in other *Laender*. A publisher who has a market dominating position in daily newspapers in Hamburg must not be licensed as an individual broadcast programme provider for Hamburg. In North Rhine-Westphalia publishers of daily newspapers with local editions in the transmission area may delegate only one member (out of at least 8) to the broadcaster association of the station responsible for the programme. Baden Wuerttemberg requires the formation of a programme advisory council "composed of representatives of the leading opinion-formers" in compensation for the participation of a market dominating newspaper publisher.

Federal Cartel Office decisions applying merger control provisions to broadcasting date back to 1983/84. Initially the application of merger control to broadcasting was difficult because the legal framework for broadcasting in the *Laender* had not been clarified. Merger projects in the television and pay TV industry, for example Bertelsmann/RTL, were allowed to go ahead by the FCO because it was judged that they would strengthen the competitive positions of private broadcasters relative to public broadcasters.

As a rule, the relevant product market examined in broadcast merger cases has been the television and radio broadcast market, and the geographic market is determined by the transmission range. For mergers between radio stations, the FCO distinguishes between the local/regional advertising market and the national advertising market. Advertising in periodicals is not considered a good substitute for broadcast advertising, but local newspaper advertising may be a limited substitute for local radio advertising. In its "Radio Hamburg" decision (1985), the FCO found that a newspaper publisher's market dominating position was not strengthened, because its co-proprietors pursued contrary interests and because the publishing company was subject to the statutory broadcast limits mentioned above. In other cases examined by the FCO, new broadcasters were not considered in a position to control competition from substitutes since broadcast markets were characterized by intense competition.

Of special significance is the decision in the "Globalvertrag" (global agreement) case of 1987. This case involved an agreement between the ARD and ZDF public broadcasting corporations and Deutsche Sportbund (DSB - German Sports Federation). The agreement granted the public broadcasting corporations options to select telecasts of sports events of nearly all sports associations affiliated with the DSB; under the agreement other television stations could broadcast these events only if ARD and ZDF waived their broadcast rights. The FCO declared several provisions of the agreement null and void, holding that they

considerably raised the barriers to market entry by new private television broadcasters in the field of sport programmes. The decision allows all TV stations access to the sports events, and in time private TV stations will be able to acquire television rights. The public broadcasters had argued that their procurement of programmes were governmental rather than commercial acts and therefore were not subject to competition law. The FCO's decision was affirmed by the Berlin Court of Appeals and the Federal Supreme Court.

In another significant case, the FCO in 1989 prohibited the Cologne-based Westdeutscher Rundfunk (WDR) from acquiring a 30 per cent stake in Radio NRW GmbH of Düsseldorf. WDR is a public service broadcasting organisation, operating four radio and two television programmes in North Rhine-Westphalia. Radio NRW is designed to offer the new local radio stations in North Rhine-Westphalia a basic programme throughout the Land. In the FCO's view, WDR would have strengthened its dominant position in the radio advertising market of North Rhine-Westphalia. WDR was the only supplier of radio advertising in North Rhine-Westphalia, and its dominant position would have been strengthened by acquiring a stake in its only likely future competitor.[349]

Recently a number of joint ventures among Bavarian local radio stations were cleared by the FCO. The ventures were formed to jointly sell national advertising, or to jointly produce programmes and jointly sell local advertising. Without these co-operative agreements, it was judged, many of the small local stations in Bavaria would not be viable.

Ireland

The Restrictive Practices Acts, 1972 and 1989, and the Mergers, Take-overs and Monopolies (Control) Act, 1978 apply fully to the broadcast sector.

Beyond the general limits set by applicable competition law, specific permissible levels of concentration have not been set in broadcasting. The 1988 Radio and Television Act does direct the Commission to take into account, in determining assignments of contracts for independent or private broadcast services, among other considerations, "the desirability of allowing any person or group of persons to have control of, or substantial interests in, an undue number of broadcasting contracts...[or] in an undue amount of the communications media in the area to be served..." There are no specific provisions in cable or MMDS regulations on concentration or cross ownership, but licenses may not be transferred without Ministerial consent.

In 1986 the Restrictive Practices Commission conducted a review of the operations of cable television systems in the Dublin area. The immediate impetus for the review was the acquisition in 1984 by RTE Relays, a division of RTE, the national public broadcaster, of a 75 per cent shareholding in Dublin Cablesystems Ltd. (DCS).[350] RTE Relays and DCS were the two primary cable services in the Dublin area. After the acquisition DCS became the license holder for cable service to 95 per cent of households in the Dublin area. At the time, DCS provided 6 channels of television service plus FM Radio, two RTE channels and, from the UK, two B.B.C. channels and two I.T.V. channels.

The review focused on two consequences of the acquisition, that a single cable system provided nearly all cable service in the Dublin area and that a controlling interest in this system was owned by the public television broadcaster. The Commission described a number of possible remedies to deal with the DCS "monopoly" of cable service in Dublin: licensing a second cable operator so two or more services would be receivable by households, dividing the Dublin license into geographical areas with different licensees, subdividing the cable license and allowing a new operator to lease and programme (new) channel

capacity on the DCS cable. It also considered the possibility of RTE selling some of its shares to reduce it to a minority ownership position and the establishment of a regulatory Cable Authority.

In its conclusions, the Commission accepted that cable television service was in general a local natural monopoly and that it faced "little effective competition" either from individual reception of over-the-air signals or satellite distribution.[351] The Commission considered that it was not "practical or economically viable to have more than one television cable available to each household."[352] If there were no existing licenses, the Commission concluded, it would be preferable to divide cable service to Dublin among several licensees, with none of the licenses held by RTE. The result would be "indirect competition" between the services and the possibility of comparing the quality and price of the services. Any conflicts of interest between the national broadcaster and cable service would be avoided.

Given the existing situation, however, the Commission argued it was necessary "to consider whether the behavior and performance of the DCS monopoly, and the questions of its control by RTE, have been demonstrated to have been against the common good or the interests of subscribers." After examining this issue, the Commission said it could not conclude that the monopoly position had been abused and that therefore it considered that "the DCS monopoly, to date, has not operated against the common good and the interests of subscribers." The Commission also found there was no evidence that RTE ownership had hindered the development of cable service to that point.[353] In light of these findings, the remedies that would end the DCS monopoly or RTE control were "too drastic". Since there would be no competition for DCS, however, the Commission's view was that "some form of regulation is essential", either statutory regulation or self-regulation. A recommendation of the former raised issues outside the Commission's terms of reference, but the Commission argued that satisfactory service from DCS, controlled by RTE, "could be achieved through self-regulation by DCS and RTE". In addition, to prevent abuse, the Commission recommended a further study in three to five years time, and the index-linking to inflation of the fees for subscribing to the 6 channels plus FM radio. The Commission also offered a number of recommendations to DCS and RTE on the offering of additional services, allowing of access to independent programmers, arms-length operation of DCS from RTE. The Commission also observed that DCS should prepare to offer interactive services, and that it "would like to see...competition with Telecom Éireann at some time in the future."

In 1990 the Fair Trade Commission and the Ministry for Industry and Commerce, under the Mergers, Take-overs and Monopolies (Control) Acts, 1978 and 1978, considered a proposal that Bord Telecom Éireann acquire 60 per cent of the issued share capital of Cablelink Limited, with RTE retaining the remaining 40 per cent. The Commission in its investigation concluded that the only area for competition concern under the merger control legislation was the effects on competition and consumers in the future provision of interactive services. The Minister decided not to prohibit the acquisition after seeking and receiving written undertakings that, in his view, provided satisfactory assurances dealing with these concerns. The undertakings given by Telecom Éireann were: (a) Cablelink Ltd will be operated at arms length from Telecom Éireann with separate management; (b) Telecom will support the optimal level of investment for Cablelink, including an upgrading of the network and the provision of interactive text service should the Telecom Board and Cablelink management agree the service was commercially viable; and (c) Telecom would support access to the Cablelink network on a fair and non-discriminatory basis for any licensed independent third party providers of interactive text service.

Italy

The broadcasting industry in Italy is subject to the general competition law (Law 10 October 1990, n. 287). In addition, as already reported in Chapter 3, there are limits on media concentration to guarantee the pluralism of information.

Japan

Economic activities of broadcasters or of trade associations of broadcasters are subject to the general competition law (i.e. the Antimonopoly Act). Thus far, there has been no legal action taken involving the broadcast industry under this Act. The broadcast industry has a considerable social influence and plays the important role of diffusing information and opinions in a democratic society. Therefore, in Japan, various policies are implemented under the Radio Law and the Broadcasting Law.

In order to allow as many entities as possible to use the limited allocations of the radio frequency spectrum and to ensure freedom of expression in broadcasting, the Ministry of Posts and Telecommunications has established a set of rules to prevent media ownership concentration, of which the following are the two most important: (i) in principle, no single business entity may own or control more than one commercial broadcasting station; and (ii) in principle, no single business entity may simultaneously own or control a television station, a radio station and a newspaper in the same broadcasting area."

New Zealand

The broadcasting sector in New Zealand is subject to general competition law under the Commerce Act 1986. Acquisitions of spectrum property rights are subject to its prohibition on acquisitions that create or strengthen a dominant position in a market. The broadcasting sector also is subject to The Fair Trading Act 1986, which prohibits deceptive and misleading conduct.

There are now no specific restrictions on the concentration of media or cross-media ownership, other than the general limitations in competition law on creating or strengthening dominant market positions. Earlier restrictions on media and cross media concentration were removed when the Broadcasting Act 1989 went into effect.

The Commerce Commission has issued several decisions on broadcast matters since 1989. The first of these, issued in July 1990, involved a request by Broadcast Communications Limited ("BCL") that it be allowed to acquire the licenses for the UHF national network for which it had bid successfully in the December 1989 initial tendering of spectrum suitable for television.[354] BCL is a wholly owned subsidiary of TVNZ, a public broadcaster of two national television channels on VHF frequencies. BCL provides transmission, linking and maintenance services for VHF and UHF television broadcasters (and for radio broadcasters). BCL stated that its intent was to use the licenses to offer a timeshare transmission service to other broadcasters, not to broadcast programmes itself; it did not rule out that TVNZ could be a timeshare customer but did not anticipate that the license would be used for TVNZ to offer a third national channel.

Overall licenses for a total of 10 national channels have been granted in New Zealand, three on VHF and seven on UHF. Two of the VHF licenses are held by TVNZ and the third by TV3, a private service approved in 1987 that began operation in 1989. The seven UHF licenses were tendered for bid in December 1989 under the new plan of tradeable spectrum property rights; BCL was the successful bidder for one

license or channel, Sky Network Television Ltd ("Sky") for four channels, and United Christian Broadcasters ("UCB") and Totalisator Agency Board ("TAB") for the remaining two. Sky, which is using its licenses for a pay television service, was at the time 35 per cent owned by TVNZ.[355]

The Commission identified four markets to be analysed: (a) that for purchase and sale of transmission vehicles (i.e. spectrum rights); (b) that for the provision of transmission services; (c) that for the buying and production of television programmes; and (d) that for the sale of advertising services. The standard was whether allowing BCL to acquire the licenses would allow BCL/TVNZ to acquire or strengthen a dominant position in one or more of these markets. The Act specifies a merger or takeover proposal can be denied only if the Commission "is satisfied" that the proposal will result in the acquiring or strengthening of a dominant position. In this case, the Commission failed to reach such a decision. Two of four Commissioners concluded the proposal would be likely to result in the strengthening of dominance, and the other two concluded the evidence did not establish the proposal would result in the acquisition or strengthening of dominance; the Chairman, one of the two members in favour of granting approval, used her deliberative vote, making the vote 3-2 in favour of approval. Each pair of Commissioners issued a separate opinion.

The two Commissioners who argued the proposal would increase dominance began by observing that the entry of TV3 had reduced TVNZ's market power, but that was not sufficient to show that TVNZ ceased to have market power or ceased to be dominant. Looking first at the market for transmission vehicles, these Commissioners argued that TVNZ already had effective control of 6 of the 10 licenses for a national channel (the two of TVNZ plus the four of Sky) and the proposal would give control of a seventh, while two of the remaining three were granted to organisations described as "targeting narrowly focused markets"; they concluded that TVNZ was dominant in this market and the acquisition would strengthen this dominance. In the transmission market they noted that BCL provided all television broadcast facilities and services currently in use and that entry, while possible, would be expensive and TVNZ controlled the preferred transmission sites; they concluded that in this market TVNZ was in a dominant position and that position would be strengthened by the acquisition "in that the opportunity for a new entry into transmission is lost as TVNZ ties up, for transmission services, the last new broadcast channel that will occur in the foreseeable future". They argued that TVNZ also was in a dominant position in the programme market by virtue of TVNZ's financial strength based on its 88 per cent share of the audience that would allow it to obtain programmes of choice and to influence price and other conditions; the acquisition, they argued, would strengthen TVNZ's position. Finally, they argued that TVNZ's large audience share also gave it a dominant position in the advertising market, that TV3 provided only a limited, although perceptible constraint, and that acquisition by BCL of the additional license would strengthen this position of dominance.

The other two Commissioners also began by looking at the effect of TV3's entry. They noted that TV3's entry had led to increases in total television viewing and decreases in charges for advertising, and that while TV3's audience ratings were lower than TVNZ's, those could change as quickly as viewers could switch to another channel. While TV3 was in financial difficulties (a receiver to the company recently had been announced), they judged it "more likely than not" that a new owner would acquire the business and insure it continued to provide competition to TVNZ. Turning to the market for spectrum rights, they argued that TVNZ was not and could not become dominant because the supply of spectrum was fixed and there were six potential sellers of spectrum licenses: TVNZ, Sky (which they argued would behave independently in the handling of spectrum rights), TV3, UCB, TAB, and the Crown (since two additional networks might be offered in the future), each of whom would sell if the net return on its asset was exceeded by the potential return from an alternative use of funds obtained by selling the asset. They found that BCL was dominant in the provision of transmission services, as the only supplier, but that the proposal would have too slight an effect to amount to strengthening that dominance since at most it would reduce by one the number of

potential customers for a new supplier of transmission services. In the market for purchasing programme rights, they agreed that TVNZ's audience gave it a competitive advantage in bidding for programmes but that was not a concern since it did not deny TV3 access to programmes of general appeal and "there are many more programmes made than there is time on all networks for showing them". Finally, they argued that the rate charged for advertising was very sensitive to audience ratings and that if TVNZ "unilaterally increased its rates without providing a larger audience, advertisers would switch some of their advertising from TVNZ to TV3" and TVNZ's profitability would decline. The large reduction in advertising rates after TV3's entry was "a clear indication that TVNZ is no longer able to act independently in this market" and thus the test of dominance was not passed.

A second case, decided in December 1990, involved a proposal that Telecable Holdings Limited acquire management rights for up to 12 channels (or 8MHz "lots") of 2.3 GHz microwave spectrum. Its intent was to use the spectrum to provide at least six channels of television service by microwave distribution, or MMDS. A total of twelve lots or channels in this band had been offered for bid in 1990. Telecable had bid successfully for two channels, and sought permission to be able to purchase the other ten licenses (or management rights to the other licenses). The Commission identified two markets of concern: that for the buying and selling of management rights for transmission vehicles suitable for television transmission and/or microwave linking, and that for the provision of television services. The Commission examined in some detail the various uses of this microwave spectrum and found that adjacent microwave spectrum, spectrum for satellite transmission, and UHF and VHF spectrum could provide alternatives for all likely microwave linking or television transmission uses of the 2.3 GHz band. The Commission noted the presence of other important suppliers of television services and the possibility of further entry using cable, DBS or MMDS. Consequently the Commission concluded the proposal would not allow Telecable to acquire or strengthen a dominant position in either market, and clearance was given.

The Commission also has reviewed other matters involving broadcasting markets. In one of these, the Commission cleared HKP Partners of New Zealand to acquire up to 100 per cent of the issued share capital of Sky Network Television Ltd.[356] HKP is a partnership of four enterprises: (i and ii) Bell Atlantic Holdings Ltd. and Ameritech Holdings, which (at that time) together held interests in excess of 49 per cent in Telecom Corporation of New Zealand[357], (iii) Heybrook Holdings Ltd., a wholly owned subsidiary of Time-Warner with magazine, and film and video distribution interests in New Zealand, while the US parent has a wide range of cable, magazine and film interests, and (iv) Versoix Custodians Ltd, a wholly owned subsidiary of Telecommunications Inc, the US firm with extensive cable system and cable network interests. The Commission considered the possible horizontal and vertical effects of the proposal on a number of both broadcast and telecommunications markets, concluding that there was no threat that the acquisition would either create or strengthen a dominant position in any market.[358]

Norway

No exemption from ordinary competition legislation has been granted for any part of the broadcasting sector. There have been, however, no significant cases of enforcement of competition law in broadcasting or of regulatory rules whose immediate object was competitive conditions. Levels of concentration in media or cross media ownership are affected by licensing requirements. The conditions laid down for the license for the new national independent private TV channel (to be introduced in 1992) include provisions requiring a broad ownership basis and prohibiting any one interest from owning more than 20 per cent of the company. Franchises for local radio and TV broadcasting may be granted to schools, local associations, organisations, etc., that do not have trade as their chief objective, and also to local broadcasting associations, corporations, enterprises and so forth whose objective is local broadcasting. Newspapers,

media firms, tradespeople, nationwide organisations, private individual cable companies, municipalities and municipal bodies cannot hold a separate franchise to carry on local broadcasting or hold more than 49 per cent of the ownership interests in a local broadcasting corporation.

Portugal

The broadcast sector in Portugal including cable distribution rule by Act 292/91 on 13th August is subject to the general competition law, Act No. 422/83 of 3rd December, although Act No. 58/90, 7th September contains restrictions that affect the sector. Private broadcasting has only recently been allowed in Portugal, no cases applying competition policy to the broadcast industry are reported. In order to ensure respect of the rules of competition by both public and private channels, the Government has stated that it will clarify the concept of "public service missions" and their financial cost so as to distinguish clearly between service in the public interest and commercial activity and hence the correct use of public money.

Spain

The Act on the Protection of Competition No. 16/1989 does apply to the audiovisual sector.

In 1985 the Court for the Protection of Competition ruled on a complaint by the Basque Radio & Television company (RT Vasca) against the Spanish Radio & Television corporation (RTVE) and the Spanish Football Federation (RFEF)[359]. The complaint concerned restrictions agreed by RTVE and RFEF on the televising of football matches, whereby the RFEF recognized the exclusive right of RTVE to televise live all matches covered by the agreement and the two parties agreed that the televised transmission by any body other than RTVE of other football matches, the National League Championship and King's Cup, would require payment of compensation by RFEF to RTVE. The Court found that this restriction gave a genuine right of veto to RTVE for television broadcasts of such matches. The contract also prevented cameramen from other regional television networks from entering the ground and making films and commentaries on the matches concerned. This prohibition was applied for a certain number of matches during the period 1983-1984.

The Court pointed in its judgment to the so-called "Third Network" Act and its provisions concerning the televising of sports. With the exception of the priority accorded to RTVE for the live broadcasting of international sports events, there was nothing in the act to prevent each independent television network from agreeing freely with the football clubs to transmit television broadcasts of matches, in full or in part, on their own territory, in their regional language. The Court also noted that the Public Corporation RTVE was an enterprise with full commercial rights and obligations, which did not enjoy any special legal exemption from liability for its actions. According to the Judgment of the Court, therefore, the consequence of the said agreement was as follows:

1. Possible violation of the right to free information as established by the Spanish Constitution.

2. Restriction of access to the market for advertising by third party competitors, since the latter could not enter into contracts for the showing of football matches on television.

The Court also found that there were no grounds for granting exemption in respect of a prohibited practice, as requested by RTVE, since it was not covered by Section 4(1) of Act No. 110/63, which concerns restriction of competition expressly brought into being through the exercise of administrative powers.

In its final Judgment The Council found that practices existed in restraint of competition within the meaning of Section 1(1) of Act No. 110/63 of 20th July, and also declared Clause No. 13 of the contract concluded between RTVE and RFEF to be null and void.

A large number of other cases are currently being examined in the television broadcasting area for their compatibility with the Competition Act. These include a complaint of an abuse of a dominant position in the acquisition of broadcasting rights[360] and a complaint of an abuse of a dominant position by the Football League and of an exclusive agreement for television retransmission rights and other practices alleged to be prohibited by the Competition Act[361].

As regards ownership restrictions in the radio sector, foreign participation in the capital of radio stations must not exceed 25 per cent. This restriction does not apply to the EEC Member States. One person or firm may not hold more than one operating licence for a medium-wave radio service nor more than two including a metric band station and an FM station which have substantially the same coverage. The award of more than one licence to the same person or firm for operation of a metric band service as well as an FM service will only be made in the event of a sufficient number of licensees guaranteeing pluralism. A person or firm may also not acquire a majority shareholding in more than one licensed broadcasting company if the companies operate in substantially the same geographical area.

As regards television, it is forbidden to acquire, directly or indirectly, shares in more than one licensed company. Direct or indirect foreign ownership must not exceed 25 per cent of the capital of the company (not applicable to EEC countries) and one person or firm may not hold more than 25 per cent of the shares of a licensed company.

Sweden

The broadcast industry is subject to ordinary competition law in Sweden without exceptions. Until recently there had not been cases involving the broadcast industry that were of particular interest for competition policy. The Competition Ombudsman, however, has just brought a case before the Market court. This case concerns co-operation in a joint selling agency between Nordisk Television AB and its main competitor in commercial television in Sweden, Investment AB Kinnevik. The Competition Ombudsman argues that the channels controlled by these two broadcasters, TV 3 and TV 4, jointly dominate the relevant market and that the co-operation between them in a joint selling agency is likely to result in increased prices in the relevant market.

New rules and provisions for community radio, that is local private radio, recently proposed by the Ministry of Culture contain regulations on permissible levels of concentration. The proposed regulations stipulate that neither the State, the local authorities, the public Swedish Radio and TV channels, nor Nordisk Television AB (authorised to provide the third, commercial terrestrial TV channel) may be granted permission to broadcast community radio. Permission to provide community radio also would be denied under the proposed regulations for undertakings producing daily newspapers or for undertakings in which enterprises producing daily newspapers have an ownership share exceeding 40 per cent.

Switzerland

The broadcasting sector is generally subject to the Federal Cartel Act 1985; thus cartel agreements and similar arrangements, including mergers and acquisitions in the broadcast sector, are subject to the provision of this act. Restrictive agreements and practices in the broadcast sector may be investigated by the Cartels Commission and, if they are found to have harmful economic and social effects, the Commission may recommend that they be abolished or amended. The Commission has not so far taken action against any agreement or other practice in the sector.

The Commission, however, has been consulted during the drafting and passage of the Radio and Television Act, due to come into force in 1992, and also during the drafting of various ordinances involving broadcasting; Section 26(1) of the Cartels Act requires the Commission to give its opinion on draft legislation that restricts free competition in any way. In general the Commission approved the main objective of the Radio and Television Act, which is to maintain the public service character of broadcasting in Switzerland, while opening the market up to some extent to competition by means of a licensing system. However the Commission did recommend the creation of a separate public company (from SSR) to operate a 4th television channel, stating that this would put competitive pressure on the State company, would avoid too great regional differences in the supply of programmes, and would offer alternative employment opportunities for television producers and editors.

The Radio and Television Act provides the framework for the licensing system which is the central feature of the Act. The Act also empowers the Federal Council to regulate the terms of exclusive dealing contracts and other practices which may restrict the activities of other operators, the content and length of advertising, and the conditions for having sponsored programmes.

United Kingdom

Competition legislation applies to the broadcast industry with one exception. Under section 194 of the Broadcasting Act 1990, the networking arrangements made by the Channel 3 licensees are exempt (by Order made by the Secretary of State) from the application of Restrictive Trade Practices Act 1976. Under section 194 of the Broadcasting Act 1990, the networking arrangements made by the Channel 3 licensees may be exempted by Order made by the Secretary of State from the application of the Restrictive Trade Practices Act 1976.

Under section 39 of the Broadcasting Act 1990, Channel 3 licensees are required to make networking arrangements that enable the Channel 3 system as a whole to be a nationwide service. The Director General of Fair Trading is required to examine the implications for competition of these arrangements, applying a test that is set out in the Act but follows the criteria of Article 85 of the Treaty of Rome construed on a national basis. He must report his conclusions and may specify modifications to the agreements; a decision to require modifications may be appealed to the Monopolies and Mergers Commission. Following representations made to the Director General, in August 1992, he published a consultative paper setting out a preliminary assessment of the competition issues arising from the networking arrangements made by the licensees and how they might affect competition. The Director General is required to reach conclusions and make a report on the arrangements by early December 1992.

Under section 186 of the Act the BBC is required to take at least 25 per cent of its programming from independent producers. A similar provision applies to Channel 3, Channel 4, and future Channel 5 licensees. The Director General of Fair Trading has a duty to monitor the BBC's achievement of this target,

while the ITC will monitor performance by Channel 3, 4, and 5 licensees. The Director General will make periodic reports that may comment on competitive issues in connection with the production of television programmes.

The Broadcasting Act 1990, supplemented by the Restrictions of the Holding of Licenses Order 1991, sets out relatively detailed limits on media and cross ownership.[362] Among these are the following.

-- First, the maximum number of licenses that may be held within an individual service are: two regional Channel 3 licenses (but both may not be "large" as defined by the ITC); one license for a national Channel 3 service; one license for Channel 5 service; one license for a national radio service; 20 licenses for local radio services and 6 in the case of restricted radio services.[363]
-- Second, there are limits on the interests a holder of a license one service may have in another service: a holder of a license for a regional or national Channel 3 service or for Channel 5 service may not hold more than a 20 per cent interest in other radio or television broadcast licenses, or in a domestic satellite license; non-domestic satellite licensees usually may not have more than a 20 per cent interest in other television licenses including domestic satellite licenses; local licensees (regional Channel 3, local radio, local delivery licensees) may not have more than a 20 per cent interest in another type of local license if the license areas involved are to a significant extent the same; and the holder of a regional Channel 3 license who has a non-controlling interest in a second regional Channel 3 license may not have more than a 20 per cent interest in a third nor more than a 5 per cent interest in a fourth (and similar rules apply to holding interests in combinations of Channel 3 and Channel 5 licenses).
-- Third, there are cross media ownership provisions: national and local newspaper proprietors may not have more than a 20 per cent interest in a first Channel 3, 5 or national radio services nor more than a 5 per cent interest in additional licenses (except that the limits do not apply where there is little overlap between the coverage of a local newspaper and a regional Channel 3 license); local newspaper proprietors may not have more than a 20 per cent interest in local radio or local delivery licenses in the same area; national newspaper proprietors may not have more than a 20 per cent interest in local radio licenses; neither national nor local newspaper proprietors may have more than a 20 per cent interest in a domestic satellite license nor more than a 5 per cent interest in a second such license; and generally similar restrictions apply in reverse to broadcast licensees' interests in newspapers.
-- Finally, a national public telecoms operator with an annual turnover of more than £2 billion or its associates may not have a controlling interest to provide Channel 3, Channel 5, domestic satellite, or national radio services; and (subject to some exceptions) a national telecoms operator may not hold a local delivery license.

There are few cases in the UK that can be said to have been significant in enforcing competition policy or rules in the broadcast sector. There have, however, been investigations by the Monopolies and Mergers Commission (MMC) into the existence of restrictive labour practices in television and film production, and into whether the collective licensing body, the Phonographic Performance Ltd, was exploiting a monopoly position. There also have been reports on alleged anticompetitive practices by Thames Television in relation to television advertising, by Teletext and Oracle (television information services), and by the BBC and Independent Television Publications in relation to television listings.

In addition, in 1990 the Secretary of State for Trade and Industry invited the Director General of Fair Trading to consider competition issues arising from broadcasters' practice of acquiring all rights in programmes commissioned from independent producers. The request followed complaints by the

independent production sector. After investigation, the Director General conveyed to the Secretary his conclusion that there was not a sufficiently strong argument that the practices justified a reference to the Monopolies and Mergers Commission under the Fair Trading Act, 1973. However, the issues are being examined afresh in a major competition study on Channel 3 networking (see above).

Following concern about the BBC's practice of using its television air time to publicise its magazines the matter was referred to the MMC in May 1991 for investigation. In their report published in August 1992, the MMC concluded that the BBC's use of free airtime to promote its magazines distorted competition in certain magazine sectors with actual or expected adverse effects on the public interest. The MMC considered that distortion of competition would continue in these, and arise in other consumer magazine market sectors unless suitable constraints were placed on the BBC's publicising its magazines on BBC television. The restraints recommended by the MMC include the prohibition on the use of moving trails and in-programme mentions, and restricting the BBC's use of still trails to publicise consumer magazines.

With regard to mergers in the television industry, in June 1992 two of the United Kingdom regional television companies -- Yorkshire Television and Tyne tees Television -- announced their intention to merge. The merger involved the production and purchase of television programmes as well as the broadcasting of programmes and advertising. It was not considered likely to have any significant anti-competitive effects in any relevant markets and the merger was not therefore referred to the MMC for investigation.

Finally, under the provisions of the Restrictive Practices Act 1976, the Office of Fair Trading often receives exclusivity agreements for the televising of one-off sports events, which it must place on the register of restrictive trading agreements.

United States

Firms in the broadcast industry are in general subject to US competition legislation. In addition the promotion of competition in broadcast markets is a goal of the Federal Communications Commission ("FCC") and one that is reflected in the structure of the Communications Act, although competition is not the only goal of the FCC under the Communications Act.[364]

Media and cross-media concentration is limited by a number of FCC rules.[365] No person may own in the same geographic area two stations in the same service, a daily newspaper and a broadcast station, a television station and a radio station, or a television station and a cable system. Nationally no person may own more than 12 television stations, 12 F.M. radio stations or 12 A.M. radio stations.[366] In addition, no person may own or control television stations reaching twenty-five per cent or more of the US population. The three major commercial over-the-air television networks, and the individual broadcast stations they own, are prohibited from holding any ownership interest in cable systems. Recently, the FCC has been considering changes in the media ownership rules that would increase the number of AM and FM radio stations that may be owned nationally by a single person, and would allow ownership of more than one radio station in the same market subject to conditions that the combined audience share of the commonly owned stations not exceed specified limits. In general, the FCC has maintained that media concentration rules are designed to serve objectives both of competition and of diversity of programming and expression.

Both the US Department of Justice and the Staff of the Federal Trade Commission have been active in submitting comments in various FCC proceedings analysing the state of competition in various broadcast markets and evaluating the competitive consequences of proposed rules.[367]

A considerable number of cases have been tried in the United States involving allegations of antitrust, or competition policy violations in broadcast markets. Only a few will be mentioned here.

In 1980 the US Department of Justice successfully sought a preliminary injunction against a new pay movie cable network named Premiere that was being begun by four major motion picture studios. (*United States v. Columbia Pictures Industries*, Inc. et.al., 507 F. Supp. 412 (S.D.N.Y. 1980) ("Premiere")) In April 1980, four major motion picture producers in the US, Columbia Pictures, Universal Studios, Paramount Studios, and Twentieth Century-Fox, together with Getty Oil Company, created a joint venture, named "Premiere", to develop a network programme service distributed by satellite to cable systems and other video distributors. The service was intended as a "pay" service featuring recent films. The joint venture agreement provided that the rights to most films distributed by the four studios would be available exclusively to Premiere for a nine-month period before they would be available for showing on other pay-supported cable programme services.[368] In addition, Premiere also was to exhibit other films to which it did not have exclusive rights, many of which would have been shown previously by other cable programme services. The joint venture agreement specified formulas for valuing the motion picture rights each of the studios was to provide to Premiere, and for distributing revenues earned by Premiere. Evidence at the injunction hearing indicated that the movie studios began the joint venture at least in part because of continuing unhappiness over the revenues they were receiving from HBO, the largest movie-based pay service, and hoped that the venture would allow them greater control over and increased revenue from the distribution of their films to pay television services.

The Government filed against the joint venture, and later sought a preliminary injunction to prevent the studios from licensing films to Premiere and to prevent Premiere from beginning operation, alleging that the joint venture agreement constituted price-fixing and a group boycott that were per se violations of section 1 of the Sherman Act. Defendants argued that the practices did not constitute price-fixing or a group boycott under the antitrust laws, and in any case should be judged under the rule of reason because of the facts of the case. Generally the defendants argued that the joint venture provisions were economic arrangements necessary for a new service to gain a foothold in the market.

The Court found that it was "probable that the per se illegality" of the ninth-month window as a group boycott could be demonstrated at trial. The decision discusses circumstances in which courts have refused to apply the per se rule to group boycotts, but argues that the circumstances of those decisions can be distinguished from the Premiere case. The decision argues that the crucial issue for per se illegality is the "purpose and effect of the agreement" and the presence of "exclusionary or coercive conduct"; the decision finds the nine-month window was meant to be exclusionary and coercive. On the other hand, the Court said there was "some question about the applicability of the per se rule" on price-fixing to the provisions establishing the formula by which the studios would be reimbursed for the rights to their films. The Court found "troublesome" the defendant's argument that this provision could not be considered price-fixing since it set price only among the defendants and not to third parties, as price-fixing that violates the antitrust laws normally would.

The Court also evaluated the economic effects of the agreement and the likelihood that the Government would be able to demonstrate at trial that it was unreasonable under a rule of reason test. The Court found the Government probably would be able to do so. The Court did not make a formal finding of a relevant product or geographic market for analysis, but the argument implicitly treated the product market in which rights were sold as new, theatrical movies not previously shown on pay television, and the product market in which network services were sold as pay programme services whose primary attraction was such films. While noting that HBO and Showtime "supplemented" the programming with specials and sporting

events, the Court found that "the evidence at the hearing held in this action clearly established, however, that the new, never-before-shown-on-television, theatrical motion pictures are the prime item offered by pay television networks, without which they could not retain or gain subscribers." The analysis of the effects of the agreement is based on the share of rights to such films supplied by the defendants, and does not consider either the possibility that other programming would be an adequate substitute for recent films or that networks featuring other programming would be adequate substitutes.[369] (It should be noted that at that relatively early date in the development of cable services in the US, very few of the "basic" programme networks now available had begun service.) The Court found that:

> "Since the movie company venturers in recent years have received approximately one-half of the motion picture licensing fees paid by the network programming services, they seem likely to have sufficient economic power in the future to control the market by setting the price and conditions for sale of motion pictures licensed to pay television. The ultimate effect of Premiere's pricing mechanism could thus be not only to raise the prices of films licensed to pay television, but also to eliminate competition in the network programme service market through the manipulation of the price of Premiere's product."

The Court argued that these higher prices would be passed on to consumers. There was no discussion of why or to what extent higher prices would increase prices to consumers rather than involve a different division of quasi-rents between movie studios and programme services.

Finally, the Court found that an injunction was justified, prior to a trial on the merits, because of the likely effects of the agreement on price and on competitors, and because of the possibility that the smaller competing networks Showtime and The Movie Channel (the latter had started operation just a year earlier) could be put out of business before a trial on the merits could be completed. The preliminary injunction was granted three days before Premiere was to begin service.

In 1982 and 1983, in a second matter involving pay-supported programme services primarily for cable distribution, the Antitrust Division of the US Department of Justice reviewed joint venture proposals that merged Showtime and The Movie Channel, at that time the second and third largest cable pay programme services after HBO.[370] The original proposal was for a joint venture that would merge Showtime, owned by Viacom International with interests in television programme production, syndication, cable distribution systems and other cable programme services, and The Movie Channel, owned by Warner Communications, parent of Warner Brothers, and American Express, who together are owners of cable distribution systems and other cable programme services. The new joint venture would be owned by Viacom, Warner, and American Express, plus two other movie studios, Paramount and Universal. The joint venture agreement, unlike the Premiere agreement, did not guarantee Showtime and The Movie Channel exclusive or non-exclusive rights to the films of the participating movie studios or specify any payment formulas for the purchase of rights. After review of the joint venture as originally structured, the Division informed the parties it would challenge under the antitrust laws if they proceeded. The joint venture then was restructured to eliminate the participation of Universal and Paramount and, after the Division indicated it would not challenge, the deal was consummated in 1983.

The Division does not issue detailed analyses of the results of its reviews of proposed mergers. In this case, however, an economist, Lawrence White, who at the time was Director of the Economic Policy Office in the Antitrust Division, has published his own analysis of the proposed joint ventures, although he explicitly points out that his analysis cannot be taken as representing the Division's position.[371] In his analysis, attention is focused on the effects of merging the two programmes services, of the joining of three movie studios in the joint venture, and of the vertical link between the movie studio owners of the joint

venture and the programme services. Other aspects of the joint venture, such as the interests held by the owners of the joint venture in cable distribution systems and in other cable programme services, were not seen as raising problems due to the structure of those markets and the nature of the agreement. White also concluded that a simple merger of Showtime and The Movie Channel probably would not allow increased exercise of market power. He questioned claims that programme inputs other than recent movies and the programme services based on them were sufficiently good substitutes to be in the same product market and prevent the exercise of market power, but concluded that entry into pay-supported movie-driven pay services was sufficiently easy to deny market power, although the decision was "a close one". White also concluded that the structure of the agreement was too loose to facilitate horizontal collusion among the participating movie studios.

Where the original proposal did threaten competition, in White's analysis, was in forming a vertical link between three movie studios and the two pay programme services. The problem was not a simple one of foreclosure or the leveraging of upstream market power by movie studios. Apart from the analytical limitations of such analyses, it was doubtful that the movie studios could monopolize the downstream market by acquiring ownership of two programme services that together accounted for only about 30 per cent of all subscribers to pay, movie-based services.[372] Instead, White argued, the vertical link might increase the exercise of market power by allowing the merged entity to raise the costs of its rivals. The merger, he argued, could increase the incentive for coordinated behavior by upstream suppliers that would increases the prices of rights to recent movies. This would raise the costs of rivals to the merged entity who purchased these inputs. The merged entity would avoid the effects of this coordinated behavior because it could acquire inputs internally without paying the increased market price, and then could earn increased profits at the expense of the rivals whose costs were increased.[373] White argued such a result was a substantial risk so long as the joint venture created a vertical link with the three movie studios, which together supplied a substantial share of the rights of recent motion pictures. The revised proposal, however, did not raise the same problems; Paramount and Universal were no longer involved, leaving a proposal that involved little more than a simple merger of Showtime and The Movie Channel.

In other cases US courts have found for or accepted product market definitions much broader than particular types of programme services, although in these cases the product market definitions have not always been based on full examinations of evidence.[374] In *United States v. Syufy Enterprises*, Inc., 712 F. Supp. 1386 (N.D. Cal. 1989), the district court found for a broad product market that included first-run theatrical distribution of film, cable television distribution of films, and distribution on videotape. The defendant, who owned a regional group of motion picture theaters, was alleged to have acquired monopoly power as an exhibitor or monopsony power as a purchaser of first-run films by acquiring additional theaters in the area. The district court, reviewing evidence on the cross-elasticity of demand by consumers between various means of distributing films, concluded that the downstream product market included not only first-run theatrical distribution, but also later, so-called sub-run distribution, and distribution to the ancillary markets of cable television (both regular services and pay-per-view) and home video. The district court also found for a broad upstream product market based on evidence that distributors could release films to the ancillary markets as a substitute for first-run theatrical distribution. The Ninth Circuit found it unnecessary to examine the downstream product market definition in order to affirm the decision, but did overturn the broad upstream market definition as harmless error, saying the evidence relied upon, that some films were released directly to cable or home video, was insufficient to show that ancillary markets were good substitutes for first-run theatrical distribution of other films.

In *Satellite Television & Associates Resources, Inc. v. Continental Cablevision of Virginia*, Inc., 714 F.2d 351 (4th Cir. 1983), *cert. denied*, 465 US 1027 (1984), the district court found a broad product market that included "cinema, broadcast television, video disks and cassettes, and other types of leisure and

entertainment businesses for customers who live in single-family dwellings and apartment houses". The finding, however, was based not on a review of evidence but on stipulations by the parties that these various services were "reasonably interchangeable" and in competition with each other. On appeal, the plaintiff did not dispute the market, but attempted to argue that pay television was a "submarket". The Court of Appeal rejected the argument (after noting that use of the term "submarket" was to be avoided as only adding confusion) on the grounds that the plaintiff had the burden of proof to establish a product market and, especially in light of the stipulations in the case, had failed to meet this burden by providing evidence that pay television was a separate product market or submarket.

A broad product market also was found, or at least a narrow product market rejected, in *Cable Holdings of Georgia, Inc. v. Home Video, Inc.*, 825 F.2d 1559 (11th Cir. 1987). In this case, one cable company brought suit against two other competing companies with a claim, among others, that the merger of the two competiting companies violated section 7 of the Clayton Act. The jury, in evaluating this claim, determined that cable television was not the relevant product market. Instead, said the Court of Appeals, the jury apparently "accepted the defendant's contention that the appropriate product market was passive visual entertainment which includes cable television, satellite television, video cassette recordings, and free over-the-air television". The Court of Appeals ruled that this finding by the jury was not clearly erroneous (the standard for overturning a jury product market finding); in support of its ruling the Court noted that other circuits had found similar product markets and cited *Satellite Television & Associates Resources, Inc. v. Continental Cablevision of Virginia, Inc.*, discussed in the previous paragraph.

European Communities

In general terms the Commission intervenes in the broadcasting sector on the same basis as in other sectors, that is to say by applying the rules of competition to enterprises active in broadcasting (Articles 85, 86 and 90 in particular). A second principle relied on as a basis for intervention is that agreements between enterprises should not prejudice the creation of a single market. The main concern of the Commission is to maintain open broadcasting markets and to prevent entry barriers from being erected. In television the Commission is sensitive to the need to preserve access to attractive programmes on the part of all competitors. In particular long-term agreements between firms which prevent market forces from operating over a long period of time must be avoided.

The Commission tailors its application of competition law in broadcast cases to the particular characteristics of the sector, the cultural mission that it assumes, and the structural weaknesses from which it suffers, particularly at the production and distribution levels. Thus favourable decisions have been taken in relation to rationalization and economies of scale realised by means of co-operation agreements between enterprises, while ensuring that the competitive situation is not threatened. The Commission may grant an exemption in cases of acquisitions or common distribution allowing rationalization on condition that no obstacle prevents competitive entry to the market in question.

In the case of subsidies, the Commission also adopts a positive attitude towards measures to promote broadcasting and, in particular, independent production and distribution on account of the structural weaknesses of these two sectors in Europe.

Mergers and acquisitions in the broadcasting sector may also be subject to the merger control regulation. Such concentrations, however, may go beyond the rules of competition in that they raise issues of the pluralism of the media. The Commission has taken the position that its competition policy instruments are not always appropriate to gauge whether pluralism is endangered either because separate markets are

involved by definition in multi-media transactions or because pluralism may be endangered by a particular transaction while competition is not. In addition, the quantitative thresholds for the application of the Regulation may not be achieved. Article 21 of the merger control Regulation therefore allows Member States to implement national legislation to preserve media pluralism; thus a particular concentration may be prohibited by an individual State because it would affect pluralism even though it might have been authorised by the Commission because competition at the Community level was not affected.

The Commission has decided several important competition matters involving the audiovisual sector in general, and the broadcast industry in particular.

The first case discussed here involved the granting of exclusive television distribution rights. In 1984, the Association of Public Broadcasting Organisations in Germany (ARD) concluded with a subsidiary of the American Company Metro-Goldwyn-Mayer/United Artists (MGM/UA) agreements on television broadcasting rights and all new feature films to be produced by MGM/UA from 1984 to 1988.[375]

The Commission objected to the agreements, considering that the number and duration of the exclusive rights acquired by ARD rendered access for third parties unreasonably difficult. The ARD organisations agreed to allow the licensing of the films to other television stations during so-called "windows". The windows designate certain periods relating to individual films during which the exclusivity granted to the ARD organisations is lifted, and during which the ARD organisations themselves will not use the films. The windows vary in length between two and eight years. In addition, the ARD organisations now allow licensing throughout the contract territory to other television stations wishing to show non-German versions, which was previously prohibited under the agreements.

In light of the increased scope for third parties to gain access to the films, the Commission in 1989 exempted the agreements under Article 85(3). The Decision was the first of its kind to make clear that agreements involving exclusive television rights can be contrary to the Community competition rules because of the number and duration of the rights and that an exemption is possible only if suitable access facilities are available to third parties.

In a 1991 decision the Commission found that the operation of the transnational satellite television sports channel, Eurosport, as set up, was contrary to the rules of competition of the European Community.[376] This decision was taken following a complaint registered with the Commission by Screensport, a similar type of sports channel, against a series of agreements between the Eurosport Consortium, consisting of members of the European Broadcasting Union (EBU), and Sky Television/News International. In its analysis of the market, the Commission concentrated on the broadcasting of sports programming.

The Commission accepted Screensport's complaint that the agreements were contrary to Article 85(1) of the Rome Treaty in that they restricted or distorted competition in two ways. First, according to the Commission, these agreements restricted potential competition between Sky and the EBU members of the Eurosport Consortium, who but for the agreement might have offered competiting sports channels. Second, the agreement restricted or distorted competition with third parties seeking to broadcast sport events. The agreements gave Eurosport unrestricted and privileged access to the Eurovision-system of the EBU. The Commission noted that EBU members reserve exclusivity for themselves for all rights to live sports programmes that they produce or acquire, and the agreements gave Eurosport access to these programmes, while third parties could have only limited access through sublicenses. As a result, third parties, and especially other transnational sports channels were deprived of "an equal opportunity to compete with Eurosport for such programmes".[377] The disadvantage of third parties was reinforced because Eurosport

had access free of charge the signal transmitting programmes from the host nation, the same as other members of the EBU, as part of the EBU's Eurovision system of reciprocity.

The Commission refused to grant an exemption under Article 85(3). First, while acknowledging the achievement of Eurosport in setting up a transnational sports channel, this did not constitute an improvement in production or distribution within the meaning of Article 85(3) "if, in practice, its effect is a disproportionate distortion of competition in the market in question".[378] Second, the introduction of the Eurosport channel did not constitute a qualifying benefit to consumers since "consumers may be better served by being able to make an informed choice between at least two channels offering an equally wide variety of European sports programmes".[379] Third, the Commission was "not convinced that a transnational sports channels such as Eurosport could only come into existence on the basis of such a joint venture between a group of members of the EBU...and the most likely main competitor capable of creating an alternative venture".[380]

Finally, the Commission considered and rejected a claim by the Eurosport Consortium that the agreements qualified for an exception from competition rules under Article 90(2). Article 90(2) provides that undertakings entrusted with the operation of services of general economic interest must not be hindered by the competition rules from performing the particular tasks assigned to them. The Commission, denying the claim, argued that it was doubtful that the national obligations imposed on the national broadcast organisations that were members of EBU and the Eurosport Consortium extended to the transnational activities of Eurosport, and in any case that there was nothing in the application of Article 85(1) that would prevent the fulfilling of these obligations.[381]

It is worth noting that the scope of access for members of the EBU to sports programmes which are purchased jointly is the subject of another proceeding relating to the rules of the EBU, including the Eurovision system.

In early 1992, the Commission decided a merger case in the broadcasting industry.[382] The case concerned a notified joint venture agreement between five enterprises to exploit a license awarded in the United Kingdom to Sunrise to provide national breakfast-time television on Channel 3 from 1st January 1993. Three of the five partners to hold share capital in Sunrise -- Scottish Television, London Weekend Television (LWT), and Carlton Communications -- were themselves awarded (regional) Channel 3 licenses.[383] In its analysis, the Commission noted that on the basis of the information available to it there was no separate market for breakfast-time television advertising and that "it is reasonable to assume that the joint venture arrangement will give rise to coordination in the sale of television advertising between the regional broadcaster parents, and, in this context, between the parents and Sunrise".[384] The Commission decided, however, that the joint venture did not constitute a concentration within the meaning of the Regulation since three of the participants in the joint venture -- LWT, Carlton and Scottish -- would continue to coordinate their competitive behavior among themselves and the new entity Sunrise. Article 3(2) of the Regulation states that "an operation, including the creation of a joint venture, which has as its object or effect the coordination of the competitive behavior of undertakings which remain independent shall *not* constitute a concentration within the meaning of paragraph 1(b)" (emphasis added).

Also in early 1992, the European Court of First Instance annulled a decision of the European Commission rejecting a request for interim measures presented by the French channel, LA CINQ.[385] This channel considered that it had been discriminated against by the EBU, which did not accept it as a member although, according to LA CINQ, it fulfilled the statutory criteria for membership. LA CINQ claimed that it suffered irreparable harm because of the fact that it had no real access to the sport programmes that are acquired by the EBU or exchanged by its members within the framework of the Eurovision system.

The Court of First Instance stated that the Commission, in assessing whether LA CINQ was suffering irreparable harm, should have taken into consideration the fact that the EBU, due to its significant position on the market, influences the access of non-members to the programmes and reduces the competitive possibilities of a broadcaster acting alone on the programme procurement market.

An earlier case involved the publication of television guides and copyright issues, rather than broadcasting activities *per se*.[386] In 1988 the Commission adopted a prohibition decision under Article 86 against Radio Telefis Eireann (RTE) of Ireland, the British Broadcasting Corporation, and Independent Television Publications (ITP) in connection with their refusal to license the publication and sale of weekly television guides containing full details of all their programmes in Ireland and Northern Ireland. The action in this case arose from the complaint of an Irish publisher who had tried to produce a weekly guide but had been refused permission by the companies concerned and was being threatened with legal proceedings for breach of copyright.

The Commission considered that the companies involved had abused their dominant position by preventing the publication of the guide and had thus restricted the markets to the prejudice of consumers. This decision is in line with the Commission policy concerning the relationship between copyright and competition law.

The decision of the Commission was appealed by the RTE, BBC and ITP before the European Court of First Instance, but the Court dismissed the actions. The Court of First Instance confirmed that a copyright owner must observe the limits imposed by competition law when he exercises the rights conferred by intellectual property.[387]

The Court stated that, while it was plain that the exercise of the exclusive right to reproduce a protected work was not in itself an abuse, that did not apply when, in the circumstances of the case, it was apparent that the exercise of that right pursued an aim manifestly contrary to the objectives of Article 86. The conduct of the organisations concerned was motivated in reality by the desire to maintain a monopoly in the derived market for weekly television guides and thereby exclude competition from a potential entrant to the market. It was therefore not justified by the peculiar requirements of broadcasting or of the publication of television magasines. This judgement has been appealed to the European Court of Justice, which has yet to give its decision.

A final, important decision by the Commission involving the audiovisual sector concerns the broadcast industry more tangentially; the discussion here only considers aspects of the decision that involve the broadcast industry. In 1989 the Commission granted a five-year exemption to a series of agreements entered into between Paramount Pictures Corporation, MCA Inc., and MGM/UA Communications Co. creating and organising a joint venture, United International Pictures (UIP).[388] UIP has exclusive distribution and licensing rights within the Community for feature films produced by its parent companies for exhibition in cinemas. The parent companies argued that by pooling their distribution activities in the Community they could gain efficiencies by avoiding administrative duplication.[389]

Under the agreements as originally notified, the exclusive license granted by the parent companies to UIP included all rights for exhibition by pay television, although not for exhibition by broadcast television or by videocassette. Before granting an exemption, the Commission required a number of modifications to the agreements. Among the modificiations required was that the agreements relating to pay television be deleted from the list of agreements submitted in the notification and thus from the agreements exempted. UIP and the parent companies, however, reserved the right to submit a separate notification of the

agreements concerning pay television exhibition rights.[390] Agreements concerning UIP's handling of pay television exhibition rights are currently under consideration by the Commission.

In deciding on the remaining agreements involving cinema exhibition, the Commission ruled that the agreements did fall within the scope of Article 85(1) since the parent companies of the joint venture were at least potential competitors in the market in question, that in which distributors compete with each other to obtain the best terms and viewing slots from exhibitors.[391] The Commission also concluded that the modified agreements satisfied the conditions for exemption set out in Article 85(3).

The Commission pointed to the relationship between theatrical distribution and broadcast distribution in its explanation of why the agreements satisfied the Article 85(3) conditions for exemption. The Commission argued that the agreements provided "economic benefits for the production and distribution of motion pictures and for consumers, which could not be achieved in the absence of the joint venture and which outweigh its disadvantages".[392] The Commission found that the agreements allowed efficiency in distribution that "ensures the maintenance of an economically viable distribution network in a deteriorating market where high financial risks are present". The Commission argued that a "remarkable decline in admissions and box office receipts" was of particular importance and that a "relevant factor in this process has been the impact on the industry of new technologies associated with television, i.e. cable and satellite television and videocassettes, the role of which as media for film presentation has been continuously growing to the detriment of cinemas.[393] In this environment, the Commission argued, "The formation of the joint venture itself is indispensable to continuation of the international distribution of the parent companies' films.[394]

Other aspects of the decision dealt with such matters as whether consumers shared in the economic benefits of the agreement, the nature and effect of the exclusive agreements, and the ability of the parties to the agreement to eliminate competition for a substantial part of the products in question; the Commission's discussion of these points did not directly involve the broadcast industry.

Chapter 11

CONCLUSIONS

The recurring theme of this report is the important and increasing role that market forces play in many Member countries in determining the supply of broadcast services. When market forces are relied upon, consumers demand video and audio programming, whether for entertainment or information, and are willing to pay for subscription services or to watch (or listen to) advertiser-supported programming. Advertisers demand airtime to get their advertising messages to consumers. Broadcasters satisfy these demands by supplying delivered programming, either to sell to consumers or to generate audiences so that airtime can be sold to advertisers. To satisfy the demand for programming, broadcasters in turn demand the inputs needed: the means of distributing the programming and programme services. Subscription fees or sales of advertising airtime (or both) provide revenue to cover the costs of delivering the programming -- whether by traditional broadcasting services, or by cable, DBS or MMDS services -- and the costs of supplying schedules of programming. To supply their programme services, networks demand broadcast rights to programming, which encourages new programming. To satisfy this demand, producers demand talent, the use of equipment and studios, and other inputs used to produce the programming itself. Thus the final demand of consumers, or of consumers and advertisers, anchors a vertical chain of derived demand, exchanges, and production stretching back through various intermediate inputs to the basic inputs. At each stage, buyers and sellers decide what and how much to buy, and producers what and how much to produce. The choices at each stage may be, and often are, constrained by various public broadcast policies, but in important measure they also are market choices. The sum of these choices is the supply of broadcast services.

Many, although not all, Member countries have chosen to rely at least in part on market forces to determine the supply of broadcast services, and the role of the market is increasing. Since 1980 many Member countries have authorised new private broadcast channels for both television and radio, in some cases allowing private broadcasting for the first time. Equally important has been the growth and development of multichannel video distribution systems: cable systems, DBS, SMATV, and (much less used thus far) MMDS. These new distribution methods, breaking through the constraint of a limited traditional broadcast spectrum, have increased the channels of video programming available to many consumers in Member countries from perhaps half a dozen to two, three, or four dozen or more. Market choices, albeit made within a framework of public regulations, often determine how many channels of programming these services supply, what that programming is, and what is charged for the services. Over the next ten years these services, probably along with other new broadcast services, can be expected to expand, further increasing the role of the market in the supply of broadcast services.

The importance of markets in determining the supply of broadcast services in turn leads to the fundamental conclusion of this report: competition policy should be concerned that the competitive process functions efficiently in broadcast markets. This basic goal of competition policy is as relevant for broadcast markets as for other markets in other industries. Broadcast markets will more efficiently and effectively satisfy the demands of consumers when the competitive process prevents broadcast firms from exercising market power. Competition policy attempts to preserve the restraining effects of competition by preventing

firms from reaching agreements or consummating mergers that would allow an increased exercise market power, and by preventing firms from pursuing anticompetitive or exclusionary practices that would allow them to improperly acquire or maintain market power.

This report has focused on understanding the economic functioning of broadcast markets and on how to analyse competition policy issues in the broadcast industry. In practice, however, public policies as well as market forces are important in determining the supply of broadcast services, and public policies pursue objectives other than competition and the efficient functioning of markets. The analysis of broadcast markets must acknowledge the first point, and the application of public policy, including competition policy, must acknowledge the second.

In all Member countries public policies as well as market forces strongly influence the supply of broadcast services. Public broadcasters, who continue to be important in many Member countries, may rely in whole or in part on public revenues and be directed to achieve particular programming or other objectives. Private broadcasters are subject to a variety of public broadcast policies that may control entry and constrain or direct their choices as suppliers. Often, however, these policies influence or constrain market choices rather than supplant them. Private broadcasters still make economic choices as suppliers of output and purchasers of inputs, although policies shape the market environment in which the choices are made, constrain the choices that may be made, or alter the profitability of various choices. Public broadcasters make choices that respond to market forces as well as public directives to the extent that they rely on private as well as public sources of revenue and, like private firms are thereby motivated to make input and output choices that increase their net revenues.[395] In such cases the supply of broadcast services and the behavior of broadcast firms depend neither on market forces alone nor on public policies alone, but on their interaction.

Rarely, if ever, is the goal of preserving competitive and efficiently functioning markets the only objective influencing public policy toward an industry. The precise objectives vary among Member countries. The objectives of some broadcast policies may be based on the importance to democratic societies of preserving the public's access to a range of information and opinions and of preserving the freedom to express information or opinions. The objectives of other broadcast policies may be based on broadcasting's role in expressing cultural values. Still other public policies may be based on economic and non-economic objectives other than competition that are less specific to broadcasting and other media. This report makes no claim that competition policy and its objectives should take precedence over other policies and objectives; instead it concludes that competition is also an important objective for the broadcast industry, and therefore should be weighed against other public policy objectives.

Competition policy can work for competitive broadcast markets in two ways. The first of these is to enforce rules comparable to those that apply to other markets and industries. In the broadcast industry, as in other industries, competition policy should prevent horizontal agreements between competing firms that reduce competition, apply rules of merger control, control practices that reduce competition, and evaluate the competitive effects of vertical contract terms and mergers. At the same time, competition policy should take care to avoid limiting business arrangements and agreements that are procompetitive or otherwise promote efficiency. The objective of these policies is not to preserve the viability of individual competitors but the process of competition and the efficient functioning of markets.

Much of this report has been devoted to discussing how the conventional analytical tools competition policy uses to implement such enforcement policies can be adapted to the broadcast industry. Conventional tools of structural analysis can be used to define relevant broadcast product and geographic markets, to evaluate to what extent entry will prevent the exercise of market power, and, if entry is not likely, to evaluate whether existing suppliers in the market will have the ability and incentive to prevent the exercise

of market power. Competition analyses of structure and other market conditions can be used to evaluate the likelihood that a broadcast firm or a small group of broadcast firms could exercise market power as sellers, or to evaluate whether a single broadcast firm or small group of firms could exercise monopsony power as buyers. The analysis can distinguish exercises of monopsony power, which restrict supply to the market, increase prices to final consumers, and harm efficiency, from exercises of bargaining power that are unlikely to affect prices to ultimate consumers but instead determine the division of rents from popular programming between different firms.

Competition analysis also should evaluate the effects on competition of vertical relationships: that is, the effects both of terms in vertical contracts that control in some degree the behavior or one or the other partner to the agreement, and the effects of vertical integration. Neither is necessarily a threat to the competitive process. Detailed vertical contracts either between programme producers and programme services or networks or between programme services and video distributors can promote efficiency in a variety of ways: reducing transaction costs, controlling opportunistic behavior that discourages efficient investments in a continuing relationship, or controlling externalities that distort choices by each firm. Vertical integration may accomplish similar purposes, whether the commonly owned upstream and downstream producers continue to do business with other firms, or instead do business primarily with each other and thereby replace market transactions with internal transactions. On the other hand, vertical contracts or integration also may be used in some circumstances to reduce competition. Firms that already have market power may be able to use vertical contract terms or integration to exercise that market power more completely by increasing their control over behavior in a downstream market; to determine the effect on competition the nature of the control must be analysed carefully to determine if efficiency and consumer surplus are likely to be harmed. Competition policy also should be concerned, in broadcast markets as in others, with the possibility that a firm may use vertical contracts or integration to harm rivals by exclusion or foreclosure, with the consequence that the firm increases the market power it can exercise. Again, however, careful analysis is needed to distinguish market circumstances in which exclusion can indeed harm the process of competition; exclusion will not necessarily harm rivals, and some rivals may be harmed without giving the firm any ability to exercise market power.

All these analyses of competition conditions in broadcast markets must consider the effect of broadcast policies. Public policies frequently will affect the prospects for entry by new competitors, either by directly controlling entry or by affecting the entrant's prospects for profits. Policies also may affect competition among existing suppliers. The mandates and structure of public broadcasters may affect how they would react to attempts by another firm to exercise market power. Broadcast policies also may change the competitive responses of private firms by changing their ability or incentive to expand supply or undercut the price of a rival that tries to exercise market power.

Competition policy enforcement rules take other policies as given parts of the market environment. These policies, however, may themselves have strong effects on the efficiency of the competitive process. The second role of competition policy is to help shape broadcast policies and regulations by evaluating their effect on the competitive process. In this way the goal of competition, as well as other goals, can be considered in setting these policies or regulations.

The role of competition policy is clearest in the shaping of regulations that go beyond normal enforcement policy, but that are motivated in large part by competition concerns. An example is policies toward cable systems, or other multichannel video providers, motivated by worries that they may exercise market power. Competition policy can contribute, first by analysing market conditions to determine whether and to what extent multichannel video providers can exercise market power -- are other more traditional broadcast services and perhaps non-broadcast services sufficiently good substitutes to prevent the exercise of

market power? If market power potentially is a problem, competition analysis can evaluate the effects of alternative regulatory policies. Among the regulatory options are constraining prices to the measured cost of service, limiting the price level or increases in prices without measuring costs directly, and requiring separation of video delivery services and programming services so that video delivery services may be sold at a separate, regulated, nondiscriminatory price. Each policy has some potential benefits if the video supplier otherwise could exercise market power, but each also has disadvantages and is likely to impose some costs and inefficiencies. Finally, competition analysis can help evaluate an alternative policy of reinforcing competitive forces by modifying broadcast policies that directly or indirectly limit new entry or the competitive effectiveness of existing rivals. This last option requires both evaluating the effect on competition and efficiency of allowing additional entry, and balancing competition objectives against other objectives served by the policies that might be modified.

Many other broadcast policies serve objectives other than competition, but here too competition policy can play a useful role. It still will be desirable to consider the effect of these policies on the competitive process and on market behavior. The other objectives and those of competition may point to different policies, but it is desirable to consider the full effects of a policy, including its effects on competition, before adopting it. Alternative policies may be found that allow the first objective to be served nearly as well but with less harm to competitive forces. For example, a public authority may be reluctant to authorise service by more than a single cable system because of the real costs of inconvenience imposed each time a system digs up public rights of way to install cable. An alternative policy, which also would take account of these costs but would not completely block entry, would be to impose on both first and second suppliers charges for installing cable in public rights of way whose level depended on the amount of right of way affected, the degree of disruption, and the period of the disruption. The alternative would give installing cable companies an incentive to minimize these costs of installation, and would not prevent entry when a second service thought it could offer a sufficiently improved service or price that it was willing to bear these costs.

Conflict between the objectives of competition policy and other broadcast policy objectives should not be overestimated, however. Sometimes the different objectives may reinforce one another. One aspect of the objectives of freedom of expression and of maintaining a diversity of views or programming is a concern that control over access to broadcast media not become too concentrated, that there not be too few "gatekeepers" as they sometimes are termed. Competition policy also is concerned about concentration of control. The two objectives are concerned about somewhat different ways in which the control might be exercised, and thus might disagree on an acceptable level of concentration. Policy analysis is helped, however, by realizing that policies that reduce concentration for one purpose also may help serve the other. Indeed, the tools that analyse the effects of concentration on competition also may help analyse its other effects. Competition analysis will consider the extent to which different media are sufficiently good economic substitutes to be considered in the same market. Whether different broadcast services or different media are sufficiently good substitutes for purposes of competition analysis, however, also may shed light on whether they are sufficiently good alternative sources of information or means of expression that they should be considered together in evaluating an acceptable level of concentration for these objectives. Another aspect of the objective of diversity is the realized diversity of programming. The analysis of this report has shown how choices of programming for market-driven firms are economic choices. The realised diversity of programming will depend on the number of channels of programming that are viable and the degree of competition, and this in turn will depend in part on a variety of broadcast policies. Thus policies that allow entry and encourage the viability of more rather than fewer channels of programming may serve the objective of an increased diversity of programming as well as objectives of competition. Again, the point is not that all public policy objectives can be satisfied by following the objective of competition; rather, the

point is that the evaluation and choice of policies will be helped by careful consideration of the extent to which competition and other policy objectives are congruent.

Finally, an analysis of the economic effects of policies also may help show whether they will succeed in achieving goals other than those of competition. Broadcast firms react to broadcast policies by making different economic, market choices; rarely if ever do policies mandate a particular result and have no further repercussions on the behaviour of broadcast firms. These reactions also are consequences of the policy, and when they are considered the policy either may not serve its own objective well, or may undermine other, non-competition objectives. The analysis in previous chapters suggests some of the kinds of unintended effects that are possible (although these effects are not inevitable and, as stressed there, in each case a careful analysis of the specific policy will be necessary to determine its effects).

As a first example, policies might limit the rights that networks can acquire from independent producers or otherwise restrict contract terms with the objective of encouraging independent production and a diversity of sources of programming. Economic effects of the regulations could undermine these objectives. For example, preventing networks from purchasing rights to non-network distribution could increase the risk that independent producers must bear and reduce their ability to use networks as (possibly) lower cost sources of capital. The effect could be to benefit a few larger, established producers at the expense of smaller independent producers less able to bear risk or turn to alternative sources of capital; such consequences would discourage the emergence of new producers and tend to result in fewer, larger independent producers of programming.[396] Restrictions on vertical contracting also could make vertical integration relatively more attractive if it reduces the efficiency of organising transactions by vertical contract. Such a consequence, rather than encouraging independent production, could encourage programme services to rely on their own production subsidies as much as possible.

Policies involving vertical relationships do not provide the only examples. Policies controlling programming choices could, if they affect the viability of programme services or broadcasters, have the perverse effect of reducing the amount of the desired type of programming broadcast. Restrictions on advertising could have a similar effect, either by reducing the number of services that are viable or by reducing the payoff to increased expenditures on programming. Requiring multichannel video distributors, such as cable systems, to sell video transport at uniform, nondiscriminatory prices could reduce the number of channels of service provided and prevent programme services that appeal to smaller audiences from being viable. These examples are sufficient to make the point that the economic effects of broadcast policies, and of firms' reactions to them, must be considered not only to evaluate how well the policies serve the objectives of competition policy but also to determine how well they serve other public policy objectives.

Many Member countries have chosen to allow market forces to play an important role in determining the supply of broadcast services. In doing so, often they have taken advantage of the opportunities that new distribution technologies offer for breaking through the limitations of spectrum allocated to traditional broadcasting and for satisfying consumers' demand for an increased supply of broadcast services. Where Member countries choose this course, competition policy will not replace other objectives of broadcast policy, but competition policy does have an important role to play in insuring that broadcast markets function efficiently and competitively to serve consumers.

Appendix A

MONOPSONY POWER, BARGAINING POWER, AND EFFICIENCY

Two important characteristics of markets in which programme rights are bought and sold are, first, that programming is far from homogenous and particularly popular programming will generate revenues substantially greater than the costs of production and distribution and, second, when a programme is produced the net revenues it will generate are unknown. Both characteristics are discussed in Chapter 5. The effects of these characteristics on broadcast markets and efficiency are discussed in Chapter 6; this appendix presents a more detailed analysis of the same issues.

Buyer bargaining power and the prices of popular programming

Networks choose from among a group of programmes expected to generate different net revenues; the choice of programmes and the pricing of rights was modeled in Chapter 5.[397] Some of these programmes will generate revenue in excess of the costs of broadcasting supplying it. In such cases, there is room for buyer and seller to bargain. It will be profitable for the producer to produce the programming so long as the price paid for rights covers his costs of production; this is the minimum price he must receive to be willing to supply the programming.[398] The maximum price the network would be willing to pay for rights would be the costs of supplying the programming plus the difference between the net revenues generated by this popular programming and by marginally profitable programming. Where the deal is struck between these two amounts will divide between producer and network the differential net revenue generated by the programme's popularity, which in economic terms are quasi-rents.

The bargaining over the division of quasi-rents creates a new and different role for network buying power. The bargaining position of networks certainly will be affected by the number of networks and their relative ability to attract viewers. It is important to be clear about the economic effects such bargaining power does and does not have. The extent of network bargaining or buying power clearly can affect the prices paid for programming rights and thus how the rents generated by particularly profitable programming are divided. Clearly network bargaining power can affect both the earnings of producers of popular programming and the profits of networks.[399]

Network bargaining and the division of rents between producer and network generally should not affect which programmes are produced and which are broadcast by a network.[400] The minimum and maximum prices that define the bargaining range are, respectively, the minimum price the producer must receive to supply the programming and the maximum price the network will pay before purchasing rights to less popular programming. Regardless of how much bargaining power a network possesses, it has no incentive to try to extract a price below this range when doing so would deter the supply of programming that adds to their profits. So long as the producer receives at least this minimum price, it will be more profitable to produce the programming even if network bargaining power prevents the producer from capturing any other quasi-rents. At the upper end of the bargaining range, a network will choose the programming that

generates the greatest net revenue even if forced to pay a price for rights that transfers to the producer most of the differential net revenues generated by that popularity.[401]

These results imply that the division of rents between producer and network does not directly affect economic efficiency. Efficiency in the market for the sale of rights is not harmed, because the division of rents does not affect the supply of programming rights or which network purchases those rights. The division of rents also should not affect prices or efficiency in downstream markets. The profit-maximizing level of consumer or advertising revenue the programming can generate determines the net revenues and quasi-rents generated by the programming but is not affected by how the price paid for rights divides those rents.[402]

The elasticity of programme supply revisited

The previous section argues that efficiency is not reduced if a network uses bargaining power to capture a bigger share of the quasi-rent generated by especially popular programming. Is it the case, however, that when a network is able to exercise such buyer bargaining power it also is able to exercise monopsony power, which does reduce efficiency? The analysis above concluded that a very elastic supply of programming will prevent a network from exercising monopsony power. The ability of some programming to earn quasi-rents implies that there is not a perfectly elastic supply of such popular programming. An elastic supply of particularly popular programming and an absence of quasi-rents, however, is not necessary to eliminate monopsony power.

To see why, assume there is a single network with sufficient bargaining power that it pays only the producer's reservation price or supply costs for programme rights and keeps all differential net revenue or quasi-rents generated by particularly popular programming. Whether this network also has a monopsonist's incentive to inefficiently reduce input purchases depends on whether a decision to buy rights to another programme will bid up the prices it must pay for other programmes.[403] Deciding to buy programme A will not bid up the prices the network must pay for other programmes all programming so long as the supply of the inputs used to produce programming are sufficiently elastic that the purchase of programme A does not bid up the reservation supply prices of the other programming. A limited supply of particularly popular programmes that earn quasi-rents, and of the particular inputs or combination of inputs that make them so popular, is not inconsistent with such an underlying elastic supply of the inputs necessary to produce the more general run of programming. A network therefore may have bargaining power without also having monopsony power, and without having an incentive to restrict purchases of programming in order to depress the price of programming it does purchase.

The effect of uncertainty about programme revenues

A further elaboration is necessary to bring the analysis of bargaining power and monopsony power closer to reality. Most production costs usually must be irreversibly committed before the programme earns revenue in distribution. When these production costs are committed, the revenues the programme will earn in distribution are unknown and uncertain. Some programmes will not cover the opportunity cost of the resources used to produce them, while others earn more than the cost of production. The market process that determines how many resources should be devoted to programme production is thus more complicated than the process described above in which, implicitly, known production costs are compared with known programme revenues and programming is produced for which revenues exceed costs.

In an analysis of market supply that recognises this uncertainty, holding the rights to programming is rather like holding a lottery ticket that offers highly variable payoffs both higher and lower than the price paid for it.[404] How many resources are drawn into the production of programmes (or lottery tickets) will depend on expected returns. If, for a given level of programme supply and based on the expected probabilities of various outcomes, expected revenues exceed the cost of production, more resources will be drawn into programme production and programme supply will increase. Supply will increase until the expected return to programming falls to a normal competitive return, assuming there are no barriers to entry into programme production and producers have no market power.[405] The supply of television programming to a buyer or group of buyers will be elastic enough to deny monopsony power if the quantity supplied can increase without bidding up the prices paid for inputs.[406]

The next step is to understand the process by which the supply of programming responds to changes in the expected distribution of returns on programmes and to see how it is affected by network bargaining power. At an equilibrium level of programme supply, there will be a distribution of programme winners and losers, with some programmes earning various levels of positive net revenues and others failing to cover costs. If demand then increases, this will be reflected in an increased number of programmes earning positive net revenues or an increase in the quasi-rents earned by successful programming or both. If the market is functioning efficiently, this increase in demand and therefore in expected earnings of programming should induce an increase in the supply of programming. Producers would benefit directly when successful programmes earned more quasi-rents and would respond with an increase in supply if they always could command a sale price for rights that captured all net revenues. But what happens if instead networks have sufficient bargaining power that they keep most of the quasi-rents and only pay producers enough to cover their production costs? What is the incentive of the producer to increase production in response to these increased returns to programming if he earns no more when programming earns higher quasi-rents? The answer is that whoever has bought the programming rights gets the higher lottery payoff, and if the expected payoff to lottery tickets goes up, so will the demand for lottery tickets. An increase in programme quasi-rents will create a market incentive for increased supply regardless of whether programme producers receive the increased quasi-rents. If network bargaining power allows them to capture increased quasi-rents earned by programming, their demand for programme rights should increase, which should lead to increased programme production even though network buying power prevents producers from sharing directly in increased quasi-rents.[407]

Uncertainty over programme revenues does not change the basic conclusions. Bargaining power affects the division of net revenues between programme producers and networks (or other purchasers of programme rights) but it is unlikely to affect the supply of programming. It therefore is unlikely to reduce the efficiency with which markets function. So long as there is an elastic supply of inputs used to produce programming, network bargaining power does not imply monopsony power, which does reduce the supply of programming and efficiency. A very elastic supply of programme inputs is sufficient to prevent the exercise of monopsony power by networks, but may not be necessary. Even if networks collectively face an upward-sloping supply curve of programming they will be unable to exercise monopsony power if the number of networks or the characteristics of the market prevent them from coordinating their purchasing behaviour.

Appendix B

CONTRACTING BETWEEN NETWORKS AND INDEPENDENT PROGRAMME PRODUCERS

Contracting between networks and independent programme producers is discussed generally in Chapter 7. This Appendix analyses in more detail, first, the nature of the contractual relationship and, second, the ways various contract terms might be used to increase joint net revenues by controlling opportunistic behavior, minimizing transactions costs, avoiding pricing distortions, and allocating risk.

Contracts versus bills of sale

A simple market exchange or transaction requires no real contractual relationship, only the specification of basic terms of sale: the price and the quantity or other characteristics of the good (or service) being purchased. Terms are specified by one of the transacting parties and accepted or rejected by the other. The parties are anonymous in the sense that a buyer or seller specifying terms has little incentive to complete the transaction with one party rather than another. If the terms of sale are not met, the transaction can be made with another buyer or seller. There is no presumption of a continuing relationship between the parties and no need for a contract to set rules to govern such a relationship.[408] Simple arms-length sales are efficient means of structuring some transactions. Other transactions present problems that can be dealt with more efficiently by establishing a continuing relationship, which is governed either by vertical contracts or by vertically integrating both activities under common ownership. Transactions between programme producers and networks present problems whose efficient solution may require some means of coordinating or integrating their vertical relationship.

These problems, and how contract terms might deal with them, can be illustrated by a stylized story of the problems faced by an independent producer and network if they tried to use a simple arms-length transaction for the purchase and sale of new programming. (As will soon be clear, the story is contrived to illustrate the nature of the relationship; no producer and network would have to go through these steps to negotiate their deal.) A producer proposes a new television programme with multiple episodes or shows, perhaps enough programme episodes that they could be broadcast over several years or seasons. Suppose the producer wants to sell the network broadcast rights for this programming in a simple arms-length transaction. (Assume that the programme is expected to earn the bulk of its revenues in its original network distribution, although other distribution rights also will have some value.) Such a transaction could be set up by producing a set number of programme episodes, say two years worth, before seeking any binding commitment from a network. Costs of production would be financed either by drawing on internal sources of capital or by seeking outside financing. Once the programmes were produced, the rights would be offered for sale in a single transaction.

Having the programming produced before rights are sold would simplify the transaction. There will be no continuing relationship in which performance of producer or network must be governed, so the transaction could be completed with a bill of sale rather than a full contract. Producing the programming before reaching agreement with the network, however, creates problems for both producer and network.

First, the producer is placed in a very poor bargaining position by having already committed the costs of production. The point is clearest if there is only a single possible network purchaser, or only one network on which the programme can generate sufficient revenues to cover the cost of production. In bargaining with this single potential buyer, already sunk production costs are not part of the producer's reservation price for selling the broadcast rights; the producer will be better off to sell than not to sell as long as the price for the rights covers any additional costs not yet committed plus any small contribution toward the sunk costs. The producer's bargaining position improves with additional buyers, but is still likely to be weakened by the early sinking of investments so long as there are a limited number of networks on which the programme can generate comparable net revenues.[409] Both producer and network suffer if, because of this bargaining problem, producers are reluctant to produce programming.

There are reasons other than bargaining problems why often it will be inefficient to produce all the programmes before testing their appeal to viewers. Information from the broadcast of early episodes could revise expectations of net revenues and prevent inefficient expenditures on later episodes. It also may be worth while to build in other decision points. Series programming produced for the large US over-the-air networks typically go through a series of screening stages at which further production may or may not be ordered: first the network orders a partial script or other "treatment" for programme ideas considered promising, for some of these projects a full script of a test episode or "pilot" is ordered, the network then selects which of these test episodes should actually be produced, and finally orders are placed for regular episodes of some of the programmes tested. The process is costly and therefore is not always used, but the investment will be worth while when the payoff to finding the most popular programming is high enough (and the screening process sufficiently improves the odds of finding a winner).[410]

One might imagine solving this last problem without establishing a continuing contractual relationship by setting up a series of independent arms-length transactions, one for sale of the pilot episode, another for sale of an initial number of regular episodes, and others for sales of additional episodes. That would not be very satisfactory for either producer or network. If the purchase of rights to the pilot gave the network no rights to purchase later episodes, the amount the network would pay for the pilot would be limited by the net revenue expected from the pilot episode as a stand-alone programme. A greater investment in programme design, sets, costumes and so forth might be efficient, but it is precisely such an investment for later payoff the network would not be willing to make because, with independent transactions, the network would have no claim to the later payoff. The producer could make the investment by selling rights to the pilot for less than the cost of production, but then the producer would have no assurance of receiving returns on such sunk investments in later independent transactions to purchase rights to regular episodes.

So far in this story the network has played only the role of buyer. In fact networks often participate actively in programme development. Networks collect information on audience tastes to choose a schedule of programmes, and that information often will be a valuable input in designing programming that is more attractive to audiences. Once programmes are scheduled for broadcast, network publicity and location in the schedule itself also become inputs that affect the net revenue the programme generates. The network will be unwilling to make these investments unless the transaction is structured so they can claim a return. These investments might be made by the producer, by hiring assistance from networks in programme development or paying for network promotion, but as already seen a producer committing these resources in advance may find it difficult to recover them. These difficulties are reinforced by another not yet discussed.

The revenue-generating capacity of some programming may be increased by adapting it to the audience and scheduling needs of a particular network. Tailoring the design of the programme input to one buyer, however, also may reduce its value to other networks buyers, thereby reducing the bargaining leverage

of the producer. Participation by a particular network in programme development makes it more likely the programme will be tailored to its demands. If networks are uniquely good sources of information on audience tastes, however, programme producers will have strong incentives to use that information. That in turn increases the importance of structuring the transaction so that producers have an incentive to use this information, even though it ties them more closely to a single network buyer.

The story to this point illustrates why transactions between producer and network often are continuing contractual relationships, rather than simple market sales. The producer will seek a commitment, or more properly a series of commitments, from a network buyer before producing new programming; the commitment may take the form of a series of options by the network to order further work at specified terms. The network may participate in programme development. Producer and network each may make investments in transaction-specific assets that will lose some or all their value if the relationship between this particular buyer and seller ends before the transaction is complete. The network stands to lose at least some of the value of its own contributions to programme development, of payments made for programme development, and of payments for pilot episode or early regular episodes.[411] The network might be able to shift production of later episodes to a different producer, but in many cases only at some cost.[412] To the extent the programming rights will not command as high a price from a different network buyer --either because the programme will generate lower net revenue on another network or because of the producer's bargaining position at this stage of production -- the producer stands to lose some of the value of uncompensated expenditures on programme development or production.

Contract remedies

Since network and producer will be committed to a contractual relationship, they will want to establish contractual rules and procedures that minimize opportunistic behavior, transactions costs, and other problems that would reduce joint net revenues. Producers and networks have a variety of tools to structure their contracts to minimize the effects of these problems. By continuing our stylized story, we can see how some of these contract remedies might work. The contracts networks and producers actually write can be expected to contain different solutions in different circumstances; both the problems and the effectiveness of the solutions will vary with the transaction and the parties.

The joint net revenues earned by producer and network will depend in considerable part on the quality and cost of the programming itself, which in turn will depend on production choices by the producer during programme production. A fundamental problem is to design incentives or controls or both that insure the producer makes choices that maximize joint net revenues, and not only the net revenues of the producer. To give a stark example, if the contract guarantees the producer a set payment for delivered programming with no further safeguards, the producer maximizes his own net revenue by producing the programming as cheaply as possible; production choices made to minimize costs with little concern for programme quality are unlikely to be choices that maximize joint net revenue. These are contracting problems: simple market discipline may not be enough because many choices will be made after buyer and seller already have committed resources to the relationship.

In principle, the incentives of the producer and those of producer and network together could be aligned by making the producer residual claimant of all changes in overall net revenue or profits. Then the effect of production choice on the producer's own net revenue and on joint net revenue is the same. Contracts are likely to use this technique to some extent. Producers realize some of the effects on net revenue of their choices when, instead of selling all rights to a network or others before production, they retain some rights, perhaps those to foreign, cable, satellite, or post-network distribution, and sell them after

programme production.[413] The producer also may be left a partial residual claimant if the network (or some other party) acquires a partial financial interest in returns to the sale of other rights, rather than purchasing the rights outright. Finally, the producer will be a partial residual claimant to the extent that agreed prices per episode exceed the incremental cost of producing an episode and programme quality affects the number of episodes purchased. Through one or more such mechanisms, contracts frequently give the producer some profit incentive to make production choices that maximize joint net revenues.

This remedy does not deal with all contracting problems, however, and contracts do not usually make producers residual claimants of all changes in net revenues.[414] First, making producers full residual claimants could increase transactions costs. Changes in revenue earned by the network from advertising or subscriptions would have to be paid to producers net of network costs. It often would be difficult to specify the incremental network revenues and costs due to a particular programming, and networks would have an incentive to manipulate the figures.[415] Attempting to make producers full residual claimants could lead to costly efforts to monitor network reports of revenues and costs and to settle disputes. Second, making producers full residual claimants would increase the risk borne by producers, which would increase production costs if that is not an efficient allocation of risk. Costs could increase both because of increased premia for bearing risk and because of an increased risk of producer bankruptcy that could impose additional costs and risk on networks.[416]

Third, and perhaps most important, making producers full residual claimants improves producer incentives but only at the cost of reducing the incentive of networks to make decisions that maximize joint net revenues. Joint net revenue will depend both on network decisions directly involving this programme and more generally on the efficiency with which the network is operated. If producers are full residual claimants, networks will no longer have a profit incentive to make decisions on programme scheduling or promotion that maximize joint net revenues, and payments to producers would depend to some extent on general network efficiency in such areas as selling advertising or subscriptions, and in choosing and scheduling programming.[417] The general problem is that decisions of both network and producer affect joint net revenues, but it is usually not possible to give both the proper incentives by making each of them residual claimants.[418] Something other than profit incentives must be used to control the decisions of two parties.

A variety of other tools are available. Since none is likely to be without its own limitations, contracts may use multiple, reinforcing methods. One of these is likely to be profit incentives; as noted above, producers (and networks) are likely to be at least partial residual claimants. Other tools can then reinforce this profit incentive. The first step can be to structure contracts to give the producer as strong a profit incentive to act in the joint interests of producer and network together without trying to make it full residual claimant.

Joint net revenues will not be maximized unless the costs of programming (of any given level of quality) are minimized. Even when they are not overall residual claimants, producers can be given a profit incentive to minimize costs by fixing the amount they receive for rights, so that changes in cost cannot be passed-through.[419] Setting a fixed price, however, is not without disadvantages. First, the fixed price may send unanticipated signals that reduce joint net revenue. If costs are lower than expected, so that the price per episode is substantially above the incremental costs of producing additional episodes, the network may not exercise options to order more episodes even though doing so would be efficient and increase joint net revenue. If costs are higher than expected and the price per episode fails to cover incremental costs, additional episodes may be ordered even though doing so is inefficient and reduces joint net revenues. Second, if the price exceeds incremental cost by less than is expected, the producer may be given too little incentive to continue the contractual relationship, making other direct controls unenforceable. Third, a contract provision strictly fixing the price may itself not be enforceable; the producer may be able to force

renegotiation by threatening to stop production. A price that fails to cover incremental costs may give the producer little incentive to continue while the network will suffer a loss if the producer withdraws.[420] Fourth, producers bear risks due to uncertainty about production costs, which may not be an efficient allocation of risk.

These problems often are reduced by specifying in the contract that certain cost changes which are outside the control of the producer and easily verified can be passed through. For example, the FCC Network Inquiry Special Staff (1980a) found that contracts often specify that changes in costs due to industry-wide contracts with labor unions could be passed through by adjusting prices for rights. In general, however, it will be costly to determine if changes in costs of production are "legitimate". Contracts will have to strike a balance. Strong incentives to minimize costs can be maintained at the cost of accepting the consequences of unanticipated relationships between price and cost. The desired relationship between price and cost can be maintained at the cost of increased transactions costs of attempts to identify "legitimate" changes in cost or weakened producer incentives to control costs.

Even if the producer has an incentive to minimize the costs of producing a programme of any given quality, the problem remains of having producers choose the level of programme quality and cost that maximizes joint net revenue. The producer's incentive to reduce quality and cost will be limited if it has a claim to some part of the payoff to higher programme quality, as when higher quality increases the probability of additional episodes being offered. A claim to only a portion of the effects of their decisions on overall net revenues, however, will not give a producer an incentive to choose as high a level of programme quality as would maximize joint net revenues. Producers, however, will have an additional incentive to make expenditures that improve quality if by doing so they can get or keep a reputation for quality that increases their chances of producing other programming. In other words, part of the payoff to investing in the quality of one programme may be a partial claim on net revenues from future programming.

The desire for a good reputation will not give all producers an equally strong incentive to invest in programme quality. The strength of the incentive depends on the expected payoff to an investment in reputation. This payoff depends on: (1) how much the probability of producing other programming for this network (or another network) is increased by spending more on the quality of this programme, or decreased by failing to do so; and (2) the magnitude of the net revenues the producer expects to earn from producing another programme in the future. Networks may reinforce the strength of this incentive by dealing with established producers who have a higher probability of doing repeat business, so long as they maintain their reputation. When programme ideas come from producers less likely to do repeat business, networks may try to reinforce the incentive for performance by a contract that requires the original producer to "lay-off" some production responsibilities by involving an established firm as co-producer. In part this insures access to the high quality production facilities of the established co-producer. Perhaps more importantly, it involves a producer that is less likely to engage in costly opportunistic behavior because investments in reputation have a higher payoff.[421]

Concern for reputation may not be enough to eliminate opportunistic behavior by producers. A producer may be able to reduce costs and quality (and increase its profits) without harming its reputation so long as the behavior is not egregious. Opportunistic reductions in cost and quality may be difficult to distinguish from admirable cost control unless the network makes substantial efforts to monitor producer effort.

When claims on net revenue to this or future programming do not give a producer a sufficient incentive to make production choices that maximize joint profits, they can be reinforced by building more direct controls into the contract. A very simple direct control is the right of the buyer to refuse to accept and

pay for sub-standard quality. One would expect contracts to include this basic safeguard, but its effectiveness is limited. The cost of exercising these rights may exceed their benefits to networks except in cases of the most serious failures to perform. Costly monitoring of programme quality and production practices would be required to determine when the producer failed to make incremental expenditures that would have increased expected joint net revenue. Rejection of programming by the network on any but the clearest grounds is likely to lead to costly disputes. The costs of correcting faults in the programming might be so great that the producer would prefer termination of the agreement; because this would impose costs on the network it further reduces network incentives to enforce. Producer and network might agree on improvements that are less costly, and less effective, than completely remedying the consequences of the producer's original decision to cut costs, but that in itself would indicate that the network's right of refusal was too costly to enforce optimal producer performance.

Other methods may be either more effective ways of inducing producers to make the expenditures on programme quality that maximize joint net revenue or impose lower transactions costs or both. One such technique might be contract terms that allow direct control of some programme inputs. Producers may agree to grant networks the right to require use of particular production facilities or rights of approval over script and casting.[422] Or, as noted above, requiring the original producer to "lay-off" some production responsibilities with a larger producer insures access to high quality production facilities or other inputs of the co-producer. Control of inputs may only imperfectly control programme quality, but transaction costs also will be relatively low if compliance is easily monitored. The producer will have an incentive to comply if input requirements and rights fees that cover the cost of those requirements are established at the same time. Perhaps most important, input controls operate before production decisions are taken rather than afterwards. It generally will be much less costly to choose inputs in the first place that achieve desired programme quality than to correct the effects of the original production decisions. This both lowers the cost of enforcement and makes it possible for the parties to commit to enforcing and abiding by the contract terms.

Network buyers will be concerned with the risk that a producer may not be capable of delivering quality programming on time as well as with the incentive of a producer to deliver quality programming; producers will want to find a way to reassure networks.[423] Dealing with established producers whose abilities are known will help, but if the network sees other advantages to using a new producer, it may try to compensate with other tools. Agreement by the producer and network that specific inputs will be used or that an established co-producer will be involved also help. Another technique is for producer and network to agree that the producer will post a completion bond, which can help the network screen producers about whose abilities networks have limited information. The bond forces (and allows) producers to reveal their true evaluation of their own capabilities; only producers who expect to be able to perform will be willing to post the bond. The bond also increases the incentives of the producer to comply with contractual terms, and allows producers to commit to perform. In Williamson's terms, such bonds are examples of "hostages", which a party to an agreement is willing to post either as a way of satisfying a screening function or of credibly committing to a promise to avoid opportunistic behavior that would reduce joint net revenues.[424]

Contract terms that require networks to pay a cancellation fee if they fail to order some specified number of episodes may be another example of a hostage used to encourage efficient exchange.[425] A simplified hypothetical example can explain the point. A producer proposes a programme with 10 episodes. Assume the costs of this programming can be divided into initial costs of programme development and the variable costs of producing individual episodes. A contract is signed giving the network an option to order 10 episodes after seeing the results of programme development. Programme revenues expected at the time the contract is signed must exceed total costs (or the deal would not be made), but demand and net revenue

are uncertain; if expected net revenue declines sufficient after programme development additional episodes will not be ordered.[426]

The problem is how to structure payment for the producer. The producer will not be willing to sign unless his expected revenues under the contract covers both programme development costs and the costs of any episodes produced. Option one is to specify that the network will reimburse the producer upfront for all development costs and then will pay the variable costs of producing the 10 episodes if they are ordered. The producer would agree, since all costs will be covered whether or not the episodes are ordered. This contract, however, would expose the network to the risk that the producer could opportunistically exploit the networks having paid in advance for programme development.[427]

This risk is reduced by a second payment option: no separate payment is made for programme development, but instead the network only pays for programme development if episodes are purchased. The producer will not accept this contract, however, unless the price paid for episodes exceed the variable cost of episodes by enough to cover both the costs of programme development and the probability that episodes will not be ordered. For example, if the costs of programme development are 100, the variable cost of each episode is 50, and the producer believes at the time the contract is written that there is a 50 per cent probability the episodes will be ordered, the minimum acceptable price for 10 episodes (for a risk neutral producer) will be 700: 500 for the variable cost of the episodes plus 200 for programme development that there is a 50-50 chance will be received. This price is inefficiently high: the network would not order episodes if expected programme revenue were between 500 and 700, even though these expected net revenues would cover incremental production costs. This would both reduce joint net revenues and be socially inefficient.[428]

Option three is for the network to post a hostage by agreeing to pay a cancellation fee of 100 if the episodes are not ordered. The producer will now accept a price for the episodes of 600, covering total costs. This price is higher than the incremental costs of programme production, but the network will act efficiently and order episodes whenever programme revenue is expected to cover the incremental costs of 500. The incremental cost to the network of ordering the episodes is reduced to 500 by the cancellation fee it must pay whether or not the episodes are ordered. By posting the hostage of the cancellation fee, the network is able to credibly promise not to expropriate producer expenditures on programme development. This example obviously does not consider all contracting problems, but it does illustrate the use of another contracting technique: the exchange of hostages.

Another important function of contract terms is to allocate risk between the producer and the network. Some risk will be the result of uncertainty about costs of production, but the greater part will be from uncertainty about demand for the programming. Whether this risk is borne by the producer or the network, or more accurately how much risk is borne by each, depends on the contract. At one extreme, the producer would pass all risk to a network buyer by selling all distribution rights in exchange for guaranteed immediate payment of programme development costs plus payment of the additional costs of all programme episodes ordered.[429] The producer also could pass on all risk by selling a network rights to network distribution while "pre-selling" remaining rights to other distributors, so long as taken together the contracts guaranteed payments to the producer regardless of later performance. The producer will be protected against both cost and demand uncertainty if the contracts guarantee payments of actual costs (presumably with some protection against cost-padding by the producer), and only against demand uncertainty if the contracts only guarantee the amount of the payment. Other arrangements leave the producer to bear some risk: for example, if the producer sells some rights early and others only after the performance of the programming is better known, or if under the contract terms the producer will only recover all programme development costs

(as well as the variable costs of individual episodes) if the network exercises options to purchase some "breakeven" number of episodes.

The discussion above shows how such arrangements can directly affect joint net revenues through their effects on incentives and transactions costs. They also can affect joint net revenue and efficiency by changing the costs of bearing risks. A firm or person that is risk averse must be compensated for bearing risk, which increases the social costs of the activity. One common way this cost may be manifested is an increased cost for capital invested in risky ventures.[430] Producers and networks (and other potential buyers of rights) may differ in their willingness and ability to bear risk. Therefore the costs of risk-bearing may be higher or lower depending on how risks are allocated by the contract. All else equal, allocating risk efficiently to minimize the costs of risk-bearing is in the interests of both the contracting parties, since it increases joint net revenue, and society, since it is economically efficient. The contracting problem is that all else generally is not equal; it often will be difficult to separate the structuring of incentives within the relationship from the assignment of risk. Making one or the other party a full or partial residual claimant of uncertain net revenues affects both incentives and the amount of risk borne. To settle on contract terms parties may have to tradeoff and balance potentially conflicting incentive and risk effects on joint net revenue and efficiency. For example, in order to reduce the costs of risk the parties may rely more heavily on direct controls to control producer choices, even though otherwise that would not be the best choice.[431]

This completes the discussion of contract problems and remedies. As said at the outset, the discussion does no more than illustrate the types of problems the parties face in structuring their relationship and the contractual remedies available. Still the picture does show how particular contract terms can have many effects, and particular problems many potential solutions. There is no such thing as "the" optimal contract, even from the perspective of maximizing the profits of producer and network. Terms will differ from contract to contract because transactions between different producers and networks involving different programming rights present different problems. The discussion here has concentrated for simplicity on contracts for programming with multiple episodes whose number can vary depending on demand. With a different transaction -- for programming with a single episode, say, or for a predetermined block of programming -- the mix of problems will differ in composition and relative importance, and the effect of particular contract terms will differ.

Appendix C

SIMULATION STUDY OF ENTRY BY COMPETING CABLE DISTRIBUTION COMPANIES

A simulation study by Smiley (1986) examines whether entry and supply by more than one cable distribution company in an area will be viable, and the level of economic efficiency with and without entry by a second supplier. The model illustrates the sorts of factors that affect both the viability of entry, and the effects of entry on efficiency. The results of his model cannot be taken to represent the frequency with which actual market outcomes would increase or decrease efficiency since they depend on the particular assumptions of the model. Smiley models whether more than one cable company will decide to provide service in a particular area.[432] Cost and demand functions (with parameter values calculated where possible from available data) and post-entry interaction are specified. Average costs per subscriber decline continuously for each company, so total cost of supply is always lower with a single supplier. The services of the two companies are differentiated, imperfect substitutes, but a company faces more elastic demand if there is a competitor.[433] If more than one firm enters, each may choose to cable the entire area or only a proportion of the area.[434] The model is solved to determine if more than one company will supply service, what proportion of the area each serves and thus the number of subscribers with a choice of cable suppliers, the price and number of subscribers of each company, and the total surplus as a measure of economic efficiency.[435]

Smiley calculates results for four scenarios: a monopoly (no entry allowed), simultaneous entry (neither company can sink investment before the other), sequential entry (one company has the opportunity to install cable before the other can sink any investments), and partial sequential entry (both initially commit headend investments, but one company can install cable first). Results are calculated for three sets of demand and cost parameters. The model predicts that despite the cost advantage of a single firm, entry is profitable in some of these cases. Entry is always profitable in Smiley's model unless one company has the opportunity to sink investments in cabling the entire area before the second can enter; entry always occurs in both the simultaneous and partially simultaneous scenarios (although in many cases the two firm do not both cable the entire area). Despite increasing unit costs, when entry occurs it frequently results in greater total surplus than monopoly supply by reducing price and increasing the number of subscribers.[436]

It is worth looking a bit closer at Smiley's analysis. First, consider the cost penalty of having competing multichannel providers. The lower this cost penalty, the more likely entry and competition are to increase efficiency. The cost assumptions made by Smiley imply that having the entire area served by two cable companies rather than one would increase unit costs by a third.[437] This is substantially greater than the statistical estimates of the unit cost advantage for a single firm; the studies estimated unit costs would be 10 to 15 per cent lower with a single supplier. A second issue is more technical. Hazlett (1990a and 1990b) argues that Smiley's calculations understate the net efficiency benefits of entry by overstating the potential for entry to increase social costs. The argument goes as follows. Entry may reduce the return the incumbent earns, but lost returns on sunk costs are not a social loss because those costs can no longer be saved. Instead the efficiency effect of entry should be calculated as depending only on whether the additional costs incurred (by the entrant) are covered by the revenue earned by the entrant (which they must be because the firm would not enter unless it expected to earn a profit) plus the change in consumer surplus (which also must be

positive).[438] In other words, if the incumbent has sunk investment, the increase in unit costs may prevent entry, but if entry occurs it must increase the total surplus.[439] The limitation of the argument is that incumbent costs cannot always be treated as completely sunk. In the case of simultaneous entry neither supplier has fully committed or sunk substantial costs. More importantly, the costs of incumbents should not be treated as sunk when evaluating the efficiency consequences of a general rule to allow or prohibit entry. The general rule will affect total surplus generated in the future, and thus returns on costs sunk in the future should be considered in evaluating the rule.[440]

NOTES

1. See Conseil constitutionnel, Decision of 27 July 1982.

2. It should be noted, however, that while the constitutional guarantees of freedom of expression and freedom of speech in France and the United States respectively apply not only to broadcasting but to print media and other forms of communications, in both countries the application of these principles to broadcasting and to print has been somewhat different because of what are viewed as the different characteristics of the media.

3. FCC, Report and Order in MM Docket No. 90-162, 6 FCC Rcd 3094 (1991) at para 14.

4. EC Council Directive of 3 October 1989, OJ No. L 298/23, 17 October 1989; preamble and Article 19.

5. Noll, Peck and McGowan (1973, Ch. 4) has a brief discussion of this and some other goals of the FCC.

6. A complementary policy question is, to what extent should cable systems be allowed to provide telecommunications service? These complementary issues have been brought to prominence by the convergence between facilities used to deliver broadcast and telecommunications service, and to an extent the blurring of distinctions between the services themselves.

7. For example, conventional television channels have a bandwidth, or range of radio frequencies of 6MHz.

8. There also are restrictions on the use of adjacent channels due to limitations in the ability of receivers to distinguish signals transmitted on adjacent or closely related frequencies. Both adjacent channels and the same channels can be used for other signals so long as sufficient distance separations are maintained so that signals strengths are too low to interfere with each other.

9. Under international agreement, the International Telecommunications Union has adopted an International Table of Allocations that allocates specific portions of the radio spectrum for particular uses or categories of usage, e.g. television broadcasting, radio broadcasting, fixed-point, low power satellite communications, high power direct broadcast satellites, and so forth. Within the limits set by this Table of Allocations, national agencies make more specific determinations of how spectrum shall be used. For example, national agencies may have some discretion both over what portion of the UHF band to allocate to television broadcasting and over specific issues such as how the UHF spectrum devoted to television broadcasting shall be utilized - for example, the power and location of transmitters and their area of coverage. These decisions set technical limits on the number of different channels of broadcast signals that would be sufficiently strong to be usable at various locations.

10. Recently New Zealand has moved to allow more flexibility in the use of spectrum and greater latitude for market decisions to determine how portions of the spectrum are to be used. See Chapter 3.

11. In some Member countries the spectrum is managed so that approximately the same number of channels are available in nearly all parts of the country. In other countries, different numbers of radio or television broadcast stations are authorized in various localities, so that the number of different channels (either local or distant) that can be received over-the-air may vary considerably from one place to another.

12. Several studies of television broadcasting in the U.S. from this period concluded that spectrum allocation was a binding constraint on private television broadcasting, and specifically on the number of national commercial networks. While more than three television channels could be received in many areas, there were only three national networks. See Noll, Peck and McGowan (1973) and FCC Network Inquiry Special Staff (1980b). These studies concluded that a fourth national network was not economically feasible at that time given the way the FCC had allocated the television spectrum. The number and location of licensed private television stations meant that a fourth network would be able to reach a considerably smaller proportion of all viewers than the three established commercial networks. In many areas only three private channels were available, and in many additional areas the fourth networks would have had to use UHF rather than VHF channels, which many U.S. households were poorly equipped to receive. Thus even though spectrum was allocated for more private television stations than were broadcasting, spectrum allocation was the binding constraint which limited the number of private national networks, and in turn the number of private individual television stations, that were economically feasible.

13. Spectrum is used for delivery of signals to cable headends by satellite. DBS and MMDS also often receive programming from satellites. The spectrum allocated for satellite transmissions other than DBS, however, is not limited to broadcasting uses. Thus if and as broadcasting uses become valuable they can compete against non-broadcasting satellite communications for spectrum. Furthermore, satellite communications have become so important that spectrum allocation and technology has allowed greatly increased satellite communications.

14. In practice, about the only clean distinction between cable and SMATV systems is legal. SMATV systems serve apartment complexes or other housing developments where they do not have to cross property lines. Not all Member countries distinguish the cable and SMATV systems.

15. There are several basic technical tradeoffs involved in the use of high versus medium power satellites. High power satellites transmit fewer channels because limitations in satellite weight mean limitations in the total power available for transmissions; higher transmitted power per channel means fewer channels per satellite. On the receiving end, a lower power for the transmitted signal must be compensated for by either a somewhat larger receiving dish or antenna (which captures more signal power) or by greater amplification or the received signal so that the necessary signal power can be delivered to the television receiver. These tradeoffs also are affected by the fact that high power and medium power satellites operate in different portions of the spectrum with different wavelength and propagation characteristics. Finally, as discussed below, these tradeoffs have been affected by technological advances that have

reduced costs and made use of medium power satellites more attractive than expected at the time spectrum was allocated for high power DBS service.

16. As with DBS signals, MMDS signals are converted by receiving equipment from the frequency on which they are transmitted to the frequency of standard broadcast channels so that conventional television receivers can be used.

17. For example, the first communications satellite in Canada began service in 1972. In the United States, satellites began to be used for video distribution in 1976. In that year, Home Box Office leased a satellite transponder, or transmission capacity, and began distributing its pay movie programming, and a commercial television station in Atlanta owned by Ted Turner began distributing its signal by satellite to cable systems.

18. A 1980 FCC study in the U.S. found that the cost of an earth station fell from a range of $75,000 - $100,000 in 1974 to as low as $10,000 by 1980. FCC Network Inquiry Special Staff (1980b).

19. FCC (1991b, para.36) and OECD (1992a, Figures B8).

20. Many TV receivers now are being made with tuners able to tune directly to cable channels. Converters must still be used, however, with sets that can only tune to channels used for conventional over-the-air broadcasting.

21. For example, videotape is used for many studio productions such as game shows or situation comedies, for which the image quality of film is considered less important.

22. Microwave and satellite transmission also is used by new organizations to transmit audiovisual signals from the field or between different locations.

23. Technically it might have been possible for a single decoder to unscrambled the signals of several channels of programming, but as a practical matter there was no prospect at that time of public approval for the use of several channels of broadcast spectrum for pay services, let alone for approval of the operation of several channels by a single operator. Recently, however, a multi-channel pay service using broadcast frequencies has began in New Zealand.

24. The experience of Canal Plus in France has demonstrated that pay television delivered by traditional broadcasting can be successful in the right market circumstances if spectrum is available. Canal Plus grew, however, during a period in which few households in France had access to multi-channel pay television alternatives of cable or DBS service.

25. While broadly correct, this is an oversimplification because frequently it is most profitable both to sell directly to consumers and to sell advertising time. This is discussed in more detail in Chapter 5 of this report.

26. This section draws on the discussion in Locksley (1988, pp. 233-240) as well as on responses to a OECD Questionnaire for Member countries on broadcasting prepared for this report.

27. The SBS (see previous endnote) is permitted to carry sponsorship announcements of a kind approved by the Minister for Transport and Communications.

28. No license is necessary so long as the system is installed to retransmit a commercial broadcasting licensee's programs within the licensee's service area.

29. The SBS service also is available by satellite in the south-eastern states, and is accessed and retransmitted locally by a small number of communities.

30. The Broadcasting Service Bill 1992 also makes substantial revisions in the provisions dealing with media and cross-media control and ownership; these changes are discussed in Chapter 10.

31. This discussion based on reponses to an OECD Questionnaire on broadcasting, and on OECD (1992a) and OECD (1992b).

32. This discussion based on reponses to an OECD Questionnaire on broadcasting, and on OECD (1992b).

33. Kaiser (1986), p. 183.

34. This discussion based on responses to an OECD Questionnaire on broadcasting, and on OECD (1992a) and OECD (1992b).

35. Municipalities also are legally entitled to operate local stations.

36. In 1990, an Act establishing one single national telecommunications company, Tele Danmark A/S, was passed. The company has been established as a partly state-owned limited company functioning as a parent company for the five existing telecommunications companies. Tele Danmark has now taken over the concessions granted these five telecommunications companies.

37. Exemptions were allowed only if the Hybrid Network could not be expected to deliver programming to the area served by the local cable system within two years.

38. A new regulatory authority, the CSA, replaced the CNCL in January, 1990.

39. OECD (1992b); also *Financial Times* 23 January 1991, p. 3.

40. This discussion based on responses to an OECD Questionnaire on broadcasting, and on OECD (1992a) and OECD (1992b).

41. 3 Sat also is transmitted by EUTELSAT.

42. There is no connection with the movie service of the same name that several movie studies tried to begin in the U.S. in 1982; as discussed in Chapter 10, the U.S. service ceased operations before service began after the U.S. Department of Justice succeeded in preventing it from beginning service with a preliminary injunction.

43. Estimates from *Infosat*, August 1990, Nummer 29.

44. Internal wiring on residential property is handled by private sector companies in which DPT is limited to a maximum ownership share of 24%. Marketing of cable services is handled by a subsidiary of DPT with the support of private companies.

45. This discussion based on responses to an OECD Questionnaire on broadcasting.

46. There are constraints on where such services may be installed.

47. *Variety*, 7 February 1990, p. 117.

48. This section relies on information in Broadcasting Bureau, Ministry of Posts and Telecommunications, "Outline of Broadcasting in Japan", Japan International Cooperation Agency, on responses to the OECD Questionnaire, and on OECD (1992b).

49. This discussion based on responses to an OECD Questionnaire on broadcasting.

50. There is sufficient spectrum for two additional national UHF channels. These were not offered for tender, and the Government has indicated it does not plan to make them available for commercial broadcasters.

51. Successful bids for the national licenses ranged from NZ$100,000 to NZ$400,000.

52. Initially TVNZ was the second largest shareholder in Sky with a 35 per cent ownership share; remaining ownership is split among four private interests of which the largest single ownership share is 41 per cent. TVNZ's ownership share has since declined; see Chapter 10.

53. These figures include 20 noncommercial broadcasters, 20 Maori language broadcasters, and frequencies reserved for noncommercial and community access. Also included are translators for extension of coverage for some signals.

54. There are restrictions on advertising on specified holidays for television and radio, and on Sunday mornings for television.

55. Certain noncommercial broadcasters, Maori radio broadcasters and license holders listed in the Seventh Schedule of the Radiocommunications Act, may have certain requirements on programming, advertising, and hours of service specified in their licenses; these broadcasters are not required to pay for their spectrum rights.

56. This discussion based on responses to an OECD Questionnaire on broadcasting, and on OECD (1992a) and OECD (1992b).

57. There are certain exemptions; for example systems serving fewer than 25 houses or 100 subscribers do not need a license so long as the system is owned by the subscribers.

58. This discussion based on responses to an OECD Questionnaire on broadcasting.

59. Discussion based on responses to OECD Questionnaire on broadcasting and OECD (1992b).

60. This discussion based on responses to an OECD Questionnaire on broadcasting, and on OECD (1992a) and OECD (1992b).

61. There also are 17 (as of 1989) local non-profit television channels that operate on a very small scale, broadcasting perhaps one hour per day.

62. No distinction is made between cable systems that receive program services distributed by satellite and SMATV services. The usual categories of households subscribing to cable service and households with cable service available (or "passed by cable service") do not describe the Swedish situation well. In Sweden a cable network supplier makes agreements with home owners in an area before building the network, and the network is paid for by the home owners. Therefore there is no significant difference between the number of households with service available and the number subscribing.

63. For information on the satellite program services see OECD (1992a) and OECD (1992b).

64. OECD (1992b).

65. This discussion based on responses to an OECD Questionnaire on broadcasting, and on OECD (1992b).

66. Interim report of the working party on the parallel investigation OER, led by Professor Saxer, for DFTCE (Zurich, August 1987).

67. This discussion based on responses to an OECD Questionnaire on broadcasting.

68. NTL's activities include the transmission of television for ITV (Channel 3), Channel 4, and the Welsh Fourth Channel (S4C), and radio for about 50 independent local radio stations. The company also has a dedicated research and development capability whose expertise already has ben contracted commercially on a number of domestic and international projects.

69. Discussion based on the account in the *Financial Times*, 17 October 1991, pp. 1, 11. At the time of writing legal challenges to some of the ITC awards were unresolved.

70. There are, however, provisions for Channel 3 licensees to support Channel 4 financially if the latter does not raise a proscribed minimum income.

71. In the UK microwave distribution is generally referred to as MVDS, microwave video distribution systems, rather than as MMDS.

72. The operation of the Cable Authority is to be wound up.

73. A Telecommunications Act license also is required from the Department of Trade and Industry (DTI), as is a licensable program service license, applied for by the maker of the programming.

74. A Telecommunications Act license is still required. Larger systems also will require a local delivery license. Before the Broadcasting Act 1990 all SMATV systems, regardless of size, had to be licensed by the Cable Authority.

75. The ITC meanwhile will be seeking to make best use of the frequencies and to advertise for domestic satellite service licenses to use the frequencies under the conditions set out in the 1990 Act.

76. The Secretary of State is authorized specify descriptions of programs for the purposes of these provisions.

77. In the U.S., VHF stations were preferable because far more households had television sets and antennas able to get good reception of VHF signals, and because UHF broadcasting was somewhat more costly.

78. Data cited from FCC (1990, ¶3-4), US GAO (1989) and Staff FTC (1990a, p. 18).

79. FCC (1990, ¶43) and FCC (1991b, ¶36).

80. The Federal Communications Commission during the 1980s did authorize additional low-power, and so-called drop-in television stations.

81. Strictly the rule prevented television stations in the largest 50 markets from exhibiting more than three hours of network programming during the four prime time hours (7 p.m. to 11 p.m. in the Eastern time zone). The result was that networks did not chose to supply of schedule of programming to all stations for only the last three prime time hours.

82. The term "independent program producers" here means independent of networks, rather than independent of the major movie studios, as the term often is used in the U.S.

83. It should be noted that a number of reasons other than those mentioned here also have been advanced for the rules, and to some extent the arguments in support of these rules have changed over the years; in particular in recent years there has been more emphasis on the possibility that networks could exercise market power as sellers of distribution rights than they would exercise power as buyers.

84. For example, while networks may acquire financial interests or syndication rights in programming shown outside prime time, such rights have to obtained in separate negotiations initiated at least 30 days after execution of the network license fee agreement; co-production arrangements between networks and a domestic producer may be initiated only by the outside producer who is to be given a 30 day cooling off period before the arrangement becomes binding; and the FCC is to oversee the sale of syndication rights that networks acquire to their own affiliated stations to insure that networks neither favor their affiliated stations over other stations in selling such rights nor unduly withhold syndication rights they control to disadvantage independent stations in their competition with networks programming or with network affiliated stations. See FCC (1991b) for the full set of rules.

85. European Communities-Commission (1988, p. 23).

86. Directive 89/552/EEC, OJL 298/23, 17 October 1989.

87. Advertising as a percent of daily transmission may rise to 20 per cent to include forms of advertising such as direct offers to the public provided that spot advertising does not exceed

15 per cent of daily transmission time. Also the Directive provides that Member States may set stricter limits for advertising, or may set other conditions on advertising for broadcasts intended solely for and receivable direct or indirectly only in the that single state.

88. Council Directive 86/529/EEC.

89. This description is quoted from European Communities-Commission (1988, p. 45).

90. In the U.S., for example, rights are sold both for showing on national network television during prime evening viewing hours, and for later release to local television stations for additional showings. See Waterman (1985) on release patterns.

91. DBS presents a different situation since the footprint, or "local" distribution area for satellite transmission, covers an area as large or larger than most Member countries. With DBS there is no need to interconnect or network different transmitters together to provide the same programming to a large area.

92. These stations often also produce their own programming such as recorded music with disc jockeys and local "talk" shows.

93. The discussion focuses on the development of networks in private broadcasting and what these developments imply about underlying economic forces. Networks also have been the rule for public broadcasting, however.

94. There are exceptions to this rule where stations are allowed to expand the reach of the signal with so-called translator stations that broadcast the same programming from another location on another frequency.

95. Networking is no longer as important in radio programming in the United States, but this apparent exception proves the rule of the pressures for networks scheduling programming. In the years before the development of television, when radio was the dominant broadcasting medium for distributing programming, networks did develop and distribute national schedules of programming. Radio networking today is less important as television has become the preferred broadcasting medium for costly entertainment productions. Part-time radio networks continue to supply some types of radio programming, such as national news and sports programming, and distributing pre-packaged recorded music programming.

96. The costs of collecting audience rating information contribute both to the ability to design program schedules and to the ability to sell the resulting audiences to advertisers. One cost of producing and selling audience exposures to advertising support is that advertisers demand information on the size and demographics of the audiences delivered by programming so that they will know what they are buying. One of the greatest difficulties faced by developing cable networks in the United States when they tried to sell advertising was that initially there was little rating information available to verify the audiences for their programming. Collecting this information by the usual sampling techniques was more costly due to the relatively small percentage of the population that received or watched the programming, which delayed the measurement of cable audiences.

97. This is true of some of the new program services, as well as of many the traditional broadcast networks.

98. Both points are made in Noll, Peck, and McGowan (1973).

99. Cable systems use some of their channel capacity for over-the-air channels, either because they required to do so by "must carry" rules, or because consumers demand access to those channels over cable in order to enjoy improved reception and the convenience of receiving all programming from the same source.

100. Some of these argument can be cast in an economic framework, for example as spillover or external effects for the society as a whole. Caves (1989) has a classification of various arguments for public service programming criteria.

101. Note that these preferences might, for example, be based on interpretations of the objective of pluralism or of insuring a diversity of views.

102. Many authors have noted that broadcasting services have the characteristics of public goods. See, e.g. Owen, Beebe, and Manning (1974).

103. An alternative definition of public goods specifies both the cost characteristic that consumption by additional consumers has a marginal cost of zero, and that it is not possible to exclude consumers who do not pay for the good from consuming it. The definition used here keeps the two issues of cost structure and ability to exclude separate. When and whether it is possible with broadcast services to exclude consumers who do not pay is discussed below.

104. Baumol, Panzer, Willig (1982, p. 302). This observation depends on their distinction between fixed and sunk costs. They point out that it does not mean that all goods whose production involves sunk costs have a public character.

105. This also would require that producers could costlessly exclude consumers who did not pay from consuming the good.

106. The Steiner model is a variant of a Hotelling model of product differentiation. See Owen, Beebe, and Manning (1974, ch. 3) for an extensive discussion. This discussion, and the numerical examples, draw heavily on their discussion.

107. The issues discussed in the next three sections are covered in more detail in Chapter 4 of Owen and Wildman (1992). The discussion in these three sections draws on this source and its analysis of the models discussed here.

108. The effect on welfare also will be affected by transactions costs under each regime. With pay support, the generated demand for programming will be reduced by the costs of monitoring usage by consumers, collecting payments, and of marketing. On the other hand, with advertiser support there also are very substantial costs of monitoring the viewing of advertisements and their effectiveness which similarly must be deducted from the amount advertisers are willing to pay before programming costs can be paid.

109. See Spence and Owen (1977), who argue that both pay TV and advertiser-supported TV are biased against the selection of programs with low price elasticities of demand and high cost programs, but that the bias is greater with advertiser-support.

110. Also see Wildman and Owen (1985) for discussions and extensions of the model.

111. Most notably, to make the model tractable symmetric demand for various programs is assumed, eliminating the effects of programming for minority tastes. In addition, the model implicitly assumes a uniform price is charged consumers for pay programming, when, as discussed below, various methods of price discrimination in fact are the norm. The assumption of symmetric demand is common to this class of product differentiation model. For a good general discussion of the limitations of various analyses of product differentiation, see the survey by Eaton and Lipsey (1989).

112. This is conclusion is superficially similar to the wasteful duplication predicted by the Steiner model. In the Spence-Owen model, however, all new programming generates some increase in welfare since no two programs are perfect substitutes. The imperfect competition model evaluates program diversity by using the general welfare criteria of comparing the additional welfare benefits to consumers of greater numbers of programs, and thus of program diversity, with the additional costs of producing such programs.

113. These conclusions are reexamined below in light of the possibilities raised by price discrimination.

114. In the extreme, if all programs are considered perfect substitutes the optimum will be to produce only a single program, and will be best achieved by a monopoly, advertiser-supported broadcaster. Spence and Owen (1977).

115. For example, see Noll, Peck and McGowan (1973) on whose empirical work Spence and Owen relied in part, and Owen, Beebe and Manning (1974); and Wildman and Owen, (1985).

116. Spence and Owen (1977) argued that consumer surplus, as well as aggregate surplus, would likely be greater with consumer payments for television. In effect, consumers would receive a somewhat smaller slice of a larger welfare pie.

117. An early discussion of some of these considerations is in Noll, Peck and McGowan (1973). In addition, deciding whether broadcast advertising has such "external" effects would be only the first step in sorting out these issues. It also would be necessary to decide whether the external effects of broadcast and other advertising are differ qualitatively or quantitatively, and the extent to which broadcast advertising and other forms of advertising are substitutes to advertisers. If other advertising is a complete substitute for broadcast advertising and has the same welfare effects, then changes in the quantity of broadcast advertising would be offset both in quantity and welfare effect by changes in the quantity of other advertising.

118. It is of course logically possible that at least some consumers would find commercials sufficiently entertaining or informative that they would prefer to have at least some advertisements included with their programming. Then the amount subscribers would be willing to pay would at first increase with the amount of advertising included. At some point,

however, one would still expect the amount paid to subscribe to begin to decrease with increases in advertising so long as some programming is more highly valued than advertising.

119. This simple description implicitly assumes costs are unaffected by the amount of advertising and thus that profit and revenue maximization are the same. This of course will not strictly be true, if for no other reason than that increasing the airtime sold for advertising reduces the minutes of programming that must be purchased.

120. In Wildman and Owen's model there are a mixture of ad-supported and pay channels in equilibrium. The proportion of pay channels is somewhat higher than would be optimal if producer profits from all sources, including advertising, is counted as contributing equally to producer surplus and total surplus or efficiency. In addition, since this model, like the Spence-Owen model, assumes symmetric demand, it fails to capture the potential the contribution toward welfare pay-supported channels might make by supplying programming for which there is a strong preference held by a minority of consumers.

121. Based on such an observation, Noll, Peck and McGowan (1973), writing before mixed revenue support from both advertising and subscribers was common, conjectured that such a system might provide an optimal compromise between the lower price allowed by advertiser support and the mechanism for conveying viewer preferences allowed by subscriber payments. They also, however, noted some of the problems mentioned below with evaluating the welfare performance of advertiser-support broadcasting.

122. The intuition of Spence and Owen (1977) was that "advertising will serve as a safety valve on the extraction of consumer surplus from popular programs with close substitutes."

123. A partial exception is the Wildman-Owen (1985) analysis described above. In addition, as noted above, any complete analysis would have to consider the welfare effects of broadcast advertising itself.

124. Wildman and Owen (1985) contains a discussion of the welfare effects of bundled pricing by multichannel broadcasters and a numerical examples that demonstrate that bundling could either result in more channels being offered and an increase in consumer welfare, or in a restriction of sales to consumers and a loss of consumer surplus. The same article contains a preliminary analysis of the possibilities of competition between more than one multichannel broadcaster in the same market.

125. See Wildman and Owen (1985) and Woodbury (1985) - a comment on the Wildman and Owen paper - for discussions of the extent to which economic analysis supports a presumption in favor of competition in broadcasting.

126. Precisely what broadcaster acquires these rights will depend on what broadcasters act as program packagers. Where networks act as separate program packagers, they will acquire the rights. If individual broadcast stations arrange their own schedules, they will be the purchasers of program rights.

127. The discussion and Table 5.4 below are based on an analysis presented in FCC Network Inquiry Special Staff (1980a). A very similar analysis also is in Besen, *et al*. (1984, Ch. 7).

128. These will be the revenues collected directly from advertising sales or from subscription sales if the packager purchasing the rights also handles the sale of advertising or the sale of subscriptions to consumers. The revenues will depend indirectly on these sales if instead the network that purchases program rights in turn sells the packaged schedule of programming to a station or distributor that sells advertising or to subscribers.

129. This assumes, as above, that producers negotiate individually on each program, rather than collusively.

130. The discussion and graphical analysis that follows is derived from that in Owen and Wildman (1992, pp. 38-48).

131. This is realistic for some kinds of productions, for example many sporting events, that will only draw audiences for a single, initial broadcast.

132. Although the producer will not be assured of receiving the total net revenue of CE, it still will be in the interests of the programmer (as well as the broadcaster) to maximize this amount. There always will be a bargaining outcome that would leave both programmer and broadcaster better off with the budget set at B* to maximize net revenue than at any other budget and expected net revenue.

133. The additional distribution costs for a release often will vary relatively little with the number of consumers who view the program in that release. This will be more true for broadcast releases, particularly to national networks, than for release on videocassette or to theaters.

134. See Waterman (1985).

135. It can be assumed that the release pattern has been set to maximize total revenue, although this ignores, or at least hides, issues of whether the optimal release pattern differs depending on the budget devoted to a production.

136. Since R1 might be reduced by the presence of the second release, this graph cannot be interpreted as showing whether or not the revenue from the first release would cover all costs if there were no second release.

137. Because the revenue from one release may be affected by the number and timing of other releases, the condition must be stated in terms of the effect on total revenues of an additional release, rather than the revenues from the additional release itself. Economically, the production costs are joint costs of producing distinct, but possibly cross elastic, products, the various releases. As long as the increment in total revenues resulting from each release (and each combination of releases) cover the increment in total costs due to each release (and combination of releases), no release is being subsidized both any other. See the literature on subsidy-free pricing, e.g. Faulhaber (1975).

138. Strictly this is the reservation price for sale to a single buyer. When a producer is selling to more than one broadcaster, the reservation price to broadcaster A will be higher if the producer is convinced he can get more from than this reservation price from broadcaster B or C.

139. If additional releases have no effect on demand in the first release, then any additional release that adds to net revenue also will increase the optimal budget so long as revenue in the additional release is a strictly increasing function of the budget. Under these conditions the additional release will increase marginal revenue at each budget level by the amount of the positive marginal revenue from the additional window. If the new window affects demand in existing windows, the additional release window still is likely to increase the optimal budget, but the result is not so certain. With interdependent demands, opening additional release windows could reduce the optimal budget if: (1) the marginal revenue due to increases in budget declined more quickly in the new windows; and (2) this effect dominated the behavior of overall marginal revenue because (a) the new windows substantially reduced revenue from existing windows and (b) yielded considerable substantial total revenue.

140. Chapter 9 reviews the extent to which broadcasting is subject to general competition law in Member countries.

141. To make the exposition less cumbersome, the remainder of this discussion of market definition focuses on defining markets in which firms sell. The principles of market definition for testing monopsony power as buyers are similar and are discussed below.

142. In more formal terms, services now occupy more locations in product space, but a smaller quantities of services are offered at particular locations (or within a small distance of a particular location).

143. HDTV standards, of which there are several proposed, generally provide both higher quality video and audio output than EDTV standards, and also require greater modifications in existing transmission standards.

144. This is discussed here as a hypothetical case, but similar mergers have occurred, and in some cases have been considered by competition policy authorities. In 1983 the second and third largest movie-based cable services in the United States merged without challenge by the Department of Justice. This case, however, which is discussed in more detail below, also involved issues other than the merger of these cable networks. The Department of Justice earlier had indicated it would challenge differently structured joint venture that included the merger of these services but otherwise was differently structured, although apparently because the joint venture also posed competitive problems other than those raised directly by the sort of merger discussed here. The case is discussed and analyzed in White (1985).

145. These other services potentially are good substitutes that should be included in the market even though their supply may involve quite different sorts of transaction made with different types of buyers. The merging cable program networks (we assume) sell their services to cable or DBS providers, who in turn retail the delivered program services to consumers. The programming of conventional television broadcast stations may not be for sale in the same sense to cable or DBS systems (depending on licensing and copyright arrangements), and such services rarely are sold to consumers; instead their revenue comes either from the sale of airtime to advertisers or, in the case public stations all or in part from a licensee fee or other public source. To the extent they are substitutes for consumers, however, these services still would constraint the market power of the merged cable networks by reducing the demand

elasticity for their delivered programming, which in turn would reduce the elasticity of the derived demand of cable or DBS operators.

146. The distinction between supply responses that do and do not involve committing substantial sunk investments is made to distinguish between supply responses that are considered as supply substitution, in which case the firm (or some part of its capacity) is counted as participating in the product market), and supply responses that involve entry into the market. This distinction is discussed in some detail in the 1992 revision of the U.S. merger guidelines.

147. Related points were discussed in Noll, Peck and McGowan (1973).

148. This implicitly also assumes that different prices can be agreed with different buyers in the different areas.

149. Director of Investigation and Research (1989).

150. For further details see discussion in Chapter 9.

151. See the discussion in White (1985).

152. So-called syndicated programming is sold either to television stations who are not affiliated with one of the major commercial networks or to network affiliate stations for broadcast during times when the network does not provide programming.

153. When a firm in the market also supply other markets, there also are questions of what proportion of that firm's total sales or output should be considered available to the market in question.

154. The most obvious possibility, the revenues of each, are not really comparable since they measure different outputs. The revenues of an advertiser-supported network are an indication of the value to advertisers of airtime, not measures of the value to consumers of the supply of programming.

155. Even if available, there may be problems with its use: time viewed may not be a good indicator of the value of programming to consumers. There may be a strong demand to have the option of watching a program service occasionally, or a high value to small amounts of viewing. An example of the latter may The Weather Channel, a U.S. cable network service providing weather forecasts and news almost exclusively. The value to many viewers of having detailed, recently revised weather forecasts easily available on short notice may be quite high even though only a small amount of time is spent watching the channel. The Cable New Network (CNN), originally for U.S. cable distribution but now more widely available, might be an example where option demand is important for some viewers. Viewing of CNN increased substantially during the 1991 Gulf War; the value of having CNN available to monitor occasional important news may mean its value for some subscribers is understated by the average amount of time spent watching.

156. Presumably buyers would shift in the longer run or the firms should not be in the same product market.

157. For example, there is evidence that the shares of firms selling broadcast rights to programming in the United States fluctuates considerably; see FCC Network Inquiry Special Staff (1980a).

158. For example, second example did not consider whether there were limitations on the entry of new pay program services. If other pay services could enter easily that could prevent the exercise of market power by the merged firm even though regulation constrained the response from basic services.

159. On the other hand, a license fee could affect consumer demands if, for example, consumers were more likely to subscribe to a service if they had two television sets and a license fee was charged on each set, or if a service required a new more expensive receiver and the amount of the fee varied with the cost of the television set.

160. If a firm has monopsony power as a buyer of an input, it usually also would have market power as a seller. In that case the input inefficiency would raise the marginal cost curve of the monopolist reducing the profit-maximizing output and increasing inefficiency. It is not logically necessary, however, that the monopsonist also have market power as a seller. It might be, for example, that the input geographic market in which monopsonist purchases an input is much narrower than the geographic market for its output so that its output does compete with that of many other firms even though it does not compete with those firms for an input. In this case, the output of the firm exercising monopsony power would fall, but total output of the product by all firms would not. Social costs for the output would be inefficiently high because that portion of output produced by the monopsonist would have inefficiently high costs. (Of course there must something must offset the costs to the monopsony of the input inefficiency to prevents that inefficiency from forcing it out of the industry entirely. For example, the input for which it is the single buyer might be lower cost or more productive and there is some barrier that prevents any other firms from entering and purchasing in this input market.)

161. Caves (1989) notes that program production may be one of the few industries in which it is efficient for labor to hire capital, rather than the other way round.

162. The program supply industry is analyzed in detail in FCC Network Inquiry Special Staff (1980b) and Owen, Beebe, Manning (1974). FCC Network Inquiry Special Staff (1980b) also reviews previous analyses of network monopsony power. Recent evaluations that conclude it is doubtful that the U.S. over-the-air networks can exercise monopsony power are in U.S. DOJ (1990b) and Staff FTC (1990a).

163. Fisher (1985) compares owning programme rights with holding a lottery ticket.

164. As with programming, particularly popular network services may earn rents and these rents and the price charged for these services may change with shifts in demand without implying that the supply of network services is not sufficiently elastic to prevent the exercise of monopsony power. As with the supply of programming, the question is whether the supply of marginally profitable network services is very elastic.

165. In principle similar free riding also could result in an undersupply of programming when different purchasers of rights contribute to covering the costs of production. The discussion of

program supply above implicitly assumed that the network purchaser was sufficiently large that it would not try to free ride on payments by other purchasers of rights, but instead would act as if in order to assure production it had to pay an amount at least equal to the cost of production minus the expected revenue from the sale of other rights. The next chapter discusses how contracts between networks and producers may be structured to limit incentives for opportunistic behavior that would lead to an undersupply of programming.

166. Negotiating a master contract is likely to reduce the costs of negotiating agreements as well as to help reduce free riding problems. The argument presented assumes that the internal organization of the firm gives the managers of individual cable systems incentives to increase the net revenue earned by the local system itself.

167. This defining characteristic of full integration implies that vertical integration requires more than common ownership of the two stages of production. Upstream and downstream producers under common ownership would not be fully vertically integrated if the upstream subsidiary sold a substantial proportion of its output to other firms and the downstream subsidiary bought a substantial proportion of its inputs from other firms; in this case, market transactions and the incentives they give for production and distribution decisions would not be completely replaced by internal exchanges and organization. See Perry (1989, pp. 185-187) for a more complete discussion of the defining characteristics of vertical integration.

168. Textbook introductions to this literature are Carlton and Perloff (1990, Ch. 16) and, at a more technical level, Tirole (1988). More detailed reviews of the literature are Perry (1989) and Katz (1989). Ordover and Saloner (1989) in the same volume also reviews some of the literature on exclusionary practices. Williamson (1989 and 1985) discusses the transaction cost approach to vertical relationships.

169. A typical example of technological economies is the energy savings from not having to reheat steel in the production of sheet steel if the blast furnaces and rolling plant are operated together. (Example from Perry (1989, p. 187).) Williamson (1985 and 1989) argues strongly that technological economies alone cannot explain vertical integration; absent the transaction cost problems that he argues are the fundamental reason for vertical integration, the same technological economies could be achieve by separately owned firms located in physical proximity and relying on market transactions.

170. Recall that the formal analytical criteria for whether economic efficiency increases is whether total surplus increases; total surplus is defined as the sum of firms' producer surplus (or economic profits) and consumer surplus. Thus economic efficiency falls when consumer surplus falls more than profits increases, as it does when market power is exercised. If a change increases consumer surplus as well as economic profits, then total surplus and efficiency also necessarily increases. The final possibility is that a change both increases profits but decreases consumer surplus, in which case total surplus and economic efficiency may either rise or fall depending on which is the greater change. Vertical integration by common ownership or contract can cause any of these combinations of changes.

171. The term "independent producer" carries different meanings. In the U.S., independent producers are those other than the major film studios and distributors. Outside the U.S. (in the context of video program production) it generally is used to refer to any producer of programming

without substantial ownership ties with a television network. (Obviously a strict definition must establish at what share of ownership by one or more networks a producer ceases to be independent.) This report generally adopts the latter usage: independent producers that do not share ownership with video networks.

172. FCC Network Inquiry Special Staff (1980a).

173. This list is drawn from a review by the FCC Network Special Staff (1980a) of actual contracts between producers and the major U.S. commercial television networks for evening, "prime time" programming written mostly in the 1970s, but even within this narrowly defined set of transactions the review found substantial variation in contract terms. The agreements reviewed did not all or even usually contain all the terms listed. This study contains a detailed discussion of contract terms that is particularly valuable because the staff was able to review a large number of actual contracts, something normally not possible.

174. Williamson (1985) discusses both the need both for a detailed microanalytical approach to transactions and the relative crudeness of existing analytical tools of transaction cost economics; see in particular Chapter 15.

175. Williamson (1985 and 1989) are basic sources on the implications of transaction-specific assets and the analysis of contractual relationships. Also see Perry (1989, pp. 188-9) and the discussion and references cited in Appendix B.

176. See Williamson (1985 and 1989) for discussions of transaction cost economics and the fundamental roles of transaction-specific assets and opportunistic behavior. Williamson points out the limitation of market governance and of specifying performance in contracts.

177. Among the likely costs of court enforcement of contracts are the costs imposed by the severing of the relationship itself.

178. Perry (1989, pp. 188-189) notes that there are two different strands of analysis in the literature. The transaction cost literature emphasizes analysis of the exchange process itself, whether organized contractually or under common ownership. The neoclassical analysis of vertical integration and vertical controls focuses on production and distribution choices. Williamson (1985, Ch. 1) makes a similar distinction in another way. He notes that other branches of analysis stress ex ante assignment of property rights and ex ante incentive alignment. Transaction cost economics, while accepting the importance of both, adds that institutions and contracts affect ex post transactions costs. These strands of analysis are complementary: both should be considered to see the full range of issues involved in vertical relationships, and often analyzing the same issue from the perspective of both approaches yields a more complete understanding. Transaction cost economics is closely associated with the work of O. E. Williamson, and good reviews of his and other works are contained in Williamson (1985) and (1989). The extensive neoclassical literature is reviewed in Katz (1989) and Perry (1989), the latter of which also has brief discussions of transaction cost economics.

179. This category overlaps with the first since such transaction costs are generated by opportunistic behavior described in the first category and because efficiency lost because of inadequate safeguard for transaction-specific assets also can be categorized as transaction costs.

180. Perry (1989, p. 189).

181. See references cited above to the economic literature on vertical contracts and vertical integration.

182. See Appendix B for a more detailed discussion of the contract options and the advantages and disadvantages of various contract arrangements.

183. Both points are stressed by Williamson (1985, Chs. 7 and 14).

184. Monopsony power will not, however, somehow allow the network to purchase all rights to a programme for less than the producer's reservation price or the opportunity costs of the inputs used to produce the programme. Rather the network with monopsony will restrict its purchases. This may be accomplished by reducing the amount it is willing to pay for rights and, as the lower prices offered will cover the reservation price of fewer productions, fewer rights will be pruchased. With the supply curve for programme rights sloping upward to the right (as it must if the network has monopsony power), the cost of producing programmes and thus the amount networks need pay to cover the costs of production and buy rights, will fall. But the amount the producer expects to receive from the network, together with that expected from other buyers, would still cover the producer's reservation price. This does not mean the producer will always receive payments that cover both all incremental costs and all sunk costs. When demand is contracting it is likely that some producers will fail to cover sunk costs as part of the market process of contracting supply. In addition, demand and cost uncertainty means some producers will not receive payments that cover all costs; this important point is discussed in the text immediately below.

185. The price paid for the other rights may either be the amount for which they could be pre-sold to another buyer, or the value to the producer of retaining those rights and the claim to an uncertain return when (and if) they are sold in the future.

186. Whether networks should be allowed to purchase rights to non-network distribution has been disputed for many years in the U.S. Since 1970, F.C.C. rules, known as Financial Interest and Syndication Rules, prevented the three major commercial networks from purchasing non-network domestic rights. These rules recently have been relaxed, but some restrictions remain. Concern over network monopsony power has not been the only reason given for these restrictions, but especially at first it was a major reason. The review of these rules by the FCC Network Inquiry Special Staff (1980a and 1980b) concluded, that they could not be effective in restricting monopsony power, basically for the reasons in this paragraph. Comments by the U.S. DOJ (1990b) and the Staff of the FTC (1990a) in the recent review of these rules reached the same conclusion.

187. It is also possible that networks might purchase non-network distribution rights in order to increase their ability to exercise not monopsony power but market power as sellers in downstream markets. These possibilities raise issues similar to those discussed in the next section of this chapter on exclusionary practices. In the U.S., the policy debate over network purchase of syndication rights or financial interests has shifted from being primarily concerned with the exercise of monopsony power to being equally or more concerned with the

possibility that the purchase of such rights enhances the ability of networks to exercise market power as sellers; see U.S. DOJ (1990b) and Staff F.T.C. (1990a).

188. The network may make the payments at a later time, but if so the values given should be interpreted as being their discounted value at the time the network is committed by the contract to paying them.

189. The numerical example simplifies the presentation by ignoring the fact that the total value of the risk premium presumably would vary with the amount financed.

190. The network also is exercising bargaining power by retaining the increase in expected net revenues that results from the more efficient allocation of risk. A rule that prevented the network from exercising this bargaining power by preventing it from purchasing non-network rights, however, would also prevent an efficient allocation of risk, and would make the producer no better off.

191. As well may happen where traditional network distribution faces increased competition from other means of distribution.

192. See the analysis of Figures 1 and 2 in Chapter 5. A shift up and out of the total revenue curve R increases the marginal revenue at the old optimal level for the production budget thereby increasing the optimal production budget at which net revenues are maximized.

193. In the U.S., the FCC in its recent revision of the Financial Interest and Syndication Rules has imposed "safeguards" intended to prevent networks from dominating producers in negotiations over program rights. Networks may now acquire financial interests or syndication (non-network) distribution rights in some prime time programming but only in negotiations that are separate from negotiations over the purchase of network distribution rights and that are initiated 30 days after an agreement is executed on network distribution rights. Negotiations for co-production arrangements between producers and networks must be initiated by the producer. Both the U.S. DOJ (1990d) and the Staff FTC (1990b) questioned whether such rules would be effective in their comments on these rules when they were proposed by the FCC.

194. See Williamson (1985, Ch. 6), for a detailed discussion of the relative advantages and disadvantages of the institutional alternatives of vertical integration and vertical contracting.

195. See Perry (1989, pp. 196-7) for a further discussion. This analysis is applied to the case of program production and networking in Staff F.T.C. (1990a) and U.S. DOJ (1990b).

196. Although in this case economic efficiency will be reduced less than it would be if vertical integration were not an alternative.

197. Presumably the policy has some objective other than economic efficiency if its effect is to prevent vertical contracts that would increase efficiency.

198. Krattenmaker and Salop (1986) argue for analysing such practices under the common heading of exclusionary practices, or the purchase of exclusionary rights. They point out that the

distinction between upstream and downstream or buyer and seller is less crucial than the more general concept of a firm acquiring the rights to exclude its rivals.

199. Several implicit assumptions should be made clear. First, to simplify the pricing story assume that prices paid for programming equal the cost of production; either there are no quasi-rents or networks are able to capture them. Second, assume that neither buyers nor sellers are able to exercise market power either before or after the merger. Specifically, the implicit assumption is that the reduction in the number of buyers and sellers from five to four does not allow any increased exercise of market power by producers or monopsony power by network buyers. This is not implausible given the difficulties of collusion in such markets; see the discussion in the previous chapter noting that some analysts of similar markets in the U.S. have argued that the three major commercial, over-the-air networks were unable to collude in purchasing programming even before there were other significant purchasers of programming for video distribution.

200. It is not even quite correct to say that vertical integration involves exclusion and entry does not. So long as we continue to assume that a given program is sold to only a single network, purchase of programming produced by the entrant excludes purchase of programming by an independent producer in basically the same way as does using programming produced by the integrated subsidiary. Krattenmaker and Salop (1986, p. 228) point out that purchase of units of an input convey a type of exclusionary right when those units cannot also be sold to other buyers.

201. Note that the resources devoted to program production remain the same (leaving aside the possibility that the new source of supply uses fewer inputs) even though some of those inputs are used by the integrated subsidiary. Thus with an unchanged overall demand for programming, the price and cost of programming would not change even if the supply curve of video programming is not perfectly elastic.

202. Tirole (1988, pp. 193-198) contains a good discussion of the economic analysis of foreclosure that classifies the literature into these two categories. Also see Ordover, Saloner and Salop (1990, p. 130).

203. For this last case, and others involving complementarities see Ordover, Willig and Sykes (1986).

204. The efficiency benefit may be a separate effect, perhaps reduced transaction costs. Alternatively, it may be an integral effect as when preventing a downstream purchaser from substituting away from the monopolist's input leads to a more efficiency input mix. Increased price discrimination also may have a positive effect on efficiency if output increases because on the margin more purchase decisions involve marginal outlays closer to marginal cost.

205. An efficiency justification might not be allowed for a variety of reasons, including the difficulty of measuring and validating prospective efficiency gains, the possibility that increased profits will be converted into efficiency losses by rent-seeking behavior (in which case efficiency is not in fact increased), and the possibility that similar efficiency benefits might be achieved by other means without the (partially) offsetting increase in market power. See Krattenmaker and Salop (1986, pp. 277-282)

206. The reason could be either that the efficiency effect was relatively smaller, or because, as with price discrimination, producers are able to capture in profits the efficiency gains.

207. See Tirole (1988, p. 193) for a very similar characterization. The distinctions between input and output, upstream and downstream, and buyer and seller can change either because of industry structure or sometimes for analytical convenience. For example, network services can be seen as the upstream service sold to video distributors as an input into delivered video programming. An analytical alternative, and one closer to actual industry structure in some cases, is to see video distribution as the input acquired to produce the final output of delivered video programming. Thus for many purposes one can structure the analysis in terms of exclusive rights to an input with little loss of generality. See Krattenmaker and Salop (1986, p. 226).

208. Such exclusionary practices are often analyzed as strategies to raise rivals' costs. Ordover and Saloner (1989, pp 564-565) point out that similar effects might be achieved if the exclusion impairs the ability of the rival to generate demand for its product. The rival might respond to the demand-impairing activity by raising promotional costs, in which case the exclusion does raise the rivals' costs, but need not do so.

209. See for example Tirole (1988, p. 193).

210. See for example Krattenmaker and Salop (1986, esp. pp. 230-253) and Ordover, Saloner, and Salop (1990) and the references cited there.

211. See particularly Ordover, Saloner and Salop (1990), which presents a fully specified model in which foreclosure and increased market power emerge in equilibrium. Also see Salinger (1988) and Tirole (1988, pp. 194-198) and the references cited there. The controversy does continue, however. In particular, see the recent note by Reiffen (1992) on Ordover, Saloner and Salop (1990) (hereafter "OSS"), which argues that OSS's result that integration is followed by higher prices is not a result of vertical integration. In the OSS framework, argues Reiffen, the ability to commit to charging a high input price allows the exercise of market power with or without vertical integration, while vertical integration without the ability to commit to a high price does not allow the exercise of market power; thus vertical integration itself is irrelevant, since it is neither necessary nor sufficient for the exercise of market power. On close examination, it is only horizontal behavior that matters, not vertical integration. In a reply, Ordover, Saloner and Salop (1992) counter that an ability to commit is not crucial to their model; vertical integration itself is important because "vertical integration changes the firm's incentives to engage in price-cutting in the input market." Ordover, Saloner and Salop (1992, p. 698).

212. Ordover and Saloner (1989, p. 570) write: "The development of the theory lags somewhat behind the potential applications. The ability of a firm to outbid its rivals for access to the resource as well as the rival's ability to respond to the increase in its cost depend on the exact nature of the foreclosure...[and] it is also sensitive to the model formulation. Additional theoretical work seems warranted." Tirole (1988, pp. 193-195) also discusses the work that remains to be done, while noting that "Progress has recently been made toward formalizing the effects of a particular type of market foreclosure -- vertical integration -- on the competitive structure of the downstream and upstream industries and on welfare."

213. The authors suggest that an important advantage of this framework is that it can be used provide a consistent analytical criteria for evaluating a wide range of practices. As noted above, the general category of vertical exclusionary practices covers issues ranging from the effects of exclusivity rights to foreclosure of existing unintegrated firms to raising entry barriers by vertical integration or long term exclusive contracts.

214. This description is only a quick summary of the literature. Much of the discussion draws directly from that in Krattenmaker and Salop (1986). For further details see Krattenmaker and Salop (1986), Tirole (1988, pp. 194-196), Ordover, Saloner and Salop (1990), and Ordover and Saloner (1989 pp. 565-570), and references each cites.

215. For a more complete list see Krattenmaker and Salop (1986) and other references cited in the previous note.

216. Krattenmaker and Salop (1986, p.262-266) argue that additional information about the output market also might be considered to judge the likelihood or extent of harm and that it may not be appropriate to use the same standards for suspect levels of concentration as in a horizontal merger case.

217. Rather than vertically integrate, the downstream firm could enter into a contract with the supplier that specified a two-part tariff; the per unit component of price would be set at the marginal costs of supply, so the rival's marginal costs of production would be unraised by exclusion while the fixed component of the price would compensate the supplier for its foregone gains as a monopoly supplier. The fixed component is equivalent to the cost of acquisition that would be paid to accomplish vertical integration. See Ordover and Saloner (1989, pp. 567-568) for a formal modeling of this counter-strategy; they also point out that a change in the specification of the model could make the counterstrategy unprofitable.

218. Still another variant would be self-entry by beginning a upstream subsidiary, some of the costs of which might not vary with the level of output. Notice that in both this case and the previous one, the choice between strategies involving vertical contracting and those involving vertical integration may depend on transactions costs; in both cases the supplier and/or downstream user of the input may be developing transaction specific assets that need to be protected against opportunistic behavior. For this reason, it would not be surprising if the counterstrategy also involved vertical contracting or integration that involved a variety of controls.

219. See the references cited earlier.

220. See in particular Ordover, Saloner and Salop (1990). Also see the discussion in Ordover and Saloner (1989, pp. 566-568) and the general review of counterstrategies in Krattenmaker and Salop (1986).

221. The work of Ordover, Saloner and Salop demonstrates how work in modeling different strategic games between rivals may provide additional insight about when counterstrategies will be profitable and prevent foreclosure. In the basic model of Ordover, Saloner, and Salop (1990) a downstream firm (D2) that is a victim of exclusion by a rival downstream firm (D1) cannot bid enough to acquire its upstream supplier (U2) that is made a monopolist; the sum of the

profits of U2 and D2 increase because the upstream supplier U2 gains more than D2 loses. Consequently D2 cannot make a profitable bid to merge with U2 to prevent exclusion. In an interesting variation, however, they show that if instead the downstream firms compete in quantity instead of price, D2's best response to an increase in price by D1 (if exclusion drove up D2's costs), would be to decrease price. As a result the sum of the profits of D2-U2 would be decreased; to avoid this result U2 and D2 would counter a U1-D1 merger with their own merger with the result that the attempt at foreclosure would not increase the exercise of market power.

222. An input supplier's profits might be even higher if the firm purchased exclusivity from another input supplier, leaving this input supplier with increased market power; in that case the input supplier can be expected to require compensation for those larger profits it forgoes by granting exclusivity rather than waiting for the firm to purchase exclusivity from another supplier. See Krattenmaker and Salop (1986).

223. There have been a number of studies of the extent to which U.S. cable systems give preference to cable program networks in which they have ownership interests. All studies show that there is no general pattern of complete foreclosure: as stated in the text cable systems continue do purchase affiliated networks, even those that directly compete with networks they own, and networks affiliated with one cable systems sell to other cable systems. There is more controversy about the extent to which the evidence shows that cable systems favor networks they own. A fair summary would be that there is little evidence of favoritism in carriage of so-called basic cable networks (for which customers usually are not charged separately), but some evidence that the cable systems with ownership interests in the major pay networks, namely HBO and Cinemax (owned by Times-Warner) and Showtime and The Movie Channel (owned in part by Viacom) are more likely to carry their own services than the directly competing service. It is less clear whether the result is to restrict output and raise price or to achieve efficiencies that may benefit consumers. See Waterman and Weiss (1990), Klein (1989), U.S. DOJ (1990a), and Owen (1990).

224. Even there are only a small number of independent producers from which rival networks could buy, those producers would not be able to exercise monopoly power (thereby raising network costs) so long as entry into program production were relatively easy or, what amounts to the same thing, rival program networks could begin their own program production subsidiary without a cost penalty, or could use a counterstrategy of merging with one of the existing program producers.

225. As noted earlier, the extent to which networks will have to transfer these rents upstream will depend on bargaining power.

226. This in turn may involve an issue frequently encountered in issues involving intellectual property rights: what if any limits should be placed on the ability of holders of rights to intellectual property to capture the consumer surplus generated by that property? The long-run incentive for the supply of such work is enhanced by allowing the property holder to capture greater rents, but in the short run there may be a deadweight loss of benefits because (in the absence of perfect price discrimination) capturing these rents limits consumption of (the services of) property already produced.

227. It is not claimed that the immediate reason for these equity ties was as a counterstrategy against exclusion. These relationships probably represent both efficiencies of transfer of capital internally rather than through capital markets, and methods of reducing entry barriers and methods of providing some commitment to purchase network services that reduced entry barriers and possible opportunistic behaviour. These same benefits, however, could be helpful in developing alternative networks as a counterstrategy to exclusion, if that were necessary. The pattern itself has been true of the development of numerous cable networks in the U.S. market and is proving to be true elsewhere. For the U.S. experience see NTIA (1988).

228. Or to put it the other way round, video distribution is an essential input into the supply of distributed video programming.

229. The price paid for exclusive rights would still have to reimburse the rights holder for what revenue the rights could have earned elsewhere. See Waterman and Weiss (1990) both on the analytical issue and on the substantial premia paid by U.S. cable networks such as HBO and Showtime for exclusive cable rights to motion pictures. Also see Owen (1990).

230. The upstream producer also could find that disadvantaging a potential buyer harms its bargaining position.

231. For one such view see Locksley (1988).

232. A partial exception would be a conglomerate merger that eliminates a separate firm that is likely entrant because it is in a related business. In this case the firms are not now horizontal competitors, but are potential competitors. See for example, Director of Investigation and Research (1990) (Canadian Merger Enforcement Guidelines).

233. See Table 2-1 in Chapter 2 for data on cable penetration in OECD Member countries.

234. Because of the function of this safe harbour, setting its limits involves not determining criteria that insure cable companies are unable to exercise market power, but rather establishing criteria that insure any remaining exercise of market power by cable companies is sufficiently small that its costs would be outweighed by the burdens and costs imposed by regulation.

235. Not all municipal authorities had chosen to regulate basic rates before this; one study estimated that the pricing of about 34 percent of systems was not subject to regulation before 1986. U.S.GAO (1989).

236. The new standard is that a cable system will be presumed to face effective competition if either (1) six unduplicated over-the-air broadcast signals are available in the entire cable community, or (2) an independently owned, competing multichannel video delivery service is available to 50 percent of the homes passed by the incumbent cable system and is subscribed to by at least 10 percent of the homes passed by the alternative system within the incumbent cable system's service area. FCC (1991).

237. FCC (1990).

238. A statistical study by Levy and Pitsch (1985) estimates demand functions for VCRs and for basic and pay cable service, in part to look for evidence on whether cable and VCRs are substitutes.

Their results show some indication that VCRs and over-the-air broadcast stations are complements, but (more weakly) that pay cable service and VCRs are substitutes. As the authors' acknowledge, however, there are substantial problems with the data they had available. In addition, the study considered only the relationship between cable subscription and ownership of a VCR and had no evidence on whether or to what extent VCR owners had videotape rental service available or made use of those services.

239. The studies are Crandall (1990), and two cited in FCC (1990 and 1991): Dertouzos and Wildman ("Dertouzos and Wildman study"), "Competitive Effects of Broadcast Signals on Cable", Attachment to Comments of NAM in MM Docket No. 90-4; and NTIA Staff Report ("NTIA study"), "Competitive Effects of Broadcast Signals on the Price of Basic Service," Appendix A of Comments of National Telecommunications and Information Administration in MM Docket No. 90-4. These studies, and other, are reviewed and analyzed in Appendix E of FCC (1990).

240. The conclusions of the studies are not perfectly comparable: the studies differed in how they measured whether broadcast stations were available, and different specifications of their regressions affected the way in which they measured the incremental affect of different stations.

241. This observation is made by the U.S. Department of Justice in comments to the FCC; U.S.DOJ (1990a). Evidence on pricing patterns over time and on profitability are, however, sometimes presented to courts in competition policy cases and considered.

242. Results of this survey, carried out jointly by the FCC and the U.S. General Accounting Office (GAO), are presented in Appendix F of FCC (1990). An earlier GAO study is presented in U.S.GAO (1989).

243. It is clear that total expenditures for programming by cable networks increased substantially. The National Cable Television Association estimated that annual cable programming expenditures increased from $302 million in 1984 to $965 million in 1989. Other costs also appear to have increased. At the same time number of subscribers also were increasing rapidly and there was no clear evidence on the level or pattern of costs per subscriber per channel. [FCC(1990)] In addition, data on programming costs should be interpreted with care since, if rents are being earned in the supply of cable services, owners of programming rights may be able to capture some of those rents in higher prices for program rights.

244. See for example Crandall (1990).

245. This measure is also called Tobin's q. A review and critique of estimates of the q ratio for U.S. cable owners is in Appendix E, FCC (1990).

246. FCC (1990) and DOJ (1990).

247. In the U.S. licenses at different microwave frequencies may be used to distribute broadcast service. We call all of these "MMDS" service to avoid confusion, although strictly speaking in the U.S. MMDS refers to a particular service. (In the U.S. the term "wireless cable"

sometimes is used to refer to all these services.) Potential channel capacity varies from 3 to 20 depending on the service or frequency. FCC (1990)

248. The defining cost characteristic of natural monopoly is given here in terms of subadditivity of costs (supply of a given output by a single firm has lower total cost than by more than one firm), rather than in terms of economies of scale or scope, characteristics of costs that are related to subadditivity. Doing so seems preferable for two reasons. The more technical reason is that subadditivity is the more fundamental concept and a rigorous statement of the relationship between it and various concepts of economies of scale and scope is not straightforward. Perhaps a more important reason here is that the concepts of economies of scale (due to increases in output) and of scope (due to increases in the number of products produced) are vague and ambiguous, and therefore potentially misleading, until one defines precisely the products being produced and their quantity dimensions. For example, is the output quantity of a cable system measured by the number of households to which service is available, or the number of subscribing households? Discussions of these cost concepts are in Baumol, et.al.(1982) and Panzar (1989).

249. Noam (1985) and Owen and Greenhalgh (1986). Both are based on U.S. cable system data. These and other studies are discussed in Hazlett (1990a). Noam (1985) is based on what should be more reliable data, that from nearly all 4,800 cable systems operating in the U.S. in the late 1970s and early 1980s. Owen and Greenhalgh's estimates are based on figures in bids submitted in 1980 for franchises, rather than operating results. Noam's estimates of scale effects are the smaller of the two. Noam (1985) also estimates the effects on unit costs of a larger system passing more homes; these estimates show very little reduction in unit costs by expanding the size of a cable system in this way. Serving a large area with one system rather than having two systems, each of which is the single system for half the area, is estimated to increase unit costs by only about 2 percent.

250. Some published estimates of the necessary fixed and variable costs of MMDS and DBS systems are generally consistent with this speculation when the systems are assumed to serve about the number of subscribers that likely would be needed to cover full costs. This evidence, however, is far from conclusive and does not justify a stronger statement. See DBS and MMDS costs reported in Henry (1985) and FCC (1990).

251. The distinction between sunk and fixed costs is crucial. Fixed costs are costs that do not vary with output, and therefore may generate scale economies; fixed costs cannot be avoided so long as the firm produces something, but can be avoided if the firm ceases production (exits). Sunk costs are committed and cannot be avoided by exiting. Investment that represents fixed but not sunk costs may be used for production in other markets, but sunk costs have no other use and no opportunity cost once sunk. For a full exposition of contestability analysis see Baumol, et.al.(1982); also see the discussion in Gilbert (1989). Definitions of fixed and sunk costs from Baumol, et.al.(1982).

252. In other words, prices adjust to clear markets rather than quantities adjusting to clear markets in which price is fixed.

253. In the terms of contestable analysis a higher price would not be sustainable. This analysis assumes that if production by a single firm is least cost, there also exists a set of sustainable

prices that cover the incumbent's total costs and at which entry would not be profitable. The possibility that no sustainable set of prices exists despite subadditive costs is discussed below.

254. If only one supplier may survive, contestability theory says nothing about whether it will be the incumbent or the entrant, or about the strategic game the two rivals might play to determine who exits. Of course under the assumptions of contestability such interactions or strategy are of little importance since they cannot affect the static equilibrium results.

255. As has been noted; for example Smiley (1990) writes, "it would be hard to find a more unlikely candidate for contestability than the cable industry."

256. In each case, that value may be affected by regulatory restrictions; regulation may determine what other services may be provided using the cable distribution plant in competition with the primary telecommunications carriers, and what other uses may be made of the DBS of MMDS spectrum.

257. See Gilbert (1989) for a good discussion of the strategic analysis of entry; the discussion here draws heavily on Gilbert.

258. This assumes that the market consists only of multichannel providers, but as noted above the underlying assumption for this discussion is that other services do not provide sufficiently close substitutes to prevent multichannel providers from exercising market power. The argument also assumes that there are sufficient scale and scope economies in the supply of multichannel service that only a small number of suppliers will be viable.

259. To give some simple examples, with two suppliers of undifferentiated products, the equilibrium price of Bertrand competitive game (with price as the decision variable) is equal to marginal cost, while the equilibrium of a Cournot game (with quantity the decision variable) will be above marginal cost. If the products of the firms are differentiated, the Bertrand equilibrium price also is above marginal cost, although it will still be lower than the Cournot equilibrium. See Tirole (1989) and Gilbert (1989) for general discussions; Smiley (1986) discusses this issue in the context of his model of cable system entry and pricing. Gilbert (1989) stresses the important point that there are many different possible oligopolistic interactions, and thus models of oligopolistic behavior, and the outcome of the entry game or model depends on this behavior.

260. The incumbent's only incentive to set pre-entry price below the level that would maximize pre-entry profits would be that doing so would change the post-entry profits an entrant could expect. But an incumbent cannot do that simply by setting a pre-entry price or output (as in the limit pricing model) and insisting he will not change them to accommodate an entrant; such a commitment generally will not be believable because once entry happens, maintaining that output or price may no longer be the most profitable choice for an incumbent.

261. Sunk investment is most likely to deter entry, rather than simply to affect its scale, if the entrant has some scale economies so that entry will not be profitable unless some minimum efficient scale can be achieved. Multichannel providers are likely to have to achieve some minimum scale to be profitable, although in the case of DBS providers the necessary scale may have to

be achieved only across its entire service area rather than in the smaller area served by a particular cable or MMDS system.

262. Purchasing this equipment involves sinking investment in a certain level of capacity if the equipment has little resale value. Of course, if customers who want to subscribe must buy rather than rent their equipment they will bear much more of the risk that the supplier will go out of business; the desire to bear this risk rather than the effects of sunk investment on entry may be more important for the business decision.

263. See Gilbert (1989) and Tirole (1989) on various strategies that may be followed to deter or accommodate entry. Even if entry cannot be deterred, it may be best to be aggressive, for example if increased capacity investment will limit the entrant's market share or allow the incumbent to maintain a higher price. On the other hand, continued capacity expansion when entry cannot be prevented might lead to a price war and lower profits than a softer response if entry cannot be prevented. Using the terminology of Fudenberg and Tirole (1984, discussed and cited in both Tirole (1989) and Gilbert (1989)), a firm could follow a tough "top dog" strategy to deter entry, but if that is impossible the best strategy, depending on its effect on post-entry results, might be either be the same "top dog" strategy, or a "puppy dog" strategy to induce the entrant to follow a less aggressive and harmful counterstrategy.

264. The reduction in price and increase in output understates the increase in consumer surplus if consumers value the product differentiation. If the product differentiation itself increase costs, the net effect on welfare of differentiation is of course unclear. As is well known, under monopolistic competition the extent of product differentiation may be either greater or less than what would maximize welfare.

265. Appendix C explores in more detail the process of entry and its effects of efficiency by discussing the simulation study by Smiley (1986) of the viability and effect of entry by competing cable companies.

266. This problem was originally posed by Faulhaber (1975), who gave the following example. There are three products, A, B and C. The cost of producing any one of them is 300, the cost of producing any two is 400, and the cost of producing all three by a single firm is 650. This cost function is subadditive; dividing production of the three products between two firms increases total costs from 650 to 300 + 400 = 700, and dividing production of two products between two firms increases total costs from 400 to 600. Still, it is impossible for a single firm to raise the 650 it costs to supply the three products without charging more than 400 in total for some group of two products; for example, if customers of A and B are charged a total of 400, customers of C would have to pay 250 to make up the difference. This is still below the stand alone cost of C production alone of 300, but now it would be less costly for customers of B and C (or of A and C), who together would be paying 450, to produce on their own for a total cost of 400. Note that if B and C is produced separately, this leaves customers of A much worse off since the costs A production alone are 300.

267. Similar dynamics might be set up if production of some of the products is simply uneconomic: the additional costs of producing them exceeds their value to consumers. The sustainability problems described can arise, however, even when production of all products is economic.

268. This is a simplification because it does not consider the additional constraints of market demand.

269. Intuitively, demand substitutability helps the entrant and hurts the natural monopolist in two ways. First, it means that entry reduces the natural monopolist's sales both for the product being produced by the entrant and for those it does not produce. Second, if the entrant can take advantage of product-specific scale economies, high demand substitutability helps it to expand its sales and further lower its unit costs so that lower prices for the entrant's product may be profitable even when the incumbent's prices would not be.

270. The point that in practice incumbent firms may be able to maintain what formally are "unsustainable" prices without suffering entry is demonstrated by Smiley's (1986) simulation of entry by cable suppliers, which is described in Appendix C. This analysis found that entry by a second cable firm was not necessarily profitable or viable, even though a single cable firm would set pre-entry prices higher than its costs. But in contestability analysis any price set above total cost is unsustainable. The point is that prices that are unsustainable in a contestable market will not necessarily attract entry when the process of entry follows rules different from those that apply in contestable markets.

271. Hazlett (1990a and 1990b) argues that such barriers are important; other analysts dispute their importance.

272. Regulators may have authority to review and disallow costs and to require that firms seek prior approval for specified investments. While this modifies the simple regulatory process described, it ultimately does not change the fact that authorities must rely on the regulated firm and its experience for much of its information on costs.

273. See Joskow and Rose (1989).

274. See Acton and Vogelsang (1989), and on the U.K. experience Beesley and Littlechild (1989).

275. See Schmalensee (1989) for a discussion of these tradeoffs and a simulation of the effects on efficiency of various regulatory regimes for different assumptions about uncertainty.

276. Beesley and Littlechild (1989).

277. Fox-Penner (1990) analyses the incentive of the firm under price cap regulation to reduce quality, and how the regulator's problem of monitoring and controlling quality under price cap regulation is similar to the problem of monitoring and controlling costs and efficiency of production under cost of service regulation.

278. Monitoring transmission quality throughout the locations served by a cable system, however, is neither easy nor inexpensive.

279. Furthermore, by changing the structure of prices that could be offered, efficiency might be reduced. Unable to set a high price for access, the service provider might set higher marginal prices for additional sets of services which would increase the extent to which the exercise of market power restricted the quantity of services consumed.

280. Some programme packagers also raise revenue by selling airtime to advertisers; in those cases the video distributor may make no payment to the packager, or the programme packager might pay the video distributor to carry the programming. Such payments, however, would be part of but smaller than the total implicit access charge, if the video distributor earns any additional revenues by carrying the service. If the video distributor sells advertising time on a programme service, any of that revenue retained also becomes part of the implicit charge for video transport. See Besen and Johnson (1982) for a detailed analysis of implicit charges for video transport.

281. Alternatively, delivery and program services could each be sold to consumers. Since one channel of delivery services and one channel of program services would have to be consumed in a fixed proportion of one-to-one, it would make little difference to consumers whether they saw two prices per channel on their bill or one, so long as the price per channel was a fixed charge. If program service supply was competitive, they would simply be passing the delivery service charge along to consumers. If, however, a more complicated non-linear tariff were charged program services for delivery services, that might lead to different prices than charging consumers directly for delivery services.

282. For example, a report in the U.S. by that National Telecommunications and Information Administration (NTIA(1988)), part of the Department of Commerce, recommended that local telephone companies be allowed to provide cable television transmission services on a non-discriminatory common carrier basis for lease to programme services; the telephone companies would not themselves be able to sell delivered programme services.

283. This also assumes that there is no excess demand for video transport at the regulated price. This is plausible if the video distributor can choose channel capacity knowing both the regulated price (or pricing rule) and the demand for program services (Although this does note deal with the likely possibility that demand will grow over the life of the system, and therefore there may be excess demand at some stage.) In a more realistic case, it is quite possible that there could be excess demand in which case program packagers would capture the resulting scarcity rents if the video distributor were not allowed to do so.

284. To the extent these inputs may be used in variable proportions, for example if program packagers can vary the amount of marketing services they purchase from the video distributor, pricing these services above cost will create an additional distortion.

285. Because the leasee may not have the same control over the number of channels of video transport supplied to the market, it might have to buy leases to channels and them leave them unprogrammed if it was unable to discriminate in the price it in turn received for these channels of video transport services. In this case, more channels would be programmed than would be by a monopolist that controlled the number of channels supplied initially; once the leases were purchased the marginal costs of the video transport on those channels would be zero (assuming no variable maintenance costs). The leasee presumably could discriminate if it programmed the channels itself, which would be an incentive to do so.

A simple model illustrates how it might be profitable to purchase all channels but not necessarily to program all of them. Assume a downward sloping derived demand (D) for video transport and a declining average cost (ATC) of supplying video transport; in each case the quantity

dimension is number of channels. A video distributor constrained to charge a uniform price for video transport equal to average cost supplies the number of channels at which D intersects ATC; call this quantity of channels supplied for sale QS and the regulated price paid PR. Assume a single purchaser is able to purchase long-term leases to the QS channels at a price PR. Once the leases are paid for, they become sunk costs. If we assume the leasee incurs no other marginal costs in supplying leased video transport, his incremental cost of supplying one of the channels leased is zero. If he must charge a uniform price per channel, the profit-maximizing quantity and price will be determined by the intersection of marginal revenue with the horizontal access (i.e. MR=MC=0); this quantity of channels, QM, will be smaller than QS, and price charged will be greater than PR. The leasee will earn profits (and thus buying control of all channels is profitable) so long as the cost of leasing the channels, PRxQS, is less than the revenue earned by selling the smaller number channels at a higher price, PRxQM. In this case, that is assured since demand is inelastic at quantities in excess of QM. If the leasee can price discriminate in the explicit or implicit amount charged for video access, the profits earned from the channels increases and more channels, perhaps all channels, will be programmed.

286. Purchasers of video transport would have an incentive to buy up control only if they can do so at prices that do not capture the value of the market power conferred by control of the scarce input. The video distributor would not capture the full value of this market power if regulation constrains the level of price charged for video transport is limited or if regulation requires the video distributor to charge a uniform price for video transport while the purchaser can price discriminate either explicitly or implicitly.

287. A service that relied entirely on revenue from advertising airtime it sold would not collect any revenue from subscribers. Presumably all subscribers to any programming service offered would receive such channels for no additional charge. Note that the cost and other problems discussed below also could induce a network to rely wholly on advertising revenue when it otherwise would prefer to carry somewhat less advertising and collect some revenues from subscribers.

288. Allowing consumers to choose to among individual channels, or among a larger number of small bundles of channels, also might increase costs of disconnecting and connecting subscribers as they changed the channels to which they subscribe. These costs, however, could be covered in charges to subscribers in which case there would be a market test of whether the increased costs were balanced by increased benefits to consumers.

289. Program services might be allowed to lease more than one channel, but the system would have to be designed to make it possible for each channel to be purchased by a different service to maintain maximum flexibility to sell different numbers of channels to different services and to change the pattern over time. The system could of course be designed with some channels that could be individually sold, and with a certain number of bundles of 2 or 3 or however many channels that could not be sold separately, but there would be no assurance that this mix would match demand patterns in the future and it is unclear that a menu of channels that offered a middling level of flexibility would be much less costly than one with more complete flexibility.

290. This is no more than a possibility. As pointed out in Chapter 5, bundled pricing is a form of price discrimination. As with other forms of price discrimination, it may increase total surplus if it increases total output, but there is no guarantee that it will have this affect. In addition, price discrimination in general and bundled pricing in particular is likely, even when total surplus is increased, to decrease consumer surplus.

291. This is a familiar problem in the economics of regulation and public utilities, where economies of scale or scope often result in marginal costs below average costs. Brown and Sibley (1986) has an extensive discussion of such issues. Besen and Johnson (1982) analyze the effects of various pricing plans for video transport; the issue also is discussed by Caves (1989).

292. This discussion is based on the analysis of Besen and Johnson (1982).

293. There is an important difference in how the additional revenue from a program service is measured by the multichannel video distributor and how it would be calculated by an individual, competitive program service. The multichannel video distributor calculates the impact on total revenues from all services he distributes, including any reductions (increases) in revenues from other services because the additional channel program is a substitute (complement) for other programming carried.

294. The mix of programming services offered as well as the number may change. In choosing program services the video distributor would act as a monopolist. Choices would consider the net addition to revenue of each candidate service taking into account any reduction in revenue from substitute services (or increases from complementary services). Competing program services purchasing video transport would ignore the effects of their service on the revenues of other program services, and as a result the mix of services offered could include larger numbers of similar or highly substitutable services than the video distributor would include. See the analysis in Chapter 5 of program choice.

295. This increase is in fact not certain to occur since bundling, or other discriminatory pricing plans used by the video distributor also could increase quantity of video services consumed, although with these plans a larger portion of the value to consumers of the programming would be captured as profits rather than left as consumer surplus.

296. Besen and Johnson (1982) make some rough estimates of implicit charges for video transport paid by various basic and cable program services in the U.S. that show this pattern. Clearly the industry has changed substantially in the intervening ten years, but the general patterns they find seem still to hold. If anything, the great increase since 1982 in both average cable system capacity and in the number of basic program networks carried that are unlikely to generate substantial incremental cable system revenues reinforces the possibility that a substantial number of the channels of systems with 50 or more channels of capacity may be filled with programming that pays implicit access that are quite low and may be below average costs.

297. Nonlinear pricing schedules often are used in situations where individual consumers are expected to purchase multiple units of the service, and where purchases of multiple units by a single purchaser does not convey any market power.

298. If it is uncertain that a system can raise sufficient revenue to cover cost, it will not be exercising market power. The requirements might be adopted either to put in place a regulatory structure to control market power anticipated in the future or to serve other goals, such as nondiscriminatory access to video distribution. Owen (1990), Owen, Beebe and Manning (1974) and Caves (1989) discuss some of the effects described in this paragraph.

299. While the direct effect would be to convert consumer surplus to profits, if the alternative is the failure of a service whose total value to consumers exceeds its costs, the overall effect of the price discrimination would be an increase in consumer surplus.

300. Whether consumers will be willing to pay initial costs of access to a system -- upfront hookup costs for cable systems or costs of reception equipment for DBS or MMDS, or monthly rental charges for reception equipment -- will depend on whether the value of the programming carried exceeds the recurring charges to subscribe to program services. When a new system is first offering service, it may be optimal to set a zero price, or even to pay some or all programming services in order to increase the number of subscribers for whom paying the cost of access is worthwhile. This could payoff for several reasons. First, is the sort of complementary just described in the text: increasing the number of consumers willing to pay the costs of access increases the demand for program services, which could be important for a new services. Second, the low price is a form of marketing, encouraging early subscribers who inform other potential subscribers about the system. Third, the low price may be an investment in the development of program services when few established program services have substantial numbers of subscribers. Increasing the subscribers to programs services makes it profitable for them to invest in higher quality programming, which in turn increases the value of the delivered video programming. In each case, it should be considered whether program services rather than the video distributor could make the investment by lowering prices. The video distributor may be better placed to do so, however, because investments by individual program services would be hindered by a spill-over effects: in all these cases some of the benefits of low prices by one program service would be enjoyed by other program services.

301. This alternative to regulation was suggested by Demsetz (1968). For some analyses of franchise bidding see Braeutigam (1989, pp. 1301-1303) and references there and Williamson (1976) and (1985, Ch. 13). The proposal was made as a general alternative to regulation for natural monopolies, rather than specifically for cable service. Williamson's analysis, however, does focus on the application of the proposal to cable service.

302. Note that since franchise bidding produces a price equal to average cost, not marginal cost, it is only a "second-best" solution.

303. Zupan (1989b, p. 406); also see anecdotal evidence in NTIA (1988, pp. 27-29).

304. For more details see Williamson (1976) and (1985, Ch. 13).

305. See Zupan (1989a) and (1989b). It is likely that an operator losing a franchise would receive compensation for the value of the installed cable plant. Zupan points out that the bargaining power of public authorities is increased if the terms of the franchise or license give them some

power to value the operator's assets and thus to determine the amount that must be paid in compensation.

306. Zupan (1989b) reports that of 3516 franchise renewal decisions made by U.S. cities prior to 1989, only seven had failed to renew an incumbent operator.

307. Again see Williamson (1976) and 1985) and Zupan (1989b) for the two sides of the argument. Williamson also argues that another potential problem is that incumbents may be able to reduce competition at renewal time by acting through the political process, for example by laws establishing a preference for the initial franchisee.

308. The results discussed below are from Zupan (1989a and 1989b). Other studies, generally less favourable to franchise awards and subsequent regulation, are discussed in Hazlett (1990a).

309. In principle, sufficient competition in bidding for franchises should achieve the other benefit of potential entry, that of insuring service is supplied at lowest possible cost, so long as quality of service can be monitored to enforce contract terms.

310. Imposing the same restrictions on both traditional over-the-air broadcasters and their rival video distributors does not necessarily eliminate the possibility that programming restrictions reduce the ability of traditional broadcasters to constrain the exercise of market power by their rivals. Programming restrictions placed on a given number of channels of traditional broadcasting reduces the quality-adjusted quantity of programming they distribute. (The criteria of quality here is simply value to viewers.) Given an overall demand for programming, that increases the residual demand for programming faced by the rival video distributors. If the restrictions also apply to them, it increases their costs of supplying any given quantity of quality-adjusted programming, but does not necessarily prevent them from exercising increased market power.

311. See the analysis in Chapter 5 of the choice of optimal program choice. In terms of Figure 1 of Chapter 5, the argument is that a locally produced, new program of comparable quality and attractiveness would have a budget considerably larger than the most profitable budget level of B*. Also see the discussion of Table 5-4, and the explanation of how program C in that example may be a profitable choice despite generating relatively small audiences and revenue.

312. This oversimplifies since the product market may be also be divided into separate markets in which, for example, national and local or regional advertising is sold. If there are separate radio advertising markets, competition there could be affected in similar ways by restrictions on radio advertising.

313. This assumes that price is not regulated and is allowed to increase to clear the market. If the price of airtime is controlled, there would be an excess demand at the controlled price, and advertising airtime would have to be allocated or rationed by some other mechanism. Generally the presumption is that allocating a limited supply by price will be more efficient that other rationing methods.

314. In this case restrictions on the sale of advertising by the private channels might not be binding, although that would not show that advertising restrictions in general had no effect.

315. This is a direct application of the analysis in Chapter 5; see Figures 1 and 2 and the accompanying discussion.

316. Restrictions on the placement of advertising may affect the impact of restrictions on the quantity of advertising airtime. Restrictions on placement can reduce the demand for advertising airtime. It could be, therefore, that restrictions on quantity that seem not to be binding in fact would be binding were it not for restrictions on placement that reduce demand.

317. The emphasis here is on identifying conditions and public policies that could allow an incumbent multichannel video distributor to earn rent, supracompetitive profits, as a consequence of its incumbency, rather than on identifying what does or does not constitute a barrier to entry. There is considerable confusion surrounding the term "barriers to entry" because of the many different definitions that have been offered in the literature. Rather than be caught in this definitional confusion, the discussion focuses directly on the analysis of the process of entry and how public policies may affect that process. See Gilbert (1989, pp. 476-479) for a brief discussion of definitions of barriers to entry and their relationship to the process of entry.

318. Several commentators have noted the extensive investment in program networks by cable systems in the U.S., and have suggested that these developments played an important role in allowing and coordinating the simultaneous development of video distribution and program services. See NTIA (1988, Ch. 6) and Klein (1989)

319. These might be special showings required of a second applicant, or showings also required for the first application. The same showing might be inherently more difficult for a second application, or the showing could be more difficult because there now is a party with a stronger incentive to bear the costs of contesting the application. Hazlett (1990a, pp. 101-102) describes state laws in the U.S. establishing procedures to issue franchises to competing cable systems that would require both a mandated series of hearings and establishing that there is either (i) a public need for a second system, or (ii) that the franchise of the competing system must include the same obligations as those imposed on the first franchisee.

320. For discussions of the effects of sunk costs on entry see Gilbert (1989, pp. 520-532) and Baumol, et. al. (1982, pp. 290-292). The analysis does need to take care in determining whether imposing sunk costs on both a first and second entrant imposes asymmetric costs on the second. The first firm also may be uncertain that entry will succeed, and therefore higher sunk costs also will increase the cost of failure and the risk of entry, and will require higher than normal expected returns in the event that entry is successful. But the effect on the first and second entrant will be different if they face different probabilities of success. The second entrant may well have a lower probability of success because it faces the reaction of the first firm. On the other hand uncertainty about market demand, and perhaps the costs of supply, may have been greater for the first firm. The question then is what is the net effect on the probability of success for the second firm of (a) more information about total market demand and costs of supply, and (b) the effect of the first firm being able to sink investment in capacity and thereby commit to an aggressive response to entry in order to defend its ability to supply a portion of that market.

321. See the citation to Hazlett (1990a) in the note in the previous paragraph.

322. Requiring a DBS or MMDS provider to supply a larger number of channels of programming at entry than it would choose to also could raise the sunk costs required to enter and deter entry. Requirements of minimum technical standards, even if no higher than the standards required of other suppliers, could have the same affect if as likely the higher standards require investments in more costly equipment that is not transferable to other uses.

323. The study by Smiley (1986) is discussed in Appendix C.

324. As before, post-entry pricing will depend on a variety of factors including the nature of the strategic pricing game played.

325. A different view is that the PTO enjoys such economies of scope and scale that video and related services are part of its natural monopoly. Rather than PTO supply co-existing with and offering competition to existing cable companies, in this view the more likely (and efficient) outcome is for the PTO to provide video distribution services as part of its regulated monopoly.

326. An example of such a service might be high speed, wide band digital transmission of video programming that would be stored and viewed when desired, as a substitute for the present analogue real time distribution of video.

327. See Ordover, Sykes and Willig (1985) and Joskow and Rose (1989).

328. It usually is proposed that the PTO would provide video transport services as a common carrier service, that is under nondiscriminatory tariffs. This, however, does not eliminate issues of how the service would be priced, and how, for example, the common costs of fiber delivery would be divided between video and various telecommunications services. In addition, provision of video transport at a uniform price raises a variety of issues and effects of its own that were discussed above.

329. Also beyond the scope of this report is a related issue that may be of increasing importance if there is growing substitutability between broadcast services subject to broadcast policies and regulation and wide-band services subject to telecommunications regulation. There will then be increased value to avoiding distortions that harm competition in particular or efficiency in general because different policies are applied to closely substitutable services or methods of supply.

330. Except as otherwise noted, the discussions are based on information supplied by Member countries in response to an OECD Questionnaire.

331. An associated newspaper is defined in s.89E of the Act.

332. See ss.92ZA - 92ZN of the Act.

333. The draft bill also removes limits on foreign ownership for radio licenses.

334. "Draft Broadcasting Services Bill Explanatory Papers", including Statement by the Minister for Transport and Communications and a Paper entitled "Explanation of the Provisions and Key Principles of the Broadcasting Services Bill", 8 November 1991, p. 24.

335. The Bureau of Competition Policy has taken the position that an accused person can avail itself of the regulated conduct defense only if there was validly enacted legislation authorizing regulation, the regulatory scheme relied on was authorized by that legislation, the impugned conduct was authorized by the regulator as the result of an exercise of authority under the approved scheme, and the accused did not behave in such a way as to frustrate the exercise of regulatory authority.

336. This account follows closely that in Director of Investigation and Research (1989).

337. This appearance in fact occurred under the terms of the Combines Investigation Act, which preceded the Competition Act.

338. Director of Investigation and Research (1989), "Submission to the Canadian Radio-Television and Telecommunications Commission in Response to Public Notice CRTC 89-14, Cable Television Regulation, 1986", December 1989, p. 6.

339. Letter dated 15 December 1988, from H.S. Chandler, Deputy Director of Investigation and Research, on behalf of the Director of Investigation and Research to Mr. Fernand Bélisle, Secretary-General, Canadian Radio-Television and Telecommunications Commission.

340. Discussion to be added in the next draft of the report.

341. Decision no. 79-20 of 11 October 1979 concerning the distribution of cinema films.

342. Requests by La Cinq for interim measures against ORTF (Decision of the Council 89 MC 13 of 28 September 1989 and Judgment of the Paris Court of Appeal, First Competition Chamber of 15 November 1989); the request by La Cinq for interim measures against the French Football Federation (Decision of the Council of 11 December 1991 and Judgment of the Paris Court of Appeal, First Competition Chamber of 10 February 1992).

343. Decision no.91-D-11 of the Competition Council of 19 March 1991 concerning the French Organisations for Radio and Television Broadcasting (OFRT).

344. Decision of 28 June 1990 no. 90 D 21 relating to agreements between the actors and entertainers' unions, audiovisual bodies and certain television broadcasting producers, confirmed by the Paris Court of Appeal. First Competition Chamber on 6 March 1991.

345. Decision of the Competition Council No. 90 MC 09 of 4 July 1990 relating to a boycott of M. Champetier, producer of advertising films, by the Union of Advertising Film Producers (S.P.F.P.), confirmed by decision No. 90 D 47 of 27 November 1990, annulled by the Paris Court of Appeal in a judgment of 15 May 1991; Decision No. 92 D 21 of the Council of 17 March 1992 concerning the implementation of the decision 90 MC 09 relating to interim measures ordered against the S.P.F.P.

346. Decision No. 91 D 51 of the Competition Council of 19 November 1991 relating to the market for television programmes reserved for cable networks.

347. BGH decision of 14 March 1990, NJW 1990, p. 2815.

348. A similar "Rundfunkstaatsvertrag" (inter-state broadcasting treaty) was concluded for the new Federal Laender at the end of 1991.

349. The FCO's prohibition decision was fully affirmed by the Court of Appeals. After WDR had subsequently reduced its stake in Radio NRW to below 25 per cent, the proceeding pending before the Federal Supreme Court was discontinued by mutual agreement at the end of August 1992.

350. RTE acquired the shareholding in 1984 from Rogers Cablesystems Incorporated, a Canadian company. The acquisition was notified to the Minister for Industry, Trade, Commerce and Tourism, who allowed the acquisition but at the same time requested that the Commission carry out its review. This account is from Restrictive Practices Commission, "Report of Study into Cable Television Services in the Greater Dublin Area", 1986.

351. The Commission noted that in many areas of Dublin the U.K. channels of the B.B.C. and I.T.V. were not receivable by individual antenna.

352. Restrictive Practices Commission (1986, p. 33). Further discussion and quotations below are from Chapter 6 of the report, "Conclusions and Recommendations".

353. In part this was based on the fact that in the absence of Ministerial approval for additional channels of service, the failure to offer more channels could not be attributed to RTE control.

354. A licensee is not restricted to any particular use of the spectrum, but the general intent appeared to be to use this spectrum for television services. BCL also sought clearance to acquire licenses for up to nineteen supplementary UHF channels for medium or low power transmission; BCL bid unsuccessfully for these licenses, but sought clearance so that it would be able to acquire them in the event that it wished to purchase the (transferable) licenses from the holders. The discussion here of this case is based on Decision No 248 of the Commerce Commission, In the Matter of Broadcast Communications/The Crown, 11 July 1990.

355. Subsequently TVNZ's interest in Sky fell to 16 per cent, and the proposal discussed below for HKP Partners of New Zealand to acquire interests in Sky would further reduce TVNZ's interest. The reduction of TVNZ's holding in Sky was not anticipated, or at least not discussed in the Commission's decision.

356. HKP sought clearance to acquire 100 per cent of the issued share capital, but stated that it intended to hold only about 51 per cent of Sky.

357. They have, however, given the New Zealand Government and undertaking to reduce their aggregate share over a 3 or 4 years period to less than 50%.

358. The Commission noted that if anything the proposal might lead to increased competition in the supply of television broadcast services since it would reduce TVNZ's interest in Sky.

359. Judgment 220/85 of 30th December 1985.

360. File No. 698/90 - Gestevision Telecinco V. Television Espanola.@

361. File No. 676/90 - Complaint by Antena 3 Television S.A. and Gestevision against the National Professional Football League, la FORTA, Canal Plus, Promotiones del Departe, all the first and second division clubs and against the regional television networks.

362. Ownership provisions were broadly similar before the Broadcasting Act 1990. The main change has been to allow greater non-EC investment in certain licenses.

363. A further provision is that no one person may hold more than 15% of the points in the radio ownership scheme set out in the Supplementary Order.

364. See e.g. discussion in FCC Network Inquiry Special Staff (1980a, section IV).

365. The descriptions here only give the general outlines of the rules; no attempt is made to describe details of the rules such as provisions for waivers and provisions for grandfathering existing combinations.

366. Before a change in the rule in 1985, no person could own more than 7 stations in each service and of the 7 televisions stations only 5 could be broadcast in the VHF rather than UHF band.

367. See for example the citations in the Bibliography to comments submitted by the U.S. DOJ and the FTC Staff.

368. The studios only could make the rights available to Premiere for films for which they owned cable distribution rights.

369. At this time cable service in the U.S. primarily carried local broadcast stations, distant broadcast stations, including so-called superstations that were distributed widely by satellite to cable systems, and pay movie-based services that had been pioneered by HBO beginning in late 1975. Klein (1989) contains a list of U.S. cable program networks showing the dates on which they began service.

370. This discussion is based on the account in White (1985). Aspects of the same case also were discussed in Chapter 6 above.

371. White (1985, esp. p. 360).

372. At the time HBO had about 60 percent of the subscribers to such services.

373. This analysis is a version of the raising rivals' cost effects of exclusion discussed in Chapter 7 of this report. More specifically, the analysis is similar to the case presented there in which rivals' costs are raised because after exclusion the remaining upstream suppliers selling on the market are able to exercise market power and therefore downstream rivals must pay higher prices. White, however, does not spell out in detail the market process by which input prices would increase, and it is somewhat unclear if his analysis is exactly the same. The analysis of Chapter 7 does not necessarily require any coordinated behavior between the merged and independent upstream producers (except the decision of the merged upstream producer not to sell on the open market to downstream rivals), while White describes the process only by saying that "The merged (integrated) entity would have an increased incentive to seek coordinated behavior among its upstream rivals that would raise prices to the downstream

industry." White (1985, p. 356) A second point is that White does not consider explicitly whether rivals of the downstream entity would have available counterstrategies that would prevent integration from leading to the exercise of market power.

374. In addition to the court decisions for cases cited in this and succeeding paragraphs, also see discussions in Loftis (1990).

375. Decision of 15 September 1989 OJL 284, 3 October 1989.

376. Decision of 19 February 1991, JO L 63 of 9 March 1991 ("Eurosport Decision").

377. ¶61-64, Eurosport Decision.

378. ¶71, Eurosport Decision.

379. ¶73, Eurosport Decision.

380. ¶74, Eurosport Decision.

381. ¶69, Eurosport Decision.

382. Case No. IV/H176 -- "Sunrise Decision".

383. Strictly, a license was awarded to Carlton Television, a subsidiary of Carlton Communications. The other two partners in the joint venture were The Walt Disney Company and The Guardian and Manchester Evening News.

384. ¶30, Sunrise Decision.

385. Judgement of the Court of First Instance of 24 January 1992 (LA CINQ v/ European Commission).

386. Decision of 21 December 1988, OJL 78, 20 March 1989.

387. Judgements of the Court of First Instance of 10 July 1991, Cases T-69/89, T-70/89 and T-76/89.

388. The joint venture was originally formed in late 1981 and the agreements were notified to the Commission in 1982. After preliminary examination, requests for amendments were made (as described below), and further hearings and discussions took place, before the Commission decision in 1989. Decision of 12 July 1989, OJ L 226, 3 August 1989 ("UIP Decision").

389. Originally Paramount, MCA, MGM and UA used separate organisations to distribute their films within the Community. In 1970, Paramount and MCA founded a joint venture, CIC, to distribute their film. In 1973 MGM abandoned its separate organisation and reached a distribution agreement with CIC. UIP, formed in 1981, handles distribution for these same companies, plus United which since 1981 has been wholly owned by MGM.

390. ¶26, UIP Decision.

391. ¶35; also see ¶s 39 and 41. UIP Decision

392. ¶45, UIP Decision

393. ¶s 44-47, UIP Decision

394. ¶51, UIP Decision

395. It is also possible that public revenues themselves may depend to some extent on market performance; for example, the level of support from public revenues might be influenced by the ability of public broadcasters to continue to attract substantial audiences.

396. It has been argued that this was an effect of the Syndication and Financial Interest rules in the U.S. that prohibited the major commercial networks from purchasing syndication rights or financial interests in programming. The major studios' share of network program production did increase during the period these rules were in effect, lending some support to this interpretation. See U.S. DOJ (1990b, pp. 11-12, 17-18)

397. See the Table 5-4 and accompanying discussion.

398. Where rights for distribution in different windows are sold separately, the producer will produce the programming as long as the sum of the revenues received (or expected to be received) for all rights exceeds the cost of production; see the analysis of this point in Chapter 5.

399. Under less there are entry barriers, the prospects of such profits will induce entry or other supply responses in the long run that reduce expected returns to a competitive level.

400. This is true so long as purchasers of rights do not try to free ride on payments by other purchasers covering the costs of program production. This point is discussed below in connection with the purchase of network program services by video delivery services. Free riding problems may prevented by the presence of a predominant single purchaser of rights, the network in the analysis to be presented here, and by the structuring of contracts between purchasers and producers. The structuring of contracts to prevent opportunistic free riding is discussed in the next chapter.

401. See the analysis in Chapter 5 for more discussion of this point.

402. This discussion abstracts from the costs of bargaining and other transactions costs. Arranging transactions to minimize these costs is important for economic efficiency, and the effect of contracts terms and arrangements on transactions costs and efficiency are discussed in Chapter 7. Transactions costs, and efforts to minimize them have an important influence on the structuring of vertical relationships between producers and networks in general and may influence the division of rents. Bargaining costs also may from time to time prevent the completion of agreements that otherwise would be mutually profitable. Transactions costs, however, are as much true costs of production as other costs and, like other costs, can be minimized but not eliminated. While transactions costs may affect program supply, that does not undermine the basic conclusion that the ability of buyer to exercise bargaining power that affects the division of quasi-rents is not in general a source of inefficiency.

403. A network may increase the quantity of programming inputs purchased by purchasing programming that uses more inputs to produce as well as by increasing the number of programs purchased.

404. Fisher (1985) uses this characterisation of programme rights as a lottery ticket. Many other economists also have analysed programme rights as a risky asset, including FCC Network Inquiry Special Staff (1980a and 1980b) and Noll, Peck and McGowan (1973).

405. The equilibrium competitive return will also depend on risk.

406. The apparent exception will be the price of specialized inputs that are able themselves to capture some of the quasi-rent generated by particularly popular programming.

407. Of course the increased demand for programming may result in increased returns for program producers for a time. If the supply of programming is very elastic in the long run, but less so in the short run, the increased demand would bid up the reservation price of program production in the short run until more resources are attracted into program production in the longer run. The increased demand for programming also may improve the relative bargaining power of program producer so that program producers are able at least for a time to capture some of the increased returns. Of course the two effects may be related; short run constraints that limit the increase in program production are likely to improve producers' bargaining position.

408. Perry (1989, p. 188) defines a market exchanges as those that "require no negotiation or governance of a continuing relationship. Rather, they are take-it-or-leave-it exchanges in which the price, quantity, and other dimensions of the good are each set by one firm or the other." Williamson (1985, pp 68-74) discusses a similar distinction between market and contractual exchange, and quotes S. Todd Lowry's observation that "traditional economic analysis of exchange in a market setting properly corresponds to the legal concept of sale (rather than contract)..." while the concept of contract applies where the parties have designed "patterns of future relations on which they could rely."

409. As is clear from the previous chapter, a limited number of network buyers may convey bargaining power without conveying monopsony power. In this case bargaining power might lead to inefficient market results because producers would be unwilling to risk investments in production if network bargaining power then prevented them from covering those costs. As will seen, such a problem is more properly attributed to the structuring of the transaction than to bargaining itself. Precisely because of the inefficiency created by this bargaining power both producers and networks would have an incentive to restructure the transaction to avoid placing networks in a position in which their individual self interest would induce them to exercise bargaining power even though in the end the consequences are injurious to all.

410. It is consistent with this explanation that this detailed screening process typically is not used for network programming that is shown outside of evening "prime time" and therefore generates smaller audiences and lower advertiser revenues. The same screening also is not used for so-called first-run syndicated programming in the U.S., new programming (rather than rebroadcasts of network programming) shown outside of prime time that is not distributed by networks; this programming also generates lower net revenues both because of somewhat

smaller audiences and because the cost economies of network distribution are not available. FCC Network Inquiry Special Staff (1980a) describes details of the development process for different types of programs.

411. Networks can earn revenue from delivered episodes, but would suffer losses to the extent payment also was compensation for fixed production costs such as sets, costumes, or program development, and to the extent that the value of delivered episodes is reduced if later episodes are not produced and broadcast.

412. To make the shift the network would either have to have already acquired rights to the program concept, or to negotiate purchase of such rights, which itself would create transactions costs.

413. Even if some distribution rights are not sold to the network who buys rights for initial distribution, it is fairly common to "pre-sell" these rights, that is to also sell them to others prior to production. When rights are pre-sold, even if not to the network, the producer is residual claimant of changes in net revenue in this distribution channel only to the extent that the amount paid for these rights is contingent on some measure of program performance either in this distribution channel or in a previous release.

414. The FCC Network Special Staff (1980a) observed that they found no contracts that specified that license fees for network distribution would vary with program quality or productivity; it was found, however, that license fees were frequently renegotiated upwards when programs were successful. Assuming that producers could anticipate such renegotiations, this would be another means by which producers become partial residual claimants.

415. Incremental revenues due to particular programs would be almost impossible to measure without dispute for networks that collect revenue from subscriptions to the entire network service rather than for individual programs. Even advertising revenue, however, could be difficult to monitor since advertising airtime often is sold at negotiated prices and a price may be negotiated for a package of airtime during or adjacent to several different programs. It is interesting, however, that the press recently has reported that CBS, the U.S. commercial network, and European broadcast companies are discussing a co-production arrangement that would involve sharing of advertising revenues. *Variety* (17 February 1992, p. 1).

416. The FCC Network Inquiry Special Staff (1980a) stresses this explanation.

417. If viewers do have to pay a subscription fee (or bear any other fixed cost) to receive the network, the overall attractiveness of the network's schedule will determine how many consumers are willing to subscribe. If there is no upfront cost to viewers and the network is advertiser-supported, viewing and net revenue of an individual program still may be affected by at least immediately adjacent programming.

418. See Tirole (1989, pp. 178-179) for a brief discussion of the problem of bilateral moral hazard.

419. The objective of clearly defining network option rights to order additional episodes, thereby reducing transactions costs of disputes and renegotiations, also is served by setting a clear, fixed price per episode for each option.

420. And it also would be costly to enforce the contract in court or to seek damages.

421. Transactions costs also will be reduced if repeated dealing with the same producer leads to norms of behavior or a long-run view of the relationship that reduce opportunistic behavior. See Williamson (1985, Ch. 6).

422. FCC Network Inquiry Special Staff (1980a) discusses the use of such controls.

423. The distinction is somewhat arbitrary, since many failures to perform could be interpreted as the failure to purchase the creative or managerial resources necessary to perform. The risk that a particular producer will be less capable of performing can then be thought of as a greater risk that cost of production for that producer will be higher than expected, and perhaps sufficiently high that it will not be profitable for the producer to perform rather than default. Initially a producer who bears the risk of cost uncertainty may find it more profitable to default. The producer then may try to renegotiate higher payments, leaving the network a choice of paying more or sacrificing returns on its already sunk investments in the program.

424. The use of hostages is discussed in Williamson (1985 and 1989).

425. This discussion is a direct application of the hostage model presented by Williamson (1985, Ch.7).

426. The example could be elaborated by assuming that program development costs included production of a pilot episode with expected program revenues revised after seeing the performance of the pilot.

427. For example, at option time the producer might try to negotiate a higher fee claiming that production costs had risen. The network would be vulnerable. At this point the network would be better off to pay up to the amount of net revenue the episodes are expected to generate rather than to lose those rights. If, for example, the expected net revenues of the 10 programs are 600, the network would be better off to pay any price up to 600 than to lose the rights. If the network cannot transfer to another producer the asset of program development that it has purchased, it risks having the value of that asset expropriated by the producer. See Williamson (1985, Ch. 7) for a more general discussion of the risk of opportunistic behavior created by a buyer paying in advance for transaction specific assets used by a seller.

428. For example, if expected program revenues were 600, the episodes would not be ordered and joint net revenues would be -200, the costs of program development. If the programs were ordered, revenues would be 600 and total costs would be 700, increasing joint net revenues to -100. Losses would be reduced because program revenue would cover the incremental cost of production plus 100 of the 200 cost of development.

429. We saw above that the producer also might be guaranteed payment of program development costs by cancellation fees rather than by upfront payment.

430. When capital is the factor of production that is residual claimant and thus which bears risk, there is a risk premium added to the cost of capital. If, however, the residual claimant that bears risk is instead a particular labor input, then the risk premium is added to the reservation price at which that labor will be supplied to this activity.

431. See discussions in Tirole (1988, Ch. 4) and Katz (1989).

432. This analysis is further discussed in Hazlett (1990a and 1990b) and Smiley (1990).

433. Demand is more elastic only in areas served by two companies, but Smiley (1986) assumes each company must charge a uniform price, so that the overall demand elasticity for each company depends on the proportion of its service area that is overbuilt.

434. One interesting characteristic of Smiley's model is that if the first-mover cannot deter entry, it then may be more profitable for it to accommodate the entrant by cabling less than the entire area. One reason is that reducing the proportion of its subscribers who have an alternative reduces the firm's overall elasticity of demand, and since the company is assumed not to be able to price discriminate this allows it to set a higher price for subscribers facing no competition.

435. Smiley (1986) calculates total surplus for each scenario as equal to the sum of the profits of the one or (with entry) two cable firms plus consumer surplus. Consumer surplus is calculated as the area under demand functions, which are not perfectly elastic when there are two suppliers, and therefore includes the value to consumers of product differentiation.

436. In Smiley's model, sequential and partial sequential entry tend to perform better than simultaneous entry; cases in which entry does not occur under sequential entry (with one exception) are cases in which simultaneous entry lowers total surplus. In addition, partial sequential entry usually produces greater overbuild levels and higher welfare than simultaneous entry, and also generates more welfare than monopoly in some cases in which partial sequential entry occurs but sequential entry is blocked.

437. Calculated from Smiley (1986) using his assumed bench mark penetration figure of 56 percent, and assuming that two cable companies would each have a penetration of 28 percent and therefore would serve the same total number of subscribers as a single company. Smiley uses three sets of cost parameters; these generate different levels of cost, but all imply the same percentage increase in unit costs with two cable companies.

438. As Smiley (1990) notes, this assumes that there is no regulatory or franchising authority able to capture some part of the monopoly profits of a single supplier and convert them into benefits for consumers. This could be done directly by limiting the price the monopolist would charge. Alternatively, the single supplier could be required (as a condition of service) to use some part of what otherwise would be profits to pay fees to public authorities or to provide additional services of value to consumers. If such additional services really do add to consumer surplus (because the services are more valuable than any additional costs or because they replace other taxes paid by consumers), it is no longer necessarily the case that entry will increase consumer surplus. Entry could eliminate these profits that are converted to consumer surplus by regulation.

439. To spell out Hazlett's (1990a and 1990b) argument more technically, Smiley (1986) measures the change in total surplus caused by entry as the sum of three terms: (A) change in profits of firm 1 (always negative) plus (B) change in profits of entrant (always positive or it would not enter) plus (C) change in consumer surplus (always positive). Higher per unit costs may make the net effect of entry on this measure of efficiency negative by causing the fall in the incumbent's profits to outweigh the profits of firm 2 and the increase in consumer surplus. (Increased unit costs may deter firm 2 from entering, but if it enters its per unit revenues exceed its unit costs; of course higher per unit costs tend to reduce its profits and so reduce the contribution of this term to a net positive effect on surplus.) Hazlett argues term A should not be counted because the fall in the incumbent's profits are a loss of quasi-rent on sunk investment, and do not reflect a opportunity cost or a social

cost. Since the remaining terms can be presumed to be positive, argues Hazlett, welfare always will increased if a municipality with an existing monopoly supplier allows entry, so long as the municipality has no credibility problem. This last condition is necessary to be sure that the reduction in profits of the incumbent affects only sunk costs, and not future investments.

440. This point is made by Smiley (1990) in rebuttal to Hazlett. Hazlett has indirectly granted the point by his proviso that lost profits of the incumbent should not be counted so long as the municipality deciding to allow entry "has no credibility problem." This suggests that entry may be allowed so long as it does not affect the ability of the municipality to claim it will not allow entry in the future, and therefore so long as the decision to allow entry does not affect future investment decisions. Obviously a general rule to allow entry does affect future decisions.

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