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Working Party on Telecommunication and Information Services Policies

**COMPETITION IN THE VIDEO PROGRAMMING DISTRIBUTION MARKET: IMPLICATIONS
FOR REGULATORS**

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FOREWORD

In November 2003 this report was presented to the Working Party on Telecommunications and Information Services Policy (TISP). It was recommended to be made public by the Committee for Information, Computer and Communications Policy (ICCP) in March 2005.

The report was prepared by Kiran Duwadi (International Bureau, Federal Communications Commission, United States). The views in this paper are those of the author and do not necessarily reflect those of the organisation that he is affiliated with. Mr. Dimitri Ypsilanti of the OECD Secretariat participated in this project. The paper is published on the responsibility of the Secretary-General of the OECD.

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COMPETITION IN THE VIDEO PROGRAMMING DISTRIBUTION MARKET: IMPLICATIONS FOR REGULATORS

Main Points

The landscape of the video programming distributing market has changed considerably during the past two decades. A majority of OECD countries have embraced competition and have paved the way for entry by commercial video distributors into the market that previously was dominated by publicly funded and controlled terrestrial broadcasters.

At the same time new distribution platforms including cable and satellite have emerged and are vying vigorously with more established broadcast platforms for audiences and advertising revenue. These new distribution platforms are not only capable of offering a greater variety of programming than the broadcast platforms can offer, but because of their use of encryption technology are able to charge customers for programming and thus are more able to supply what customers want to watch. Also, these new platforms are able to package programming in tiers or bouquets of programming services and charge consumers based on their willingness to pay. This has made it possible for many new programming networks to emerge and remain viable. This also has greatly increased the availability and diversity of programming, particularly specialized or niche programming, which was not available previously via the terrestrial broadcasting platform.

Competition between platforms is expected to intensify as the conversion to digital technology takes hold in many OECD countries. In some countries digital compression technology may transform terrestrial broadcasters into multi-channel distributors and at the same time will greatly expand the channel capacity of the cable and satellite distribution platforms.

Evidence from several OECD countries suggests that the public service broadcasters that in the past relied exclusively on public funds for their revenue are now relying more heavily on advertising and to some extent are in direct competition with commercial terrestrial broadcasters. Cable and satellite operators are also relying to some extent on advertising (which requires programming that enjoys a wide audience appeal), which puts them in direct competition with both commercial and public service terrestrial broadcasters. This new competition for advertising revenue leads all platform operators to offer similar programming and thereby may reduce the diversity of the programming that is available. Moreover, this seemingly fundamental change in the way programming is distributed by terrestrial broadcasters suggests the need for a careful examination of the role of public service broadcasters in delivering certain types of programming as well as competing video programming distributors.

Digital compression technology has led to a more efficient use of spectrum. This, together with the increased availability of subscription video services (such as cable and satellite), may have rendered the spectrum scarcity and public good externality rationales for regulation somewhat less important in certain markets. In situations where public and private interests in programming distribution diverge, however, regulation still plays a vital role in achieving public goals.

The paper concludes that:

- Competition and the goal of diversity in programming go hand in hand except in cases where competing platforms rely on advertising to support their operations. As the reliance on advertising increases, distributors may feel increased pressure to offer programming that appeals to a mass audience, and is similar to the programming offered by their competitors. However, even if video distributors provide similar programming across platforms, increased competition may lead to (vertical) program diversity within individual platforms.
- Inter-platform and intra-platform competition has enabled consumers in many countries to enjoy new genres of programming. Economies of scale and scope in program distribution, however, may tempt program distributor to grow large and acquire market power. A dominant program distributor that is also affiliated with a programming production entity may lead regulators to have increased concerns related to access or to carriage for independent programming networks. Moreover, a fragmented ownership of distribution platforms ensures viewpoint diversity (or plurality), one of the principle goals of video distribution regulation.
- As platforms become more competitive, cross-ownership restrictions among platforms become more important to insure that no single organization becomes a dominant market player across several platforms and thereby becomes able to act as a gatekeeper of ideas. In this way, cross-ownership restrictions may contribute to viewpoint diversity.
- In some cases more efficient use of spectrum because of digitization reduces, or may reduce , the importance of spectrum scarcity as a problem and also reduces the rationale for having a limited number of players in the video distribution market. A liberal licensing regime would reduce the barriers to entry and might help to speed the transition to digital terrestrial broadcasting and subsequently increase the number of independently owned broadcasters and thus help to further viewpoint diversity.
- Public service broadcasters play a vital role in providing access to content that is deemed to be crucial for national cultural or linguistic reasons. Instead of depending on advertising for support, public service broadcasters benefit from government support including targeted subsidies provided either to eligible consumers or to program producers meeting national, cultural, and/or linguistic goals.
- Rules affecting access to content, infrastructure, and consumers must take into account the interest of all stakeholder in the market, as well as public policy objectives.
- Investment and innovation in programming distribution may be encouraged by policies that balance economic efficiency with the goals of viewpoint and program diversity. These goals – efficiency and program diversity – can be achieved notably by allowing some level of market concentration that enables program producers and distributors to take advantage of economies of scale. However, a balance must be achieved as a market becomes more concentrated, viewpoint diversity (plurality) may be reduced.
- If cable and satellite operators are contemplating offering other digital services such as Internet access and telephony services, the allocation of their channel capacity to meet must carry obligations may reduce their economies of scope and, as a result, would reduce economic efficiency. Nevertheless, this constrain must be balanced against the positive effects which could result from maintaining programme diversity to the public and promoting the diversity of media.
- Rules governing the video distribution market should reorient from regulating monopoly to promoting competition.

- Digital technology allows distribution platforms that were previously used for other purposes, for example, telecommunications and power lines to compete in the video distribution market. As these new distribution platforms take hold and begin to reach their market potential, the existing rules and regulations affecting different platforms must be examined carefully by regulators to make sure that public goals of competition, cultural identity, and plurality can be achieved in this new era of convergence.

I. Introduction

In many OECD countries, the video programming distribution market has evolved during the past two decades from virtually a single platform market dominated by terrestrial broadcasting to a multi-platform market that includes cable and satellite distribution. This shift in market structure will become even more pronounced in the coming decade as Internet Protocol (IP) based video distribution technologies now in the development stage reach their full market potential. These IP based technologies include TV delivered over digital subscriber lines (DSL), and over electric power lines.

This increase in competition among platforms coupled with an increase in the capacity of every platform due to digital compression and other innovations will affect the entire video services “value chain” and all its related markets including program production, program packaging, and the delivery of programming to consumers.

In light of this expected increase in inter-platform competition and in capacity, it is important to examine the changes in the competitive landscape that can reasonably be expected. It is also important to determine whether these changes will have any measurable effect on the quality and quantity of programming that is delivered to consumers, and to determine if consumer welfare is being improved. Increased competition in the video distribution market also calls for an evaluation of the current regulatory framework. This paper seeks to determine if the current regulatory framework, which in many OECD countries relies heavily on structural and behavioural regulation to affect content, will be appropriate to maximize consumer welfare in this new more competitive environment.

The paper explores the growth of competition in the video distribution market in recent years and the prospects for even greater competition in the years ahead, and discusses the implications of that expected increase in competition for policy makers and regulators. In particular, the paper focuses on how the growth of competition will impact the video distribution regulatory regimes in the major OECD countries.

Since many of the current rules, regulations, and policy objectives are rooted in regulation of the terrestrial broadcast platform, the paper begins by first briefly describing some of the features of terrestrial broadcasting, including free-to-air (FTA) broadcasting, and explores reasons that make content distributed over this platform so unique. Next the paper evaluates the current status of competition in the video distribution market across the major OECD countries. The main body of the paper is devoted to an evaluation of whether there is a continuing need for rules concerning access to infrastructure and content, and the relative ability of service providers to compete effectively for the revenues they need for their survival. Finally, the paper concludes with an evaluation of the effectiveness of present regulation, measured in terms of its ability to achieve desirable economic and social objectives, in this changed environment.

For most OECD countries, these desirable regulatory objectives can be summarized as follows: encouraging and sustaining competition; increasing investment and innovation; maintaining the efficient use of scarce spectrum; increasing cultural diversity, program diversity, and the diversity of voices or viewpoints.¹ This paper, however, will not analyze the effectiveness of rules related to achieving certain

community standards such as rules related to indecency and violence, and to the accuracy of programming content.

II. Characteristics of the Terrestrial Video Programming Distribution Platform

Before the 1980s, the video distribution market was dominated by terrestrial broadcasters. During the past decade, in almost every OECD country, two new platforms, cable and satellite have made substantial inroads in the video distribution market. During the same time period consumers in many countries experienced a significant increase in channel capacity which in turn has affected the quantity of programming available to TV households. The increase in the number of video distribution platforms has been mainly due to market entry by cable and satellite providers. This has generally coincided with a gradual shift from an exclusively publicly owned terrestrial broadcast platform to a mixed public/private (commercial) model in which some terrestrial broadcasting stations are publicly owned and others are privately owned.

Generally, public ownership of the terrestrial broadcast platform was justified on the grounds that there was limited availability of spectrum and a prospect of market failure due to the characteristics of programming content, *e.g.*, non-excludable and non-rivalries. More importantly, non-excludability means that it is very hard to exclude any one individual from enjoying programming once that programming has been produced and distributed while non-rivalries means that multiple consumers can enjoy the programming at the same time without harming or imposing costs on other consumers. In addition, programming content distributed by terrestrial broadcasters also possesses externalities and has the potential to entertain as well as influence public opinion. In short, scarcity, externality, and public good characteristics, as well as mass appeal aspects of programming distributed by terrestrial broadcasters are cited as the major reasons for regulatory intervention. To address some of the market failures and to meet public objectives such as viewpoint diversity, and the preservation of cultural identity, terrestrial broadcasting is publicly owned and operated in many European countries. These publicly owned terrestrial broadcasters are called public service broadcasters (PSBs). In most OECD countries they have a stronger presence in the market than cable or satellite.

These PSBs are required to provide services which are in the public interest and which may not be provided by other broadcasters. These public interest requirements may range from promoting diversity in programming or the impartial reporting of news and current affairs, to promoting educational and children's programming as well as enhancing local culture, language and heritage. In the United States, public service is provided by commercially owned terrestrial broadcasters in return for free use of the spectrum. The United States also has a network of public broadcasters funded partially by grants from the Federal and state governments and partially by contributions from listeners. In contrast to PSBs, in many OECD countries, privately owned commercial terrestrial broadcasters rely entirely on advertising for their revenues and do not always have public service programming obligations.²

In many OECD countries the terrestrial broadcasting infrastructure is owned by the PSBs or the incumbent telecommunications companies. For example, in most OECD countries, with the exception of the United States, Greece, Italy, and Japan, commercial terrestrial broadcasters and cable operators typically lease the infrastructure they need to distribute programming from a publicly owned network operator or from an incumbent telecommunications operator. However, commercial terrestrial broadcasters in Australia generally own and operate their own transmission infrastructure, while the national public broadcasters, the ABC and SBS, lease transmission facilities. At the same time, often these cable and commercial terrestrial broadcasters as well as satellite operators distribute programming primarily produced by those same public broadcasters. Thus, by primarily delivering programming produced by the

publicly owned broadcasters, the cable and satellite operators as new entrants are simply increasing the reach of the publicly owned FTA broadcasters rather than competing with them.³

More recently, however, in many OECD countries, commercial terrestrial broadcasters have started to compete head-to-head with the PSBs for both audiences and advertising revenues. A gradual change in funding of PSBs in many OECD countries from purely publicly funded entities to a mixed funding model comprising revenues from commercial activities such as advertising as well as revenues from public funds has pitted privately owned FTA broadcasters against the PSBs for the same audiences and advertising revenues. Cable and satellite operators have intensified this competition because they are able to offer many channels of programming and they can earn revenues from both subscription fees and advertising.

Historically, the terrestrial FTA broadcast platform relied exclusively on advertising for its revenue. Since advertising revenue is tied to the number of viewers, which in turn is influenced by the quality of programming offered, advertiser-supported terrestrial broadcasting tends to gravitate towards the production and distribution of programming that appeals to a mass audience. This is said to be particularly true in highly competitive markets where popular programming is likely to be emulated by competitors seeking to maintain or increase their share of advertising revenue.⁴

One of the most important features of advertiser-supported terrestrial broadcasting is the indirect link between audiences and programming. Broadcasters sell access to an audience by offering programming content to that audience. Unlike other goods and services where consumers' preferences directly govern the quality and quantity of products and services supplied, the quality and quantity of programming provided to consumers by advertiser-supported terrestrial broadcasting only indirectly reflects the preferences of consumers who receive that programming because the quality and quantity of that programming is necessarily determined by the advertisers who provide the revenue. Moreover, the programming produced and may not reflect the preferences of those consumers who belong to minority groups because they have even less of an indirect link to the programmers than do mass audiences.

Market survival of a platform that is primarily supported by advertising revenue depends upon its ability to package and distribute content that has mass appeal. Video distribution platforms that depend on pay services and subscription fees as well as advertising revenues, however, are better able to provide narrowly tailored programming (often called "niche programming") to their subscribers.

In this way, they are better able to satisfy the programming needs of minority audiences. This does not mean that video services financed by consumer subscription fees are more efficient (in an economic sense) than terrestrial broadcast services. On the contrary, since the distribution of programming exhibits the characteristics of a public good, broadcast services supported by consumer subscription fees may also lead to inefficiencies because they exclude individuals who do not have the resources to pay for these services.

Another important difference between the terrestrial broadcast platform and the subscription-fee platforms, such as cable, satellite, and Multi-channel Multipoint Distribution Service (MMDS), is that each terrestrial broadcaster typically relies on a single channel, or limited number of channels, to distribute its programming whereas the subscription-fee distributors typically offer many channels in bundles or "tiers."⁵ Often these operators subsidize weak channels (*i.e.*, channels with a limited public following or channels that appeal to smaller audiences) with revenues earned from more popular channels that are part of the same tier. This increases the variety of programming available to consumer and also helps to meet the needs of minority audiences. Bundling of channels also may represent a subtle form of price discrimination whereby operators are able to extract additional revenues from subscribers by offering additional tiers.⁶ Bundling also may provide operators with the tools needed to exercise market power, which under certain circumstances may lead to a reduction in output and thus to a loss of consumer welfare.

Recent market developments have added still another element to the competitive landscape in video distribution. Traditionally, video distribution markets were defined as either local or national markets and to some extent have remained that way because of reasons of cultural diversity and language. Nevertheless, convergence and the use of IP-based technology (*e.g.*, streaming video over Internet) as well as satellite technology increasingly allows market participants to compete for viewers, advertisers, and subscription fees beyond local and national boundaries.

New video distribution platforms that use digital and interactive technologies have not only affected the video distribution market, but also have affected patterns of video consumption. Instead of relying on “one way” terrestrial FTA broadcasts and a few pay channels, these new interactive platforms, for a fee, allow consumers to select the programs they want to watch. This “one-to-few” or “one-to-one” distribution and consumption of video content is said to further fragment the market in terms of audience size and thus affects the appeal of that audience to many potential advertisers. Moreover, as high-speed Internet services become more prevalent, and as the so-called “file sharing” technology becomes more refined, consumers’ ability to distribute (or re-distribute) content to other consumers gives rise to issues associated with intellectual property rights.

The increased number of channels available to consumers as a result of digitization and new inter-platform competition has the potential to increase the diversity of programming and the choices available to consumers. Increased channel capacity also may pit video distributors against each other in the quest for popular programming to fill these additional channels. Since the supply of premium well liked programming that enjoys mass audience appeal is limited, and since such programming is essential for a distributor’s survival, producers of that type of programming may enjoy bargaining power in negotiations with program distributors. Increased channels capacity may also increase the bargaining power of even lesser-known program producers since the program distributors will be eager to fill their channel capacity with content. To mitigate this shift in bargaining power and to ensure a steady flow of high quality programming, video distributors may seek to acquire programming producers and thereby further integrate the industry vertically.

Both programming producers and programming distributors may feel increased pressure to further concentrate horizontally as well as vertically in order to achieve further economies of scale in the production and distribution of programming. There is always a “first copy” cost of producing programming content. Once that content is produced, however, there is very little additional cost involved in further distribution of that content over the terrestrial broadcast platform and, to a lesser extent, over the cable and satellite platforms. More precisely, the average programming distribution costs per recipient decreases as the audience size increases; thus, economies of scale in both production and distribution encourages horizontal concentration among firms in both of these industries.

Many countries impose strict regulation on the production and distribution of video programming, particularly by terrestrial commercial broadcasters. The rationale behind strict regulation includes the public good characteristics of programming; the non-competitive market structure with the potential for market power abuse; the presence of economies of scale and scope; the cultural value many regulators attach to programming; and the scarcity of radio spectrum. In the U.S., where the terrestrial broadcasting platform has always been dominated by commercial entities, regulators have adopted structural regulation aimed at limiting the potential market power of terrestrial commercial broadcasters and their ability to act as gatekeepers of ideas which would limit viewpoint diversity and plurality. Structural regulation also limits their ability to act as barriers to entry and thus retard competition. With the privatization of media companies in many OECD countries, those countries also have adopted similar structural regulations.

In response to the growth of competition in both content production and distribution, regulators have started to examine the regulatory regimes considered appropriate for each platform. Recently, for example,

in the U.S., the Federal Communications Commission (FCC) has revisited its media-related regulations including its ownership and cross-ownership restrictions. Similarly, regulatory agencies in many other countries including many members of the European Union have recently issued directives governing the production and distribution of video programming.

The following section evaluates the current status of competition in the video distribution market and provides a brief description of the effects of inter and intra platform competition on the business and programming strategies adopted by program distributors. The section also discusses recent trends in market structure including horizontal concentration and vertical integration.

III. The Current Status of Competition in the Video Distribution Markets of the Major OECD Countries

Business and Programming Strategies. In many OECD countries up until a few years ago a majority of the population had access only to the terrestrial broadcast platform, now those populations have access to cable, satellite, and video delivered using the broadband DSL platform, in addition to broadcasting. As recently as 1990, as shown in Table 1, 76% of OECD households with TV sets, on average, received their video signals exclusively from FTA broadcast operators. By 2001, however, only 43% of TV households received their video solely from terrestrial FTA broadcasters.

Table 1. Growth of Video Distribution Platforms in Selected Countries

Country	Cable TV		Cable as % of TV HH		Satellite		Satellite as % of TV HH		Terrestrial TV Only Households		% of TV only Households	
	1990	2001	1990	2001	1990	2001	1990	2001	1990	2001	1990	2001
	Australia	-	825 000	0.0%	11.9%	572 000	0.0%	8.1%	5 800 000	5 700 000	100.0%	80%
Austria	459 963	1 200 000	18.4%	37.4%	1 560 000	0.0%	48.6%	2 039 927	450 000	81.6%	14.0%	
Belgium	3 369 604	3 814 949	100.0%	94.5%	220 000	0.0%	5.5%	-	-	0.0%	0.0%	
Czech Republic	965 000	1 078 483	22.8%	28.7%	517 000	0.0%	0.0%	3 348 000	1 882 771	100.0%	71.3%	
Denmark	451 650	1 000 000	35.5%	45.8%	361 000	0.0%	16.5%	1 222 551	822 000	64.5%	37.7%	
Finland	671 449	3 240 000	2.6%	13.9%	4 204 000	0.0%	18.1%	18 977 194	15 839 010	97.4%	68.0%	
France	514 806	21 800 000	33.0%	60.2%	13 340 000	0.0%	36.8%	16 381 000	1 100 000	67.0%	3.0%	
Germany	8 059 000	-	0.0%	0.0%	70 000	0.0%	2.0%	2 878 000	3 440 000	100.0%	98.0%	
Greece	-	1 592 866	0.0%	43.7%	520 000	0.0%	14.3%	2 910 000	1 534 134	100.0%	42.1%	
Hungary	390 000	612 000	43.8%	49.4%	110 000	0.0%	8.9%	500 428	516 000	56.2%	41.7%	
Ireland	-	80 000	0.0%	0.4%	2 550 000	0.0%	12.2%	15 002 000	18 270 000	100.0%	87.4%	
Italy	6 767 537	21 254 228	20.2%	44.7%	11 164 274	7.7%	23.5%	24 200 163	15 116 346	72.1%	31.8%	
Japan	-	138 000	0.0%	79.5%	33 000	0.0%	19.0%	134 845	2 500	100.0%	1.4%	
Luxembourg	4 363 333	6 320 000	89.4%	93.8%	340 000	0.0%	5.0%	516 057	80 000	10.6%	1.2%	
Netherlands	-	27 300	0.0%	2.1%	300 252	0.0%	22.6%	848 480	1 002 448	100.0%	75.4%	
New Zealand	476 764	838 707	32.0%	43.0%	520 000	0.0%	26.7%	1 012 185	591 293	68.0%	30.3%	
Norway	-	4 116 000	0.0%	30.1%	2 966 000	0.0%	21.7%	9 912 000	6 579 000	100.0%	48.2%	
Poland*	-	1 119 342	0.0%	31.4%	425 000	0.0%	11.9%	1 706 000	2 016 658	100.0%	56.6%	
Portugal	110 000	575 000	1.1%	4.8%	2 050 000	0.0%	17.0%	10 290 000	9 445 000	98.9%	78.3%	
Spain	1 482 470	2 000 000	44.8%	49.2%	862 000	0.0%	21.2%	1 826 530	1 199 000	55.2%	29.5%	
Sweden	1 864 675	2 100 000	76.6%	69.8%	720 000	0.0%	23.9%	570 431	190 000	23.4%	6.3%	
Switzerland	-	908 662	0.0%	6.4%	2 095 504	0.0%	14.7%	5 843 000	11 252 834	100.0%	78.9%	
Turkey	148 948	3 850 000	0.8%	16.2%	6 590 000	0.0%	27.7%	19 396 882	13 360 000	99.2%	56.1%	
United Kingdom	54 871 328	73 147 600	59.0%	69.4%	17 890 484	3.2%	17.0%	35 128 672	14 406 244	37.8%	13.7%	
United States	4 000 073	6 127 125	23.2%	39.2%	1 858 333	0.4%	18.3%	7 279 006	4 988 989	76.4%	42.5%	
Average												

Notes: Households relying solely on terrestrial transmission are calculated as the total number of television households minus number of households with satellite dish and number of households connected to cable. In the case of Belgium and the Netherlands, the number of households relying solely on terrestrial transmission for some years is set at zero as the data suggests that there are more cable and satellite subscribers than the number of households. This may be due to a substantial number of cable subscriptions in these countries by the commercial entities. *Represents mid 2002 cable subscriber count estimated by European Audiovisual Observatory

Source: ITU; European Audiovisual Observatory, Yearbook 2003.

As Table 1 indicates, the growth of alternative distribution platforms has not been uniform across OECD countries. In Belgium, Denmark, Germany, Hungary, Luxembourg, Netherlands, Sweden, Switzerland, and the U.S., cable is now the most prominent platform for receiving programming and other video services. In Austria, Denmark, and Germany, the satellite platform plays a more significant role in the distribution of programming.

Recently, in a few OECD countries a new video distribution platform has made its début.⁷ Telecom operators in France, Germany, Spain, and the United States are offering video content to their customers (albeit with a limited number of subscribers).⁸ For example, Deutsche Telekom in Germany has been providing movies and other premium programming over DSL lines to its customers since March 2004. The service allows customers to watch programming by downloading content to a set top box. In Japan, BB Cable, that is Yahoo! BB's affiliated company, has been offering content, such as movies and sports programmes, over DSL lines to its customers since March 2003. According to one estimate, however, there are only about 10,000 BB Cable subscribers who get this content over DSL.⁹ Analysts argue that the "triple play" business strategy, *i.e.*, telephony, data, and video has helped Yahoo! BB, in a very short time, become one of the largest DSL providers in Japan.¹⁰

In countries with strong cable, satellite, and terrestrial broadcast platforms, video over DSL or video over broadband has the potential to become an alternative platform distribution of video. In countries with a limited cable and/or satellite presence, video over DSL may become an alternative to the broadcast platform since it has the potential to reach many consumers. Video over DSL faces a number of serious obstacles, however, including lack of technical standards, entrenched competition from cable, satellite, and terrestrial digital broadcasters, the lack of a well developed business model, and difficulties in obtaining rights to distribute programming because of intellectual property and digital copyright issues.¹¹

Table 1 shows the audience shares of selected terrestrial public service broadcasters over the period from 1990 to 2001. Although the growth of cable and satellite over those years led to a shrinking number of households in OECD countries that rely solely on the terrestrial broadcast platform for their programming, PSBs in many countries continue to enjoy a large share of the TV audience. Table 2 shows audience shares of selected PSB networks in selected OECD countries between 1997 and 2002.

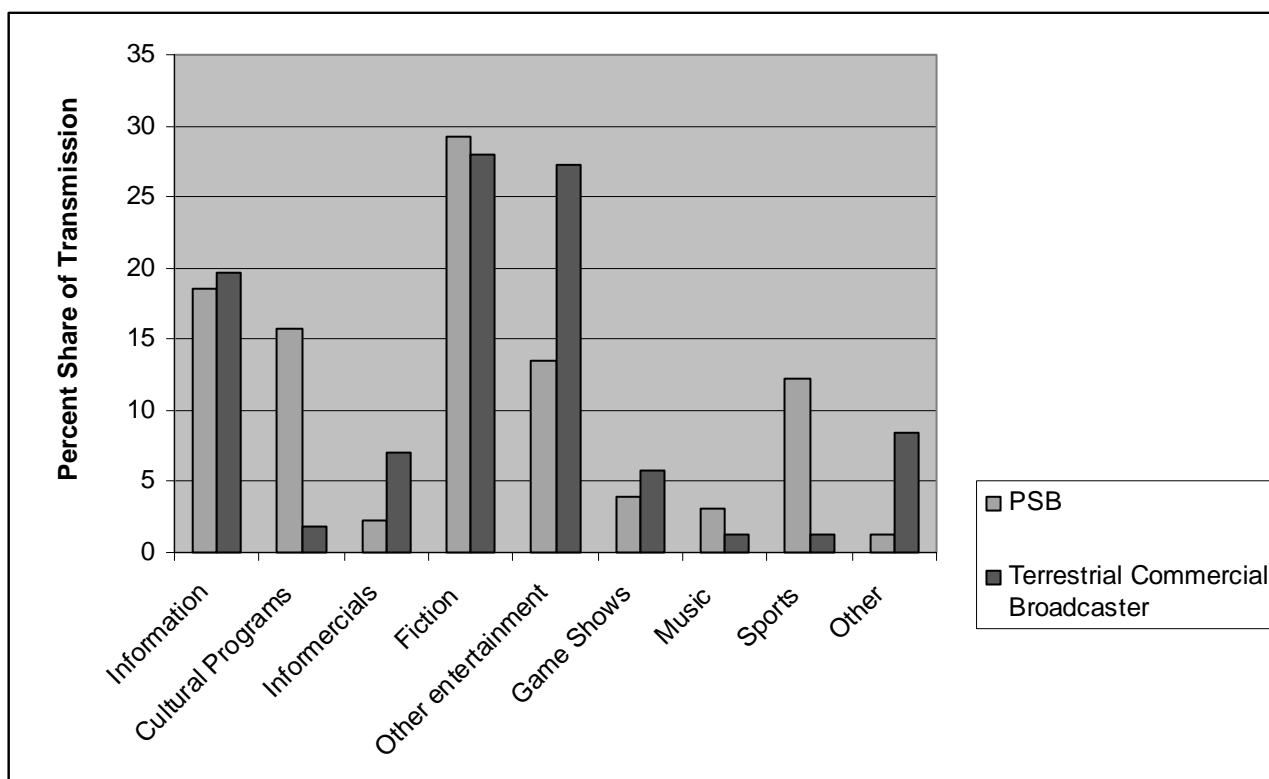
Table 2. Audience Market Share of Selected Public Service Terrestrial Broadcast Networks (in percent)

Countries	1997	1998	1999	2000	2001	2002
Austria	62.4	61.7	58.5	56.6	55.5	54.3
Denmark	68.6	69.0	66.8	68.2	67.8	70.4
France	44.1	43.0	42.2	42.3	45.3	45.3
Germany	8.2	10.0	9.5	10.6	9.5	10.9
Italy	48.1	48.0	47.6	47.3	46.9	46.5
Japan				16	15	
Spain	51.4	51.0	49.4	49.3	49.6	50.2
United Kingdom	53.0	51.1	49.5	48.5	48	47.6
United States	3	3	3	3	3	3

Source: European Audiovisual Observatory, Yearbook 2003, Volume 2.

A number of European PSBs have attained a strong audience following, particularly during prime time, by adapting their programming content to match the demand of the majority of viewers to the extent allowed for by the public service obligations imposed on them. This change is said to have helped the PSBs garner a larger audience share and consequently a larger share of advertising revenue. This is especially true in those countries where the PSBs rely on advertising as their primary source of revenue.¹² For example, Chart 1 compares the programming genres offered by a terrestrial commercial broadcaster and PSB in Spain during 2002. It appears that both terrestrial commercial broadcaster and PSB devote a majority of their transmission time to fiction and programs containing information. Both PSB and commercial terrestrial broadcasters appear to be allocating a similar amount of broadcast time to a major category of programming - fiction.¹³ However, this similarity only applies to the amount of time given to broadcast such programmes and does not usually apply to the content which differs mainly because PSBs have responsibility for broadcasting quality programming which apply to all their programming. On the other hand, that similarity is not observed for the other main categories of programmes, in particular, to meet their public service obligations, PSBs generally devote more time to broadcast quality cultural and sports programming, which form an important part of their public service mission, than the commercial broadcasters.

Chart 1.
PSB vs. Terrestrial Commercial Broadcaster: Share of Transmission by Genre in Spain During 2002



Source: Observatory of Public Broadcasting in Europe, 2004, page 91.

As a result, an increasing number of PSBs report that advertising is one of their largest sources of revenue. For example, in 2001, 73.3% of Spain's RTVE revenue came from advertising. Similarly, during 2001, 34.7% of French PSB FR3's revenue came from advertising.¹⁴ In the United Kingdom, during 2002, 24.4% of PSB BBC's revenues were from commercial sources including advertising and the sale of programming rights to others. Increased competition between commercial broadcasters and PSBs for audience and advertising has led commercial broadcasters to mount a legal challenge against PSBs in Germany, Italy, and France.¹⁵ In the majority of cases these complaints have been rejected (see the decisions of the European Commission C(2003)-328 of 15 October 2003 regarding RAI, and C(2003)-4497 of 10 December 2003 concerning the French public stations France 2 and France 3).

Unlike the PSBs, the terrestrial commercial broadcasters and program distributors who use cable and satellite platforms employ a variety of business models to fund their enterprises and they receive their revenues from both advertising and subscription fees. In the U.S. there is a long history of programming being distributed by cable. Over the past decade, television viewing in the U.S. has gradually shifted from programming provided by the terrestrial commercial broadcasters to cable and satellite. A study by the FCC shows a precipitous drop in the share of viewing enjoyed by the programming provided by the terrestrial commercial broadcasters between 1984/85 and 2000/01.¹⁶

Table 3 shows that cable's audience share, in the U.S., grew from 13.5 % in 1984/85 to 49.7 % in 2000/01 (a growth of approximately 268 % over this 16-year period). Conversely, the audience share for programming provided by the terrestrial commercial broadcasters declined from 86.5 % to 50.3 % over the same period (a 42 % decline).

Table 3. Audience Shares (in Percentages) of All-Day viewing by TV Households in the United States

Platform	1984/85	1989/90	1994/95	1999/00	2000/01
Terrestrial Broadcast	86.5	74.3	67.0	53.4	50.3
Cable	13.5	25.7	33.0	46.6	49.7

Source: Levy, Jonathan et al., Broadcast Television: Survivor in a Sea of Competition, FCC, 2002.

According to the FCC report, however, the decline in terrestrial FTA broadcaster's share of viewers was not been accompanied by a proportionate decline in advertising revenues. Table 4 shows a comparison of the share of advertising revenues received by cable and the terrestrial FTA broadcasters. Although cable's share of advertising revenue has been grown substantially since 1984, it accounted for less than 30 % of the total video advertising revenues in 2001, while terrestrial commercial broadcasters received more than 70 % of the total.

Table 4. Comparison of Advertising Revenues Received by Cable and Broadcasters in the US

		1984	1985	1990	1995	2000	2001
Total Advertising Revenues (\$ millions)	Video	20 043	21 287	29 247	38 886	60 257	54 423
Terrestrial Broadcast (\$ millions)		19 310	20 298	26 616	32 720	44 802	38 887
Cable (\$ millions)		733	989	2 631	6 166	15 455	15 536
Terrestrial Broadcast Share (%)		96.3	95.4	91.0	84.1	74.4	71.5
Cable Share (%)		3.7	4.6	9.0	15.9	25.6	28.5

Source: Levy, Jonathan et al, FCC, 2002, Table 11.

The shares of advertising revenues going to cable in Western Europe, Japan and South Korea also show similar trends. In some countries, however, cable and satellite have made even more substantial inroads in the competition for advertising revenues. For example, cable and satellite's combined share of total advertising revenues in Belgium, Germany, and the Netherlands in 2000 was 88 %, 92 % and 78 %, respectively.¹⁷ In a majority of the remaining OECD countries, however, including Austria, Italy, Spain, and Japan, broadcasting continues to dominate the competition for advertising revenues since, in those countries, cable and satellite still have relatively low penetration (See Table 5).

Table 5. Comparison of Advertising Revenues Received by Broadcast and Multi-channel Platforms in Selected OECD Countries in 1999 and 2000
(USD in millions)

Country	Total Television Advertising Revenues 1999	Total Television Advertising Revenues 2000	Terrestrial Broadcast 1999	Terrestrial Broadcast 2000	Cable and Satellite Platforms 1999	Cable Satellite Platforms 2000	Terrestrial Broadcast Share (%) 1999	Terrestrial Broadcast Share (%) 2000	Cable Satellite Share (%) 1999	Cable Satellite Share (%) 2000
Austria	392	441	356	396	36	45	90.8	89.8	9.2	10
Australia	1360	1521	1335	1486	25	35				
Belgium	636	720	87	90	549	630	13.7	12.5	86.3	88
Czech Republic	311	376	308	372	3	4	99	98.9	1.0	1.0
Denmark	223	226	165	167	58	59	74	73.9	26.0	26.0
Finland	189	192	185	188	4	4	97.9	97.9	2.1	2.0
France	2473	2806	2419	2734	54	72	97.8	97.4	2.2	3.0
Germany	3978	4335	271	308	3707	4027	6.8	7.1	93.2	93.0
Greece	565	623	565	623	0	0	100	100	0.0	0.0
Ireland	159	145	154	140	5	5	96.9	96.6	3.1	3.4
Italy	3391	3808	3369	3765	22	43	99.4	98.9	0.6	1.1
Japan	17742	19294	17207	18544	535	750				
Netherlands	556	650	123	146	433	504	22.1	22.5	77.9	78.0
Norway	429	526	275	346	154	180	64.1	65.8	35.9	34
Portugal	770	1020	736	967	34	53	95.6	94.8	4.4	5.0
South Korea	1355	1684	1330	1649	25	35				
Spain	1934	2129	1908	2085	26	44	98.7	97.9	1.3	2.0
Sweden	375	431	229	256	146	175	61.1	59.4	38.9	41.0
Switzerland	304	349	228	274	76	75	75.0	78.5	25.0	21.0
United Kingdom	4732	5044	4159	4388	573	656	87.9	87.0	12.1	13.0

Source: Price Waterhouse Coopers, Television Networks: Broadcast and Cable, 2003.

The continued success of terrestrial broadcasters (both commercial and PSBs) in the race for advertising revenues in those countries with high cable and satellite penetration can be attributed to the nature of the programming they carry. Advertisers prefer programming that reaches a mass audience, and terrestrial broadcasters generally carry that type of programming. Since cable and satellite offer many channels, these platforms follow a programming strategy that attracts more specialized (or niche) audiences. For advertisers, those niche channels provide access to groups of people that share particular interests, but not a mass audience. Hence, advertisers place advertising on these niche channels in order to gain access to particular demographics such as specific income or age groups or gender-specific groups instead of the mass audiences typically attracted by the broadcast channels.¹⁸

Another programming strategy followed by cable and satellite in the U.S., the U.K., and France, for example, is to bundle niche and broad-appeal programming together. Combining these two types of programming allows the distributors to differentiate their content from that offered by the terrestrial broadcasters. That strategy also allows cable and satellite to price discriminate among consumers since certain groups of consumers will buy additional bundles of programming and other groups of consumers will not.¹⁹

Bundling of channels enables the multi-channel distributors to cross subsidize channels that have a relatively limited following with channels that enjoy a terrestrial broadcast-type mass appeal. This is said to “nurture” channels that might otherwise not survive on their own because they appeal to too narrow an audience. In this way, this practice contributes to the diversity of programming and creates a wider choice of programming for consumers.

In some European countries including Austria, Belgium, Denmark, and Germany, cable and satellite operators offer a small basic package and an additional “themed package” at higher cost. Table 6 shows the number of digital channels offered by cable and satellite operators on their most popular programming packages in selected OECD countries.

Table 6. Number of Channels Offered on Basic Package by Cable and Satellite Operators in Selected OECD Countries

Country	Cable/Satellite Operator	Number of Channels Basic Package	Number of Channels Maximum Package
Belgium	UPC Belgium	5	17
	Canal	25	30
	Canal Digitaal	17	21
Denmark	Stofa	12	15
	TDC Cable TV	3-13	15
	Canal Digital	7	34
	Viasat	8	30
France	Canal satellite	55	66
	TPS	44	50
	Noos	35	103
	NC Numericable	39	72
	UPC France	16	50
	France Telecom Cable	6	52
Germany	Premier World	2	30
	MediaVision	18	18
	PrimaCom	15	29
Italy	Stream	19	24
	Telepiu	27	34

Source: Oxera, Study on Interoperability, Service Diversity and Business Models in Digital Broadcasting Markets, 2003.

Some cable and satellite operators in the above table allow their subscribers to create their own bouquet of programming channels. For example, in Belgium the basic package offered by UPC Belgium includes two basic channels and a choice of any three channels for a set monthly charge. By contrast, the French cable operator, TPS, offers a large basic tier that includes many standard French channels as well as a mix of sports and movie channels. Similarly, in the UK, Sky Digital's basic package includes a mix of general entertainment and niche channels, *e.g.*, MTV.²⁰

Critics of bundling, however, argue that this practice limits consumers' ability to select only those programming channels they prefer to buy, and instead, consumers are forced to buy (or not buy) entire programming bundles.²¹ Regulators and public policy authorities in many OECD countries are currently evaluating this issue (the issue will be discussed further in a subsequent section of this paper).

Digital Conversion. Over the past decade there was a dramatic increase in the number of programming channels offered to consumers in the majority of European OECD countries. One of the main reasons behind the significant growth in number of channels is the widespread use of digital compression and distribution technology. In 1994, one of the three satellite operators in the U.S. started digital transmission of programming content. At present, digital satellite is available in almost all OECD countries. In the U.S., Canada, Japan, Korea, and several European OECD countries, cable operators responded by investing heavily to upgrade their analogue systems to enable them to distribute content using digital compression. Table 7 shows the number of digital TV households by platform in selected OECD countries.

Table 7. Digital TV Households by Platform in Selected OECD Countries in 2003

	Total TV Households (in million)		Total Digital TV HH		Cable Digital TV		Satellite Digital TV		Digital Terrestrial TV	
	Total TV HH (in million)	%	TV HH (in million)	%	TV HH (in million)	%	TV HH (in million)	%	TV HH (in million)	%
Austria	3.2	17.10%	0.55	17.10%	0.05	1.60%	0.5	15.50%	0	0.00%
Belgium	4.2	4.30%	0.18	4.30%	0.16	3.80%	0.02	0.50%	0	0.00%
Denmark	2.3	15.50%	0.35	15.50%	0.08	3.50%	0.27	11.90%	0	0.00%
Finland	2.3	9.20%	0.21	9.20%	0.02	0.90%	0.1	4.40%	0.09	3.90%
France	24.4	18.90%	4.62	18.90%	0.92	3.80%	3.7	15.20%	0	0.00%
Germany	36.6	14.10%	5.16	14.10%	1.63	4.50%	3.15	8.60%	0.38	1.00%
Greece	3	8.40%	0.25	8.40%	0	0.00%	0.25	8.40%	0	0.00%
Ireland	1.3	35.10%	0.46	35.10%	0.1	7.60%	0.36	27.40%	0	0.00%
Italy	20.9	13.60%	2.85	13.60%	0	0.00%	2.85	13.60%	0	0.00%
Luxembourg	0.2	5.30%	0.01	5.30%	0	1.00%	0.01	4.20%	0	0.00%
Netherlands	7.1	9.70%	0.69	9.70%	0.11	1.60%	0.55	7.80%	0.03	0.40%
Portugal	3.1	16.20%	0.51	16.20%	0.02	0.60%	0.49	15.60%	0	0.00%
Spain	12.6	18.90%	2.38	18.90%	0.15	1.20%	2.06	16.40%	0.17	1.30%
Sweden	4.5	28.00%	1.25	28.00%	0.17	3.80%	0.88	19.70%	0.2	4.50%
U.K.	24.4	53.80%	13.14	53.80%	2.29	9.40%	8.04	32.90%	2.81	11.50%
<i>Total/</i>	150.1		32.61		5.7		23.23		3.68	

Source: Commission of the European Communities, Ninth Report on the Implementation of the Telecommunications Regulatory Package, Technical Annex 1, page 100.

As shown in the table, in 2003, in the European OECD countries, approximately 33 million households were able to receive digital television. Of those, approximately 71 % received their digital programming via satellite. In 2001, by contrast, a total of 18 million households in the U.S. were able to receive digital television, and, of those, approximately 57 % received their programming from satellite. In Japan, however, almost all digital programming was received via satellite in 2003.²²

Compared with cable and satellite, digitization of the broadcast platform (shown as “digital terrestrial TV” or DTT in the table) has been rather slow. Among terrestrial broadcasters, those in the U.S. and the U.K. were the first to distribute digital programming. The Telecommunications Act of 1996 ushered in the terrestrial digital era in the U.S. Pursuant to the 1996 Act, the FCC assigned new digital terrestrial television (DTT) licenses to existing broadcasters and assigned each licensee an additional 6 MHz of spectrum to facilitate transition from analog to digital by the target date of December 2006. The FCC reports that, as of July 2004, a total of 1 423 television stations representing 82 % of all television stations in the United States, are broadcasting a High Definition Digital Television (HDTV) signal.²³

Broadcasters in Japan and Korea have recently started to provide terrestrial HDTV in major metropolitan areas. Korea plans to have nationwide DTT coverage by 2005 using a terrestrial HDTV format.²⁴ In Europe, only a handful of countries are offering digital programming over the terrestrial broadcast platform. As shown in Table 8, only the United Kingdom had any measurable DTT penetration as of 2003. DTT, in the U.K., was initially available only as a pay service. According to the table, Finland, Germany, Spain, and the Netherlands have modest digital TV penetration. Germany has taken an aggressive approach to the digital TV transition in at least one city. The Berlin-Brandenburg market was completely transitioned to DTT in August 2003, all analogue terrestrial broadcast signals have been turned off and all TV broadcasting is now done in a digital format. Several other cities have begun the transition. Overall, however, the country is not as far along as several other countries. Some argue that full DTT transition may not occur in Germany’s rural areas. In Japan, satellite services have been offering digital TV since June 1996, but terrestrial DTV services only began in December 2003 in three television markets (Tokyo, Osaka and Nagoya—the three biggest cities in Japan). DTT is planned to be offered in other markets by the end of 2006. In June 2003, France provided DTT licenses to 23 commercial TV stations and all public stations, and these stations plan to begin providing commercial DTT service in March 2005.

European Platform of Regulatory Authorities (EPRA) recently evaluated the DTT switchover in a number of European countries and found that the success of the DTT conversion rests on several elements: (a) the level of competition in the programming distribution market; (b) the role of PSBs in the market; (c) the role of commercial terrestrial FTA broadcasters; (d) allocation of spectrum; and (e) the role of national regulators.²⁵ EPRA found that the competitive presence of multi-channel platforms such as cable and satellite that were offering digital service increased the speed of DTV conversion among terrestrial broadcasters. Since cable and satellite were the early adopters of digital programming, consumers in countries with relatively high cable and satellite penetration are familiar with the benefits of digital television. Also, a competitive distribution market where terrestrial commercial broadcasters compete with cable and satellite is relatively more conducive to new entrants using the DTT platform. In the U.K. and the U.S., the relative success of the DTV conversion among terrestrial broadcasters (although regulators in both countries complain that the conversion is not going rapidly enough) can be attributed to the presence of strong competition from the multi-channel distribution platforms, particularly cable and satellite.

In the U.S., cable and satellite are perceived to be platforms that are complementary to the terrestrial FTA broadcast platform, and that expand the reach of DTT. More specifically, cable and satellite, by virtue of their digital set-top boxes are able to deliver video and audio signals via digital transmission to consumers’ premises, and those signals can be converted back to an analogue format for display on consumers’ analogue TV sets. Cable and satellite are thus able to expand the coverage of DTT reception without the need for consumers to buy relatively expensive digital TV sets. Based on the widespread

availability of cable and satellite, the FCC is considering how to determine when the benchmark of 85 % DTT penetration, which was set by the U.S. Congress as the point at which terrestrial analogue broadcasting would be turned off and broadcasters would return the analog spectrum they now hold to the Federal Government for other uses, has been achieved.

In many European countries, PSBs are the primary producer of niche and general interest programming. The ability of PSBs to distribute programming in a digital format has been crucial in the development of the DTT platform in many countries including the U.K., Germany, and Finland.²⁶ Furthermore, PSBs are obligated by the National Regulatory Authorities (NRAs) in many countries to roll out minimum digital coverage by a certain date. In the U.S., Italy, Spain, Switzerland, Austria, Denmark, and Norway, a minimum coverage by a certain date has been established by law

The governments of several countries, as a matter of public policy, have provided financial incentives to PSBs and commercial terrestrial FTA broadcasters to roll out DTT. In Finland, the U.K., and Italy, for example, special financial resources ranging from reduced or no license fees to new public funds for digital programming have been made available to the PSBs to encourage rapid deployment of DTT. In the U.S., in order to strengthen the chances of DTT's success, the FCC decided to grant terrestrial broadcasters' flexibility in their use of new spectrum including the ability to provide interactive terrestrial broadcasts and multiple broadcasts as long as these new services do not interfere with the basic terrestrial FTA broadcast signal.²⁷

To facilitate early adoption by consumers and increased investment by broadcasters and TV set manufacturers, the FCC in 2002 adopted a plan which requires terrestrial over the air digital TV (DTV) tuners on nearly all new TV sets by 2007.²⁸ In 2003, the FCC also adopted rules for digital "plug and play" cable compatibility. The "plug and play" capability allows consumers to receive DTT signals without the need for a set-top box. Consumers would still need a set-top box to receive pay-per-view, video on demand and other interactive services. This built-in feature is intended to make digital TV sets more attractive to consumers.²⁹ Authorities in Germany, Italy, and the United Kingdom have taken steps to standardize specific software that processes and manages resources in set top boxes.³⁰

Several countries have adopted policies to stimulate consumer demand for DTV sets. In Italy, for example, direct financing is provided to families for the purchase of digital receivers.³¹ In South Korea, the Ministry of Information plans to offer low interest loans to consumers for the purchase of DTV sets. Consumer electronics manufacturers support the plan and have lowered prices of the sets by 7-to-23%.³²

Allocation and management of spectrum has continued to play an important role in the success of DTT in many OECD countries. PSBs in those countries are free to broadcast in multiple channels (or multiplexes, which are now possible due to digital compression) and the NRAs in those countries have allocated additional spectrum to the PSBs to encourage rapid deployment of DTT. The commercial terrestrial broadcasters, on the other hand, are allocated digital capacity by the platform owners who in turn are assigned digital capacity by the national authorities. Depending on the regulations and prevailing law, the national authorities may select the channels carried by platform owner through a public selection process.³³ Table 8 summarizes the number of digital channels carried on various platforms in selected OECD countries.

Table 8. Number of Digital Channels Carried on Various Platforms in Selected OECD Countries

Country	Number of PSB Digital Channels on Cable/Satellite	Number of Commercial Digital Channels on Cable/Satellite	Selection of Channels on Commercial DTT Platform	Number of Channels Carried on DTT Platform	Number of DTT Channels (PSB)	Number of DTT Channels (Commercial)	Number of Other DTT Channels (Produced by entities other than PSBs and terrestrial commercial broadcasters)
Finland	3	2	NRA	14	5	6	3
Germany	10	10	NRA	28	14	12	2
Italy	10	0	Platform operator	20	8	6	6
Netherlands	0	0	Independent Platform Operator	24	3	6	15
Spain	2		Independent Platform Operator/NRA	7	2	3	2
Sweden	2	2	NRA	24	4	4	16
U.K.	6	4	Independent Platform Operator	24	9	5	9

Source: EPRA, Table 6.1.

Table 8 shows that PSBs account for a substantial portion of the channels distributed on the DTT platform. For example, in Germany, Italy, and the U.K., PSBs provide more channels than the commercial terrestrial broadcasters. In Finland, and Spain, the DTT channel line up includes more channels that are produced by commercial terrestrial broadcasters than by PSBs. Some of the PSB channels may be competing directly with channels produced by commercial DTT broadcasters. A recent study conducted by the U.K.'s Office of Communications concludes that the PSB, British Broadcasting Corporation (BBC), is instrumental in promoting DTT in the U.K. by "cross promoting" and enhancing its offerings with attractive new services. However, according to the report, BBC's presence in the market may retard competition by hampering the survival of commercial broadcasters. In addition, it is argued that the commercial DTT broadcasters' ability to invest and innovate in the DTT platform may also diminish if they continue to face competition from the BBC which is supported by public funds.³⁴

In many countries, "build-out" obligations have reduced uncertainties concerning the deployment of DTT. Other factors, however, including regulatory restrictions on the use of spectrum, lack of coordination between DTT service providers and equipment manufacturers, and a desire on the part of incumbent broadcasters to hold on to rents derived from the scarcity of spectrum, pose real obstacles to the rapid deployment of DTT in many countries. Similarly, the creators of content are concerned about the ease with which digital content can be re-distributed over various digital platforms. The potential for copyright infringement through free re-distribution of copyrighted content over digital platforms (often called "napterization") discourages the creation of new programming and causes a loss of revenue from syndications and thus reduces DTT's appeal to content producers. Issues related to regulatory obligations, digital copyrights, and structural obstacles to DTT conversion and deployment are discussed in the following sections.

One of the consequences of digitization is the dramatic increase in the number of programming channels offered to consumers in many OECD countries. Table 9 shows the number of channels by genre offered in Europe (the table includes Austria, Belgium, Denmark, Finland, France, Germany, Italy, Luxembourg, Netherlands, Spain, Sweden, and the U.K.).

Table 9. Number of Channels Offered According to Genre in Selected European OECD Countries

Genre	1990	1995	1999	2000	2001	2003
General	75	117	192	210	222	261
Children's	1	8	45	64	66	78
Movie	7	26	109	120	128	143
Music	3	11	42	56	64	75
News, Business, Parliamentary	5	16	54	60	70	88
Sports	0	18	53	68	82	92
Shopping	1	3	7	15	33	52
Entertainment, Computer Games	7	19	50	59	66	74
Culture, Documentary	3	11	75	82	86	94
Health, Lifestyle, Weather, Travel	0	0	8	11	16	22
Other	1	12	83	104	124	153
Total	103	241	718	849	957	1132

Source: European Audiovisual Observatory, 2003. Included are only national channels.

The table shows that the number of channels as well as genres offered has increased by a very large amount over the last thirteen years. Similar trends have prevailed in the United States and Canada. Consumers in those countries are now able to choose from a great variety of programming offered by cable and satellite. This growth in the number of channels has increased the diversity of programming available to consumers and thus has helped regulators achieve one of their main goals of media policy. However,

the question arises as to whether the fact that a large number of these channels are pay-per view allows for the programming offered to benefit all segments of society. In addition, diversity does not necessarily preserve or promote the quality of content, which constitutes one of the major objectives of audiovisual policy in many European countries.

Market Concentration and Vertical Integration. Market concentration, generally measured in terms of market share, provides a good indication of how a video distributor is likely to behave.³⁵ A programming distributor with a large share of the video distribution market may try to exercise market power by raising prices and reducing output. In a highly concentrated market, rival programming distributors may not be able to expand output sufficiently to counter the exercise of market power by a large distributor.³⁶

The degree of concentration and the competitive conditions in a market depend on how the product and geographic markets are defined. For example, national concentration may not be relevant when cable operators exercise market power in the respective geographic markets they serve because subscribers who live in a particular community are not able to purchase service from a cable operator located in any other community. However, cable operators are the primary purchasers of video programming and most programming is targeted to a national audience (there are some exceptions, for example, regional sports programming that is targeted to a regional audience). Therefore, a national market exists for the purchase of programming and it is relevant to examine whether cable operators exercise market power as a buyer of programming. Table 10 shows concentration in the market for the purchase of programming in the United States between 1993 and 2003.

Table 10. Concentration in the U.S. Market for the Purchase of Video Programming

Market Share	Percent of Cable and Satellite Subscribers				
	1993	1998	2001	2002	2003
Top Share	24.30	26.48	16.44	14.75	22.69
Top 2	36.90	42.62	30.79	29.04	35.01
Top 3	42.30	48.94	42.11	41.03	46.63
Top 4	47.20	54.63	51.64	50.48	55.98
Top 10	63.20	71.04	84.29	84.44	81.95
Top 25	83.10	80.99	89.70	90.26	87.45
Top 50	93.10	86.08	91.38	92.05	89.29
HHI	880	1096	905	884	1031

Source: FCC, Tenth Annual Competition Report, 2004.

In Table 10, the Herfindahl-Hirschman Index (“HHI”), which is based on the national percentage shares of cable and satellite subscribers, shows a level for 2003 of 1031. This indicates a market that is considered to be moderately concentrated under the guidelines published by the U.S. Department of Justice.³⁷

The product market, unlike the geographic market, may include cable, satellite, and the terrestrial broadcast platform as part of the same market providing, of course, that consumers view these three platforms as substitutes for one another. Whether two products are in same market depends on how consumers perceive those products. A product with close substitutes, *i.e.*, with elastic demand, ensures that the product and all its substitutes belong to the same product market. A recent study of the demand for cable and satellite by the U.S. General Accounting Office found that under certain circumstances consumers view satellite as a substitute for cable (see Box 1 for a further explanation).

Box 1. Satellite, Cable, and Terrestrial Broadcasting: Do they Compete

The U.S. General Accounting Office, using data compiled by the FCC, used an econometric model to determine if competition existed between cable and satellite. Although the model was based on data collected from cable operators, the model tried to estimate consumer demand for both cable and satellite and also the factors that affect that demand. Estimated results from GAO's model show that competition from satellite has induced cable operators to lower cable rates slightly, and after satellite was allowed to provide local broadcast stations as part of its service, cable operators were induced to improve the quality of their service by providing more channels.

There are considerable variations among the national regulatory authorities in Europe concerning their definition of the relevant market for video distribution. These definitions consider the extent of demand and supply substitution between cable, satellite and terrestrial broadcasting. For example, in France, the regulators tend to consider that there is a one market for digital and terrestrial and for pay-TV, whether by cable or satellite. While in Germany regulators consider terrestrial broadcasting to be in a separate market compared with cable because the terrestrial broadcasters do not have contractual relationships with the consumers. Regulators in the U.K., on the other hand, relying on the consumer's perspective came to the conclusion that terrestrial broadcasting is a close substitute for subscription TV such as to cable and satellite.

The Commission of the European Communities also defined the relevant market for broadcasting. The Commission has indicated a narrower definition of the market based on specific platform may be justified because "demand and supply substitution conditions between the different delivery platforms may be such that the feasibility of switching between platforms is limited. In that situation a hypothetical monopolist on one platform may not necessarily be constrained by the activities of operators of other platforms."

The Commission recently has defined a larger relevant market for pay TV compared to narrower platform specific market. The Commission cited substitutability between satellite and cable platforms in terms of similarities in price, services offered, and the competition for subscribers as the basis for its decision.

Source: General Accounting Office, Issues Related Competition and Subscriber Rates in the Cable Television Industry, GAO-04-08, October 2003; Bird and Bird, Market Definition in the Media Sector-Comparative Legal Analysis, December 2002; Charles River Associates Limited, The New Regulatory Framework and the Cable Industry, December 2003; The Commission of the European Communities, Recommendation on relevant product and service markets – Explanatory Memorandum, C(2003,497), February 2003, pp 37-38.

A survey of major European media markets shows that the broadcast platform is dominated by PSBs (also see Table 3) measured by audience share. Table 11 shows the level of ownership concentration of the three largest groups in the broadcast market during 2002/2003.

Table 11. Market Share (Measured by Audience Share) of Television Groups in Selected OECD Countries during 2002-2003 (in percent)

Country	PSBs	Leading Commercial Group	Second Ranking Commercial Group	Sum of three Largest Groups
France	36.6	31.5	12.6	80.7
Germany	44.4	24.7	21.8	90.9
Italy	44.7	44.0		88.7
The Netherlands	37.6	27.4	19.6	84.6
Spain	30.7	21.4	19.3	71.4
Sweden	43.0	25.0	11.4	79.4
United Kingdom	36.5	23.7	9.7	69.9

Source: Ward, David, A Mapping Study of Media Concentration and Ownership in Ten European Countries, 2004.

In Table 11, the sum of the three largest market shares for all countries is above 56 indicating that the broadcast market is highly concentrated in all of these countries. Dominance of PSBs in the above

countries may be attributed to a smaller number of commercial licenses available and the power of incumbency.

Besides horizontal concentration, another issue related to market structure is the degree of vertical integration among companies in each of the three stages of the broadcast industry: programming production, programming packaging, and programming distribution. A video distributor may have either a contract with, or an ownership interest in, a programming producer and/or packager. A vertical relationship in the form of an ownership interest may result in an increase in efficiency and an increase in the supply of new programming for the distributor. An increase in efficiency may be achieved by lowering costs through lowering the risks associated with program production. In markets where a programming distributor has substantial market power, vertical integration may allow that distributor to exercise its market power to disadvantage its rivals.

In the U.S., cable operators always had an ownership interest in programming networks. In the early days of the cable industry when independent programming unique to cable was not available, a number of cable operators got together and helped launch new programming networks. By 1990, 50 % of the cable programming networks with a national audience were affiliated with cable operators. By 2003, the desire for vertical affiliation had subsided somewhat and only about 33 % of programming networks were vertically integrated with cable operators. As channel capacity increased, cable operators had a strong desire to distribute original programming to establish their brand identity.³⁸

Given the popularity of sports among a large segment of the population, some broadcasters and cable operators have taken steps to vertically integrate with major professional sports teams to secure broadcasting rights. For example, Comcast (the largest cable operator in the U.S.) and the parent company of the Fox broadcasting network each own major professional sports teams. A similar quest by the parent company of a British satellite operator to acquire a popular European sports team was not permitted by the European Commission on the basis that this would have anti-competitive effects.

In the U.S., from 1970 through the early 1990s, program packagers and distributors using the terrestrial commercial platform (including the three major broadcast networks) were subject to Financial Syndications Rules ("Fin-Syn"). Fin-Syn prohibited broadcast networks from acquiring any financial interest in programs produced wholly, or in part, by a person other than the television network. Networks could only purchase rights from the producer to air such programming, or alternatively, they could produce programming entirely in-house.³⁹ Later, pursuant to a consent decree between the broadcast networks and the Department of Justice the amount of in-house program production was limited. Since the elimination of the Fin-Syn rules, a large number of programs distributed by FTA broadcasters are produced by the broadcast networks themselves. For example, the four largest FTA broadcasting networks produced 18%-34% of their prime time programming in the 1993-94 season and they are expected to produce 49%-67% of prime time programming during the 2002-03 season.⁴⁰

In Europe, a majority of broadcasters produce their own programming. Unlike the U.S., however, European broadcasters and cable operators in most cases do not own the distribution infrastructure. In order to encourage production of independently produced programming, the European Union has instituted a quota system in favour of European programmes (Directive 89/552/CEE of the Council on 3 October 1989 referred to as the "Television without Frontiers" Directive.).

IV. Implications for Video Distribution Regulation

Rationale for Government Intervention and Current Regulatory Measures. The media industries, including terrestrial broadcast, cable, and satellite platforms, are among the most intensely scrutinized

industries in the world. With its ability to inform, entertain, and influence public opinion, the terrestrial broadcast platform has attracted intervention from state authorities worldwide. Some of this intervention has been extended to the non-broadcast platforms like cable and satellite. State intervention in terrestrial commercial broadcasting is also justified on the basis of the use of the public spectrum as a distribution medium. In addition, public intervention can also be justified on the basis of a “market failure” where, due to the public good nature of the output and negative and positive externalities related to broadcast programming, normal market forces, *i.e.*, demand and supply, fail to allocate resources efficiently.

Public goods have non-excludable characteristics which make it difficult to exclude those who do not pay from receiving the product. The PSBs and FTA terrestrial commercial broadcasters usually do not have the capacity to exclude any viewers. Since entities seeking to maximize profit will not produce and supply a product for which it cannot get any payment from its consumers, under conventional market characteristics no terrestrial broadcast programming would be produced or distributed.⁴¹

Another characteristic of a public good is that it is non-rivalries. Once the programming is produced, consumption of that programming by one viewer does not reduce the amount available for others and there is no additional cost to supply that programming to additional viewers. The optimal price of program distribution that maximizes consumer welfare is zero, therefore no program distributor will provide programming to consumers at zero prices because the distributor will not be adequately compensated for their product.⁴²

Programming distributed over the terrestrial broadcast platform as well as over cable and satellite platforms are said to possess externalities. These externalities, both negative and positive, come about because of the misalignment between private costs (benefits) of the program distributor and social costs (benefits) of society in general. An example of a negative externality is a situation where a program distributor may distribute violent programming that encourages anti-social behaviour among the viewing public. Under such circumstances, violent programming will be over supplied from society’s point of view. By contrast, in cases with a positive externality, for example, certain educational programs, some consumers may demand less of those programs and therefore program distributors may distribute less of that particular type of programming than the authorities would deem beneficial for society. This lack of intervention by the private sector relative to public interest objectives is one of the principle reasons justifying the role of PSBs.

Beside the market failure argument, tight control of the broadcast platform is also attributed to the scarcity of public airways. Spectrum scarcity was one reason behind the limited number of licenses issued by regulators to terrestrial commercial broadcasters. Limited issuance of licenses was also justified on the basis that terrestrial commercial broadcasters relied on advertising for their survival, and if too many terrestrial commercial broadcasters were allowed in a particular market, this would lead to intense competition among those broadcasters for the limited amount of advertising funds available.⁴³

Program distribution enjoys both economies of scale and scope that generally encourage firms to grow larger both horizontally and vertically, thus leading to a market structure that is highly concentrated and non-competitive in nature. A dominant firm in a non-competitive market has the potential to exercise its market power by selectively distributing only those programs which they choose to distribute. In those situations government intervention is justified since it stimulates competition in the “marketplace for ideas” leading to greater consumer choice and improved economic welfare.

In a majority of OECD countries, two broad regulatory tools, structural and behavioural regulation, are used to: *i)* achieve public objectives of viewpoint, cultural, and program diversity; *ii)* address market failures associated with public good characteristics of video distribution; and *iii)* address public good externalities. Structural regulations that affect the video distribution market include rules governing

ownership, cross-ownership, vertical integration, and market entry. These rules are designed to foster competition and achieve objectives of viewpoint diversity or plurality. Behavioural regulations, which tend to favour just as much objectives of diversity and pluralism, address externality issues by directly influencing the content of the programming through rules including must carry obligations for distributing certain types of programming, limiting the distribution of other types of programming based on community standards, programming quotas, and restrictions on advertising.

In the U.S., structural regulation affecting the video distribution platform was first implemented by the FCC during the early-1940s. Since then, additional ownership rules were adopted on a rule-by-rule basis and evolved incrementally over the years. For example, in addition to ownership rules covering broadcast TV and cable, the FCC over the years also adopted cross-ownership rules between radio and TV, between cable and terrestrial broadcast TV, between TV programming networks (program content aggregators) and cable, between cable and telephone, and between radio, TV and newspapers.⁴⁴ The FCC's structural regulations in general are based on the belief that market structure is a key determinant influencing the behaviour of market participants, and that this, in turn, affects the nature of output (the programming content) available to consumers.

Since the owners of the distribution platforms generally select the content they wish to distribute to consumers, a diffused ownership of the distribution platform is generally assumed to provide a variety of viewpoints. Competition among the distributors of content or "number of voices" competing for attention is believed to improve consumer welfare by promoting public dialog concerning important policy issues affecting the public. This type of diversity of viewpoints or pluralism in the market where many owners select the content that is distributed to consumers is expected to also lead to diversity in the content that is available to the public. It is quite possible, however, that a larger number of content providers may not always produce diversity in programming content, even if they have differing viewpoints because of the pressure to satisfy advertisers.

Behavioural regulation, on the other hand, is designed to directly affect the content being delivered to the public. In the U.S., critics have argued that because of the First Amendment, which grants a fundamental right of freedom of speech and expression, the FCC has relied almost exclusively on structural regulations to influence the content of programming. Other OECD countries including Australia, Canada, Mexico, as well as the members of the European Union, however, rely on behavioural regulation to directly affect diversity and the type of programming available to the public. Content regulation reflects the cultural values attached to programming by the national authorities, and their desire to reduce negative externalities and concomitantly to promote socially desirable content and thereby extend positive externalities. Such regulation is also intended to improve consumer welfare by providing consumers with a wider choice of programming that better matches their preferences.

Table 12 outlines broad policy objectives and measures related to the regulation of video programming distribution platforms in the OECD countries.

Table 12. Policy Objectives and Regulatory Measures

Type of Regulation	Regulatory Measures	Intended Major Policy Objectives
Structural	Restriction on cross media and cross sector ownership Limitation on vertical ownership of content and delivery network Restrictions on the reach of individual broadcasters, either in terms of number of channels or audience reach Restriction on line of business Restriction on the number of terrestrial broadcasters License regime for providing broadcast services thus controlling entry into the market	Viewpoint Diversity (Plurality of voices)
Behavioural	Funding of public service broadcasting Broadcast quotas for programming produced domestically Financial and other assistance to encourage domestic content production Quotas for particular types of programming including children's programming and programmes with high production values Obligations to provide certain programming deemed to be national significance on FTA television Must Carry rules on cable and satellite Access to popular programming Content prohibitions and restrictions relating to offensiveness, taste and decency Requirements related to accuracy and impartiality in news and current affairs programs Restriction on advertising	Cultural Diversity, Programme Diversity, and Community standards

Although both structural and behavioural regulation of the video distribution market has been embraced by almost all OECD countries, there are wide variations among countries concerning policy objectives and, as a result, a multitude of regulations. For example, most OECD countries have no explicit policy concerning diversity. The meaning of diversity may range from “viewpoint diversity” or plurality to source, program, or cultural diversity. Viewpoint diversity is often regarded as an inevitable by-product of economic competition.

Box 2. Diversity

In the US, the concept of diversity has evolved over time. The FCC has identified five concepts of diversity including viewpoint, program, outlet, source, and minority and female ownership. In recent regulatory proceedings the FCC has affirmed the importance of viewpoint diversity or plurality, i.e., competition in the marketplace for ideas. While the FCC found both program and outlet diversity to be useful goals, source diversity which refers to diversity of producers was said to be not as relevant a policy goal. Program diversity provides consumers with a wide variety of programming choices and genres.

In Australia, the media ownership rules do not contain any special provisions that consider diversity issues in the media marketplace, but several cross-media ownership restrictions are in place to encourage source diversity, which refers to the availability of information and programming content from multiple content providers and producers. A wide array of content producers generally contributes to both viewpoint diversity and program diversity (i.e., a variety of programming formats).

In Spain, media mergers are evaluated on the basis of whether the merging entities satisfy “information pluralism,” a concept similar to “source diversity.” The existence of multiple owners in the marketplace is viewed as necessary to preserving diversity of information sources. Recently, the Spanish Supreme Court annulled a radio merger that had previously been approved by the government because the merger did not take this factor into account.

Finland seeks to promote diversity, among other countries by encouraging multiple owners of media outlets, without directly regulating programming content. The outcome of both the Spanish and Finnish approach to diversity aims toward a marketplace that is less concentrated in ownership terms.

In Germany, diversity of viewpoints in the broadcast media is achieved by encouraging multiple owners and by limiting the degree of concentration in media ownership. There is growing scepticism in Germany about policies that explicitly promote diversity and an emerging confidence that economic competition in the marketplace will protect diversity of viewpoints.

Japanese law and regulation explicitly recognizes diversity of viewpoints and freedom of expression as policy objectives governing media ownership rules. To promote viewpoint diversity and safeguard freedom of speech, Japan’s Broadcast Law restricts media ownership concentration. Recent changes in the media marketplace, such as the rapid emergence of new outlets including satellite, the Internet, and cable, have prompted Japan to review its ownership rules. Even in a changed media market with multiple outlets for information, Japanese regulators believe that diversity may still be in jeopardy if people rely heavily on one particular type of media for their information and that particular medium is heavily concentrated.

Outside the OECD area, Chinese Taipei equates diversity in its media marketplace with the number of owners in the marketplace. For example, in order to encourage viewpoint diversity, Chinese Taipei limits the size of its cable operators, and requires cable operators to set aside one-fourth of their channel capacity for non-affiliated independent programming.

Source: OECD.

In addition to structural ownership rules, some countries including Australia, Canada, Mexico and the European Union countries, also rely on content regulation to achieve cultural diversity goals.⁴⁵ Broadcasters and cable operators in these countries are required to air programs that specifically meet minimum requirements set by regulators or the cultural ministry. For example, in Mexico, specific regulations impose maximum time limits on radio and TV advertising, minimum time limits for cultural, educational and social programming, minimum time limits for Spanish content, and limits on foreign investment. In the U.K., a government proposal to end restrictions on foreign investment in broadcasting has sparked a sharp policy debate.

The national authorities in many OECD countries have promoted competition and less concentrated markets along with content regulation in order to achieve diversity of content in their video distribution markets. However, competition and dispersed ownership may not always increase program diversity.⁴⁶ Also, due to digitization, the broadcast, cable, and satellite platforms are now able to offer a greater variety of programming over more channels, without any concomitant increase in the number of platform owners.

With increased competition among various new platforms for the delivery of multi-channel video programming, there is less of a need for strict structural ownership limitations that apply to a single platform and ignore other competing platforms. Platform-specific ownership rules may make the platform less competitive. Generally, most OECD countries impose stricter ownership rules on broadcast platforms than on their cable or satellite counterparts.⁴⁷ As platforms become more competitive, cross-ownership restrictions among platforms become more important to insure that no single organization becomes a dominant market player across several platforms and thereby becomes able to act as a gatekeeper.

The FCC recently reviewed its ownership rules for terrestrial commercial broadcast which takes into account diverse sources and ownership of media outlets that contribute to viewpoint diversity and plurality. More specifically, a diversity index was constructed by including all relevant sources of local news available to consumers including broadcast television, radio, newspapers, and the Internet. The index also takes into account the relative importance of these sources by assigning a weight to each source.⁴⁸ The diversity index was initially used to relax the cross-media ownership rules including newspaper-broadcast and radio-TV cross-ownership limits but the index was subsequently challenged in court. The court remanded the ownership rules to the FCC.

In most cases, platform specific ownership rules have thresholds which are based on static market conditions. Convergence, which leads to dynamic market conditions, may render such limitations on ownership unnecessary. For example, as more facilities based competition emerges in the telephone industry and the market power of incumbents is eroded, the rules restricting incumbent telephone operators from providing multi-channel video service over their infrastructure are no longer needed. In a competitive market with multiple platforms available for conveying ideas and opinions to the public, ex ante ownership restrictions may no longer be as relevant or necessary as they once were in a world of limited competition. However, since broadcasting still plays a dominant role in shaping public opinion and cultural awareness there is a need for public policy aimed at promoting pluralism and cultural diversity notably within the framework of behavioural regulation.

Economies of scale and scope in program production and distribution also pose potential challenges to regulators intent on achieving diversity on the one hand and economic efficiency on the other. A more concentrated ownership is sometimes able to provide a greater quality and quantity of diverse programming to customers than would be the case if ownership were fragmented. In a media market with intense inter-platform competition, regulators may tolerate a higher degree of within-platform concentration to achieve the seemingly contradictory goals of diversity, economic efficiency, and innovation. Concentration may help to achieve program diversity and innovation but only at the expense of viewpoint diversity.

Changed Marketplace. The discussion on the status of competition in the programming distribution market indicates that three trends have come together to progressively bring into perspective a part of the old rationale underlying the regulation of broadcasting. These trends are: *i*) the increased channel capacity available to program distributors and consumers; *ii*) the increased use of encryption/decryption technology and a “pay for service” business model to fund video distribution; and *iii*) the increased use of bundles of programming in the distribution of video programming.

More specifically, these new developments in the programming distribution market mean: *i*) the increased use of digital technology to transmit and compress analog signals which has resulted in increased channel capacity and thus has greatly expanded the availability of spectrum through its efficient use leading to an increase in program diversity and consumer choice apart from any change in ownership levels; in the case of terrestrial broadcasting digitalisation is still an evolving process and will require a number of years before its completion produces benefits; *ii*) the increased use of encryption/decryption technology and a pay-for-service business model potentially reduces the “non-excludability” problem associated with public goods; and *iii*) the emergence of several new multi-channel distribution platforms allows program distributors to package and distribute programming that was previously not available or in short supply by charging different prices to consumers for different bundles of service based on their ability and willingness to pay (called price discrimination in economic terms).

In light of these changes in the program distribution market it is worthwhile to ask whether the policy objectives of encouraging innovation and investment, the efficient use of scarce spectrum, cultural diversity, plurality, and national identity, might be achieved with significantly lighter regulatory intervention. The following paragraphs will evaluate the effectiveness of current regulatory measures in light of these new market and competitive conditions.

Channel Capacity, New Business Models, and Consumer Choice. The growth of inter-platform and intra-platform competition, however, may lead to increased concerns related to access. The old paradigm that advertiser-supported video distribution would favour content that has mass appeal while ignoring minority audiences and hence requiring regulatory intervention is a less likely scenario in a situation where literally hundreds of channels are available on current multi-channel platforms. As more channels become available, the opportunities for narrowly tailored programming also increase, and so does certain types of diversity in programming. Furthermore, if the program distributor uses a pay-for-service business model to distribute content to consumers, there is a good chance that the consumer will buy only those programming packages that match his/her preference. These assessments also need to be nuanced by the fact that in a number of countries the access to such wider offers is *de facto* limited to a minority of the population because of income levels.

Regulation of cable and satellite platforms in most of the OECD countries to some extent already reflect changes in the business model and use of distribution infrastructure that does not rely on public airways. For example, only four OECD countries have structural ownership restrictions affecting the cable platform.⁴⁹ Cable and satellite and other multi-channel platforms are also capable of providing the widest array of programming choices reflected by their higher channel capacity and their ability to provide niche programming. Some would argue that if there is robust programming diversity, it is not clear that behavioural regulation requiring distribution of certain types of content represents sound public policy especially since that type of regulation may displace programming content preferred by consumers⁵⁰, however others would still view the necessity for such regulation in order that public policy objectives can be met.

Table 13 shows how introduction of new distribution platforms have affected policy issues and business as well as regulatory models. The table also compares distribution platforms in terms of the degree of consumer choice they each provide.

Table 13. Evolution of Distribution Platforms

Distribution Platform	Services	Business Model	Competitive and Policy Issues	Regulatory Model	Consumer Choice/Control
Terrestrial Broadcast	One-way broadcast channels	Advertising/license fees	Access to and property rights over spectrum, negative and positive externalities, and economies of scale	Public trustee. <i>Ex ante</i> structural and behavioural regulation to influence content	Very limited
Cable/Satellite	Mostly one-way multiple video channels, and limited interactivity including video on demand, pay-per-view	Some targeted advertising, license fees and subscriptions	Vertically integrated distribution and content production, negative externalities, control access to consumer, and economies of size and scope	Mixed public trustee and limited utility regulation. Content regulation using <i>Ex ante</i> structural and behavioural regulations	Limited
IP based (Video over DSL/Broadband)	Two-way interactive multiple video channels	Targeted advertising, subscription and transaction fees	Access control	Yet to be determined	High

Source: Adapted from Galperin, Herman and Francois Bar, "The Regulation of Interactive Television in the United States and the European Union," Federal Communications Commission Law Journal, Volume 55, December, 2002, pp 61-84.

As shown in the table the terrestrial broadcast platform may be subject to more stringent regulation than other platforms since the broadcaster obtained spectrum free in lieu of public service obligations or is directly owned by the public entity. It is not clear if this stringent regulation is necessary in the case of commercial broadcasters especially if the broadcasters obtained the use of the spectrum by paying license fees that are tied to the market value of the spectrum (which is far from being the case in every country). The terrestrial broadcast platform owner and the program distributor may be more efficient in their use of the platform without intrusive regulatory interference; however, when considering terrestrial and cable/satellite television, the choice/control of viewers is still very limited, and given that the objectives of public interest noted above remain, the relevance of such regulatory intervention is viewed as necessary by a number of countries.

Cable, satellite and other subscription-fee-based platforms have mitigated the inherent disconnect between demand and supply of programming and thus offer more consumer choice by providing content preferred by consumers. These platforms, however, introduced a new layer of competitive concerns that revolve around access. For example, reliance by fee-based platforms on proprietary "set top boxes" to deliver programming content, electronic program guides (EPGs) and for other activities potentially limits competitor's ability to reach consumers via that platform.

The competitive access problem is said to become more acute if the video distribution markets are served by program distributors with significant market power at the program distribution level and are vertically integrated with content producers, content copyright holders, and distribution infrastructure owners.⁵¹ For example, a vertically integrated program distributor with significant market power may deny

access to certain “must have” programming to its inter-platform and intra-platform competitors. Also, increasing reliance on subscription fees to distribute content may leave some customers without access to content because they are unable to pay.

Following is a discussion of some of the regulatory measures related to access to infrastructure, programming content, and customers that are in place in many OECD countries. More importantly, the access regulatory measures will be evaluated on the basis of their success in meeting public policy goals of competition, efficient use of spectrum, innovation, and the promotion of cultural diversity and diversity of voices.

Public Service Broadcasters and Access to Content. If all terrestrial broadcasters were to switch to a pay-for-service business model to fund their operations (and recognizing that cable, satellite, and the newly introduced video over DSL platform already follow that model), certain consumers who can get the programming they want now would not be able to get that programming because they were unable to pay for it. Hence, access to the terrestrial broadcast platform, which is considered to be vital to a civil society and the proper functioning of democracy, would be at risk. One possible solution is to provide targeted subsidies to these consumers so that they can get the programming of their choice from a variety of program distributors provided the content satisfies basic community standards, *e.g.*, with respect to decency, offensiveness, and impartiality of news.⁵² Yet another solution would be to continue to support and publicly fund the PSBs who may act as “last resort” suppliers of programming for society as a whole. Regulators have argued that the PSBs are in the best position to further social and cultural objectives by producing and distributing local and cultural content.⁵³

It is not clear, however, that there are overall benefits to society from having PSBs get their funds from both public sources and advertising. Competition between PSBs and commercial terrestrial broadcasters where both rely on revenue from advertising may lead to less programming diversity and sameness. Moreover, in a DTV multi-channel environment, competition between incumbent PSBs and commercial broadcasters for advertising may mean less audience share and less money for the commercial entity which eventually may discourage entry and retard innovation and investment in new technology.⁵⁴

In addition, regulation in some OECD countries limits the amount of advertising that can be carried on the commercial terrestrial broadcast platform. This might seriously handicap the commercial terrestrial broadcasters who rely to a large extent on advertising for their revenue. In some countries arguments have been made that this may permanently relegate commercial terrestrial broadcasters to a position of inferior competitor to the PSBs and retard commercial development of the broadcast market. On the one hand it can be argued that limiting pressure from advertising is undeniably in the public interest for viewers; on the other hand, broadcasters have increasingly access to more diversified sources of revenue, such as from sponsorship, etc.

The more efficient use of spectrum because of digitization reduces, or will in the future reduce, the importance of spectrum scarcity as a problem and reduces the rationale for having a limited number of players in the terrestrial broadcast market. A liberal licensing regime would reduce the barriers to entry and may increase the number of independently owned broadcasters and thus help to further plurality and viewpoint diversity. Nevertheless, the arguments made above that the assessment of market failure to meet objectives of general interest, are linked with content, may not necessarily be modified nor may the need for behavioural regulation.

A substantial increase in channel capacity due to digitization as well as the entry of new platforms has important implications for the producers of local content and programming rights holders. Broadcasters and cable, satellite, and other non-broadcast operators may demand more local content to fill their channels thus giving content creators and aggregators the ability to exploit programming rights and maximize their

revenue by offering their programming to the highest bidder across different platforms. A virtuous cycle may result leading to the creation of more local content and thus lessening the need for specific quotas for local content. However, this also implies that the realisation of a virtuous circle is far from being systematic in particular, just as an example, which have a national market limited in size because of language.

Must Carry Obligations. “Must carry” obligations which mostly require cable operators in a majority of OECD countries to carry programs distributed by PSBs and commercial terrestrial broadcasters are another measure used by regulators to increase the availability of local programming content. In many countries, must carry provisions play a significant role in expanding the reach of PSBs and commercial terrestrial broadcasters.⁵⁵ Australia, Mexico, New Zealand, and Turkey, for example, do not impose any must carry obligations on their cable and satellite operators. In a majority of OECD countries, must carry provisions were adopted when analog distribution was prevalent and when cable had a significant advantage over PSBs and terrestrial commercial broadcasters through their greater channel capacity. Authorities rationalized the use of must carry obligations because they helped achieve important policy objectives such as pluralism, cultural diversity, and increased competition in the programming market.⁵⁶

The must carry provisions worked well in the analog world because the number of channels were well defined and in most cases cable operators had to carry only one channel per PSB and commercial terrestrial broadcaster. Digital compression techniques, however, changed all that and allowed PSBs and commercial terrestrial broadcasters to distribute multiple programming streams. Although cable operators also enjoyed increased channel capacity due to digital compression, a must carry obligation requiring carriage of multiple channels per broadcaster would clearly put a strain on their distribution capacity. Moreover, in certain countries, PSBs and commercial terrestrial broadcasters become operators of a multi-channel broadcast platform themselves, and it may be unfair to require cable operators to carry multiple streams of programming that compete directly with their own program offerings. If the cable and satellite operators are contemplating offering other digital services including Internet access and telephony services, the allocation of their channel capacity to meet must carry obligations will reduce cable operators’ economies of scope and, as a result, will reduce economic efficiency.⁵⁷

A market-based approach to must carry may yield a better solution. For example, in the U.S., terrestrial broadcasters have a choice of carriage either as a must carry obligation (in which case the signal is provided ‘free’) or as a retransmission consent program (in which case the cable operator negotiates terms of payment for the signal with the broadcaster). Under the retransmission consent option, PSBs as well as commercial terrestrial broadcasters with attractive digital programming content may use their bargaining power to have their content carried by cable and satellite operators for a retransmission fee. Bargaining power during the negotiations will shift according to demand for and supply of programming content. In several countries including Austria, Belgium, Germany, and Spain where PSBs supply thematic channels that are transmitted only on cable and satellite, bargaining power during the retransmission consent negotiations may shift in favour of the PSBs since they are the primary content providers. Additionally, since must carry obligations in many countries are imposed mostly only on cable it may create regulatory asymmetry especially when similar content is available via other platforms.

Vertical Integration and Program Access Rules. Must carry obligations are also characterized as a regulatory tool to gain access to delivery platforms. For example, one rationale behind must carry obligations in the U.S. is to provide programmers with access to the cable platform. Access to platform is a contentious issue in situations where cable or satellite operators are vertically integrated and own both programming production and the delivery infrastructure. In most European countries except for Greece and Italy, the distribution infrastructure is owned by an entity other than the commercial terrestrial broadcaster or the cable and satellite operator. Policies encouraging ownership of distribution infrastructure

independent of terrestrial broadcasters, cable, and satellite operators may serve to lower somewhat the barriers to access to the network.

The FCC, for example, in its Chain Broadcasting Rules contends that vertical integration between broadcast networks (program aggregators) and local infrastructure owners and program distributors (local television station owners) would harm competition by limiting local broadcasters' freedom to choose programming and by retarding the growth of new networks.⁵⁸ The FCC, pursuant to the Cable Act of 1992, also extended vertical integration restrictions to the cable industry by limiting the number of channels a cable operator can devote to affiliated programming (*i.e.*, programming in which the operator has a substantial financial interest).⁵⁹ The FCC rules also require cable operators to lease part of their channel capacity to rival program distributors. In addition, the "program access" provisions of the FCC rules prohibit vertically integrated programmers from refusing to deal with unaffiliated operators.

Recent debate among academics on the merits of vertical integration reveals that much of the concern regarding "leverage" and "foreclosure" are true only under limited circumstances.⁶⁰ Critics claim that by eliminating "double marginalization" and reducing transaction costs, vertical integration is able to increase static efficiency. For example, since program production requires a large upfront cost and high first-copy costs but zero or no additional cost to distribute additional copies of the program, distributors, by vertically integrating with network owners, may be able to reduce the cost of programming to consumers by charging an efficient price. Also, given the large upfront cost, the average cost of program production will decline as the cost of programming is spread over a larger number of consumers, hence increasing economic efficiency. Large sunk costs associated with program production may create an environment where producers, packagers and distributors act strategically (*e.g.*, terrestrial broadcasters or cable operators holding out to drive down programming prices and "free ride" on other program distributors who cover the first-copy cost of production) to capture a larger share of the profits. Vertical integration between program producers and distributors may limit this strategic behaviour and lower overall costs.

In contrast to the vertically integrated operator, if each entity in the video distribution value chain, *e.g.*, program producers, program aggregators, program distributors and infrastructure owners, are independent from each other, it may lead to a situation where lesser quality programs will be available for distribution at a higher price. Since in Europe commercial terrestrial broadcasters and cable operators do not own distribution infrastructure, they often have less control over the content and make up of the channel line up. EPRA contends that program distributor's inability to manage and control the distribution infrastructure may have contributed to a slower DTT roll out in Europe.

Digital Copyright. Vertical integration takes on an added importance in the digital era when program producers and copyright holders face a potential loss of revenue due to high quality illegal copying and re-distribution of their content by consumers and Internet-based platform distributors. Since program distributors may be unable to catch potential copyright violators because of the high cost of enforcement, copyright holders may internalize that cost by vertically integrating with content distributors.⁶¹ It is possible, however, to reduce or ameliorate copyright infringement problems by relying more heavily on technology to catch possible violators and less on vertical integration.

In the U.S., the FCC has already formulated an encoding rule (called the "digital flag") to protect digital content producers. The FCC contends that without the digital flag, content producers and copyright owners may not invest in the production of quality programming.⁶² However, use of the digital flag may obstruct the legitimate use of copyrighted content by consumers.⁶³ Lack of digital content may also hamper the development of Internet-based distribution platforms and may ultimately reduce consumer choice and welfare.

Effects of Bundling and Consumer Choice. Multi-channel distribution platforms (cable and satellite) and digital compression technology allow content distributors to create different bouquets of channels to meet consumers' preferences. Depending on a program distributor's market power and the consumer's willingness to pay, the former may engage in price discrimination through bundling. Although bundling increases programming diversity, critics charge that bundling forces consumers to buy channels that they do not want or watch. Studies, however, show that in the U.S., a government mandated a la carte approach would lead to increased per channel costs and loss of niche channels thus reducing program diversity.⁶⁴ Because a majority of the costs incurred in creating content are fixed, a la carte channel offerings are expected to increase per channel costs. Therefore, critics argue that although a la carte channel offerings give consumers the power to select the specific channels they want, consumers might have to pay more to get less content. Moreover, critics also argue that it is technologically prohibitive to offer literally hundreds of channels on an a la carte basis. The FCC and the U.S. Congress are currently looking into the a la carte issue.

Technological innovation may change the business of bundling followed by most multi-channel program distributors including cable and satellite. It appears that some European cable and satellite operators providing DTV services are taking advantage of the digital set top box and are offering consumers smaller basic packages and the choice of narrower theme packages at an additional price. As Internet Protocol based distribution platforms become more prominent, subscribers may be able to subscribe to and receive individual channels. A possible reduction in production costs due to digitization as well as a reduction in cost of access to the distribution infrastructure (due to an abundance of channel capacity) may encourage low-cost programmers to enter the market and drive down programming cost. Also, if programming content has interactive features, the content distributor may be able to target advertising and sell products that may help the provider to keep the cost of individual channels down.

V. Conclusions

In light of the changed video distribution landscape either due to privatization and/or digitization, the rules and regulations affecting video distribution need to be thoroughly re-evaluated. The rules applicable to the content of programmes, adopted and put in place by the majority of OECD countries, are motivated to achieve public objectives of quality, diversity, efficiency, and greater consumer choice. In certain situations, taking into account public policy objectives and the existing national market structures, a more competitive landscape may point to a regulatory framework that is less intrusive with regard to content. Changes in the business model and a relative abundance of capacity may help, in certain cases, depending on the national or regional situation, to achieve some of the desired objectives including, programming diversity, without, or with less, intrusive content regulation. Similarly, less rigid structural regulation that takes into account intra-platform as well as inter-platform competition should be instrumental in achieving efficiency and, at the same time, viewpoint diversity and competition in the marketplace for ideas. In short, rules governing the video distribution market should reorient from regulating monopoly to promoting competition, diversity, and pluralism.

NOTES

- ¹ For a recent discussion of regulatory objectives, see, OECD, The Implications of Convergence for Regulation of Electronic Communications, DSTI/ICCP/TISP(2003).
- ² The European Institute for Media, Executive Summary, A Comparative Analysis of Television Programming Regulation in Seven European Countries: A Benchmark Study, 2002.
- ³ Communications Outlook 2001 notes that 14 PSBs in the OECD countries provide channels for transmission only on satellite and/or cable platforms.
- ⁴ See, Richard van der Wurff and Jan van Cuilenburg, "Impact of Moderate and Ruinous Competition on Diversity: The Dutch Television Market," Journal of Media Economics, 14(4) 213-229. Also, see C. Edwin Baker, Media Markets, and Democracy, Cambridge University Press, 2002.
- ⁵ According to the 2002 Telecommunications Outlook, PSBs in most OECD countries on average had 2 channels.
- ⁶ See Owen, Bruce and Steven Wildman, Video Economics, 1992, pp. 132-135. Selling channels in bundles allow video distributors to realize some of the benefits of selling individual channels to different buyers at different prices based on willingness to pay (price discrimination). According to Owen and Wildman, "...selling products in bundles and eliminating the option of purchasing the components by themselves might allow the seller to realize some of the benefits of price discrimination ...in a situation in which the need to charge a single price would otherwise render this impossible." See, Owen and Wildman, p 132. Video distributor may increase profit by following a mixed bundling strategy where consumers are offered choice of bundle or one or more (but not all) of the bundle's components.
- ⁷ According to European Audiovisual Observatory, as of December 2002, United Kingdom and Italy respectively had 112,000 and 21,000 DSL video subscribers. Austria, Belgium, Spain and Finland also had a small number of video over DSL subscribers. See, European Audiovisual Observatory, Yearbook 2004, page 42.
- ⁸ Acey, Madeleine, A new channel: European phone companies offering TV over DSL," CBS MarketWatch, May 21,2004.
- ⁹ Bloomberg.com, Softbank to buy Movie Television's Content Operations, Available at <http://quote.bloomberg.com/apps/news>
- ¹⁰ Howard, David, The All-IP Broadband Network: What the U.S. Can Learn from the Rest of the World, November 2003, available at <http://www.tmcnet.com/it/1103/1103f-ustar.htm>.
- ¹¹ Vittore, Vince, "Video Over DSL: Loud but not Clear," Telephony on Line, March 2004, available at <http://telephonyonline.com/microsites/magazine/article.asp>; Tough Challenges Ahead for Europe's Video-over Broadband Providers, June 2004, available at <http://www.researchandmarkets.com/reports/219736/>
- ¹² IDATE Foundation, DigiWorld 2003, p 118.

13 Differences in carriage of sport programming may be due rules barring commercial broadcasting of major sports events. Also, sameness in programming in face of competition has important implications for the policy goal of program diversity. The effects of competition on program and viewpoint diversity are discussed further below.

14 Council of Europe, Public service Broadcasting Addendum, Appendix II, January 2004.

15 Price Waterhouse Coopers, Television Networks: Broadcast and Cable, 2002, page 115.

16 Levy, Jonathan et al., Broadcast Television: Survivor in a Sea of Competition, FCC, 2002.

17 Price Waterhouse Coopers, pages 112-126.

18 See Dimmick, John W., Media Competition and Coexistence, Lawrence Erlbaum Associates, 2003, page 62. Also, see Dimmick for an explanation on how niche and mass appeal content providers coexist.

19 From Owen and Wildman, consider following example on bundling:

Channel	Consumer 1 willingness to pay	Consumer 2 willingness to pay
A	USD 7	USD 5
B	USD 2	USD 7

If channel A and B sold separately, distributor’s revenue is USD 17 since at that price both consumer 1 and 2 will be buying channel A at USD 5 but only consumer 2 will buy channel B at USD 7. Profit maximizing price for A and B sold as bundle is USD 9 yielding a corresponding revenue of USD 18. Program distributor may also try maximizing revenue by charging USD 7 to consumer 1 with an option to buy channel B at USD 5.

20 Oxera, Study on Interoperability, Service Diversity and Business Models in Digital Broadcasting Markets, Volume II: Appendices, February 2003.

21 Several of the largest cable systems in Canada voluntarily offer customers several subscription options for digital programming, including a tier of many programming networks, various smaller bundles of programming, and “a la carte” channel options. See, FCC, Notice of Inquiry, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, June 2004.

22 See Commission of the European Communities, Seventh Report on the Implementation of the Telecommunications Regulatory Package, Technical Annex 2.1, 2001.

23 FCC, Second Periodic Review of the Commission’s Rules and Polices Affecting the Conversion to Digital Television, Sept. 2004, p 7. VOOM, a subsidiary of Cablevision, a U.S. cable operator, is also providing programming in HDTV format. As of Aug. 2004, VOOM had approximately 29,000 subscribers.

24 MIC Japan from their website, http://www.soumu.go.jp/joho_tsusin/eng/statistics.html, visited Sept. 14, 2004. Korean Broadcasting Corporation from their website, http://www.kbc.or.kr/english/common/korean_07.asp, visited Sept. 14, 2004.

25 European Platform of Regulatory Authority, Working Group on Digital Terrestrial television in EPRA Countries, Final Report, June 2004.

26 *Id;*

27 FCC, In the matter of Advanced Television Systems, MM Docket No. 87-268, 1997.

28 FCC, Second Report and Order and Second Memorandum Opinion and Order, FCC 02-230, 2002

29 FCC recently also adopted digital copyright rules (“broadcast flag”) to ensure production and distribution of digital programming. Policy implications of digital copyright in competitive video distribution marketplace are discussed later.

30 EPRA, 49.

31 *Id;*

32 DigiTimes, South Korea government adopting policies to speed migration to DTV, at <http://www.digitimes.com/displays/a20041001A3016.html>, visited October 7, 2004.

33 *Id*, 35.

34 Office of Communications, “Assessment of the Market Impact of the BBC’s New Digital TV and Radio Service,” October 2004.

35 A well defined relevant product market (*i.e.*, a market consisting of products and/or services that consumers consider to be substitutes) must exist before one can measure the level of market concentration.

36 Media markets including the programming distribution market are considered to be oligopoly markets where “...each firm has enough market power to prevent its rivals from being a price taker, but each firm is subject to enough inter-firm rivalry to prevent it from considering the market demand curve on its own.” (See, Doyle, Gillian, Media Economics, 9. Quote attributed to Lipsey, R. and A. Chrystal, Positive Economics, 8th Edition, Oxford University Press, 1995. The programming distribution market is expected to remain non-competitive and dominated by large firms because programming distributors sell a product that has high fixed cost and high risk. Programming distributed by different entities may be similar but not identical thus leading to a programming distribution market structure that has limited competition and where each entity has a firm grip on prices charged consumers. Also, once programming content is produced, there is very little cost of providing that content to additional customers. This reflects the existence of economies of scale in programming distribution, *i.e.*, a situation where the cost of production falls as the scale of output expands. Economies of scale also act as a natural barrier to entry. Any new entrant has to overcome the incumbent’s cost advantage (due to economies of scale) to make its entry worthwhile.

37 FCC, Tenth Annual Video Competition Report, 2004.

38 Video Competition Report.

39 Fin-Syn, Docket No. 12 FCC 2d 382 (1970).

40 Levy et at, at 117.

41 Doyle, Gillian, Understanding Media Economics, Sage Publication, 2002, at 64 (Doyle).

42 Doyle 65.

43 Several recent academic studies evaluated the effects of competition and market concentration on programming diversity. A study on the Dutch television market, for example, concluded that excessive or “ruinous” competition leads to sameness and reduces program diversity. See, Richard van der Wurff and Jan van Cuilenburg, “Impact of Moderate and Ruinous Competition on Diversity: The Dutch Television

Market,” *Journal of Media Economics*, 14(4) 213-229. Shu-Chu Sarrina Li and Chin-Chih Chiang evaluated the effects of market concentration on product innovation and programming diversity using data from Taiwan’s television market during the 1990s. They conclude that both vertical program diversity (the number of different genres of programming provided in a year) and horizontal program diversity (type of programming available to consumer from different sources at a given point of time) decreased during 1986 and 1996 when market competition in the television market intensified. See, Li, Shu-Chu Sarrina and Chin Chih Chiang, “Market Competition and Programming Diversity: A Study on the TV Market in Taiwan,” *Journal of Media Economics*, 14(2), 105-119. Also see, Einstein, Mara, “The Financial Interest and Syndication Rules and Changes in Program Diversity,” *Journal of Media Economics*, 17(1), 1-18. Einstein found no significant difference in program diversity today compared to diversity in 1966 even though the broadcast industry has become more consolidated. Einstein attributes lack of program diversity to dependence on advertising revenues

44 Austria, Belgium, Canada, Luxembourg, Spain, and Switzerland also prohibit telecom operators from providing video distribution services. A majority of countries also prohibit cable companies from providing telephony over their own infrastructure. See, OECD, *Current Status of Communication Infrastructure Regulation: Cable Television*, 1996.

45 More importantly, often the aim of content regulation is to preserve a minority’s cultural heritage and identity from encroachment by a dominant culture.

46 See footnote 44 on “ruinous competition”

47 Only France, Korea, Spain and the U.S. have ownership rules affecting the cable platform. See, *Communications Outlook*, 2001, Table 6.24.

48 See, FCC Report and Order, 2003, 391.

49 See footnote 39 above.

50 In a digital world it is less likely to have a channel displaced because of limited channel capacity.

51 Effects of vertical integration on access and program supply are discussed below.

52 Jan van Cuilenburg calls for a new paradigm for diversity. Cuilenburg argues that media policy makers change their perspective on diversity from reflective diversity which generally serves mainstream market preferences to “...openness and perfectly equal access, access for people and access for ideas.” See, Jan van Cuilenburg, *Diversity Revisited: Towards a Critical Rational Model of Media Diversity* in *The Media in Question*, edited by Kees Brants, Joke Hermes and Liesbet van Zoonen, 47, 1998.

53 Goldsmith, Ben, Julian Thomas, Tom O’Regan and Stuart Cunningham, “The Future of Local Content? Options for Emerging Technologies”, Australian Broadcasting Authority, 2001, p 19.

54 Ofcom, *Assessment of the Market Impact of the BBC’s New Digital TV and Radio Services*, 2004.

55 Ovum, *An inventory of EU ‘must carry’ regulations*, February 2001.

56 For example, while affirming validity of must carry rules, the U.S. Supreme Court opined that the rules furthered three important governmental interests including: *i*) preservation of FTA broadcasting; *ii*) promotion of widespread dissemination of information from a multiplicity of sources; and *iii*) promotion of fair competition in the market for television programming. See, *Turner Broadcasting System Inc. v. FCC* 117 Supreme Court 1174, 1997. Also, Article 31 of European Commission’s Universal Service Directives includes a provision on must carry obligations which directs member states to impose obligations to meet general interest objectives including cultural diversity and plurality. See, European Commission., *Must*

Carry obligations under the 2003 regulatory framework for electronic communications networks and services, 2002.

57 Very few countries have tackled the issues related to digital must carry. Germany, however, has issued detailed digital must carry rules. Under the DTV must carry rules proposed by the FCC, cable and satellite operators are required to carry only a single stream of programming or the “primary video” signals broadcast by digital terrestrial commercial broadcasters.

58 These arguments are similar to the vertical integration concerns of “leverage” and “foreclosure”. See Yoo, Christopher, Vertical Integration and Media Regulation in the New Economy”, Yale Journal of Regulation, 2002.

59 Integration may also occur at the program production and distribution level. In Europe, a significant number of broadcasters both produce and distribute programming content.

60 Anti competitive behaviour may occur only when the retail (program distribution) market is concentrated and the secondary market (program packaging) is also concentrated and protected by barriers to entry. For a recent survey of literature pertaining to vertical integration in the media industry, see, Yoo above.

61 See, Waterman David, “The Political Economy of Audio-Visual Copyright Enforcement”, paper presented at Telecommunications Policy Research Conference, September 2004.

62 FCC, Digital Broadcast Content protection, 2003

63 Anecdotal evidence from Japan indicates that consumers are unable to record digital programming because program distributors imbed anti-pirating devices in the distributed programming content.

64 Booze Allen Hamilton, “The a la Carte Paradox: Higher Consumer Costs and Reduced Programming Diversity”, 2004. also see, General Accounting office,