Federal Communications Commission
Office of Plans and Policy
445 12th Street, SW
Washington, DC 20554

OPP Working Paper Series

37 Broadcast Television: Survivor in a Sea of Competition

September 2002

Jonathan Levy
Marcelino Ford-Livene
Anne Levine

The FCC Office of Plans and Policy's Working Paper Series presents staff analysis and research in various states. These papers are intended to stimulate discussion and critical comment within the FCC, as well as outside the agency, on issues in telecommunications policy. Titles may include preliminary work and progress reports, as well as completed research. The analyses and conclusions in the Working Paper Series are those of the authors and do not necessarily reflect the views of other members of the Office of Plans and Policy, other Commission staff, or the Commission itself. Given the preliminary character of some titles, it is advisable to check with authors before quoting or referencing these Working Papers in other publications. This document is available on the FCC's World Wide Web site at http://www.fcc.gov/opp/. The inside back cover contains a partial list of previous titles.

Broadcast Television: Survivor in a Sea of Competition

Jonathan Levy*
Marcelino Ford-Livene
Anne Levine

Federal Communications Commission
September 2002

OPP Working Paper No. 37

The FCC Office of Plans and Policy's Working Paper Series presents staff analysis and research in various states. These papers are intended to stimulate discussion and critical comment within the FCC, as well as outside the agency, on issues in telecommunications policy. Titles may include preliminary work and progress reports, as well as completed research. The analyses and conclusions in the Working Paper Series are those of the authors and do not necessarily reflect the views of other members of the Office of Plans and Policy, other Commission staff, or the Commission itself. Given the preliminary character of some titles, it is advisable to check with authors before quoting or referencing these Working Papers in other publications.

* The authors would like to thank then numerous staff from the television and cable networks, the investment analysis community, advertising agencies, and trade associations who gave generously of their time and expertise to help us. The authors alone are responsible for the analysis and conclusions herein. Special thanks to Kenneth R. Carter of OPP for crucial assistance in preparing this report.

Abstract

The television broadcast industry has entered the new millennium in good shape, but with many challenges on the horizon. Although the past decade has seen a continuing erosion of broadcast audience and advertising shares, television advertising prices and revenues have continued to grow. DBS and the expansion in cable availability and channel capacity have created an increasingly competitive environment for television broadcasting. This will lead to continuing audience fragmentation and further pressure on broadcast advertising revenues. The increasing competition for program production resources has led to an increase in production costs. The future profitability of the broadcast industry will depend on how it responds to competition and cost pressures, and on whether it can harness new technologies such as DTV and interactive services to its benefit.

Contents

I. INTRODUCTION **1**

II. THE MARKET FOR VIDEO MEDIA **3**

III. THE ECONOMICS OF TELEVISION FINANCING METHODS **7**

Introduction 7
The Impact of Financing Methods on Video Programming Availability 7
Aggregate Trends in Video Advertising 9

IV. BROADCAST TELEVISION **18**

Overall Industry Trends 18
Television Networks 27
Television Stations 29
Summary 38

V. CABLE TELEVISION **40**

The Nature of Cable Television 40
Availability and Subscribership of Cable Television 44
Cable Operator Revenues 45
The Competitive Impact of Cable on Broadcast Television 46
Conclusions 49

VI. DIRECT-TO-HOME SATELLITE TRANSMISSIONS **51**

Direct-to-Home Satellite Services 52
DBS Public Interest Obligations 56
DBS as a Competitor in the Market for Multichannel Video Programming Distribution 56
Conclusion 61

VII. OTHER VIDEO MEDIA DELIVERY PLATFORMS **62**

Introduction 62
MMDS 62
Overbuilders 64
Utilities 65
Local Exchange Carriers 66
The Internet 68
Home Video Products 71
Theatrical Films 73
Video and PC Game Platforms and Applications 73
Conclusion 75

VIII. TECHNOLOGICAL DEVELOPMENTS **76**

Introduction 76
Video Compression Technologies 77
Digital Television 78

Digital Rights Management 90
Interactive Television 92
Personal Video Recorders 96
Conclusion 100

IX. ADVERTISING MARKET DEVELOPMENTS 102

Introduction 102
Changes in Advertising Market Structure 102
Current Trends and New Advertising Formats 106
Interactive Advertising Targeting Children Raises Concerns 110
Privacy and Interactive Advertising 112
Conclusion 112

X. THE MARKET FOR BROADCAST AND NON-BROADCAST VIDEO PROGRAMMING 114

Introduction 114
Repeal of Syndication and Financial Interest Rules 114
The Programming Marketplace 115
From Pitch to Fall Line-Up 116
Prime Time Programming Trends 117
Independent Production 118
Repurposing and Summer Programming 120
Sports Programming 122
Cable Programming 123
Comparative Expenditures 130
Conclusion 133

XI. CONCLUSIONS 134

Television Stations 134
Television Networks 135
Rival Delivery Systems 136
Technological Change 136
Programming 138
The Final Analysis 139

Tables

TABLE 1: AVAILABILITY OF VIDEO MEDIA 4
TABLE 2: END-USER EXPENDITURES ON VARIOUS VIDEO MEDIA 1990-2000 6
TABLE 3: TOTAL ADVERTISING VOLUME, VIDEO ADVERTISING VOLUME, AND GDP 10
TABLE 4: COMPONENTS OF VIDEO ADVERTISING (MILLIONS OF CURRENT $) 13
TABLE 5: COMPONENTS OF VIDEO ADVERTISING (MILLIONS OF 1982-84 $) 14
TABLE 6: COMPONENTS OF VIDEO ADVERTISING (PERCENTAGE OF TOTAL VIDEO ADVERTISING VOLUME) 15
TABLE 7: TELEVISION STATIONS ON AIR 19
TABLE 8: TV VIEWING BY CABLE AND NON-CABLE HOUSEHOLDS, 1990-91 AND 2000-01 (HOURS/WEEK) 20
TABLE 9: ALL DAY VIEWING SHARES, CABLE AND NON-CABLE HOUSEHOLDS 21
TABLE 10: PRIME TIME VIEWING SHARES BY CHANNEL TYPE 23
TABLE 11: COMPARISON OF CABLE TELEVISION SHARE OF TOTAL VIDEO ADVERTISING REVENUES AND CABLE TELEVISION ALL-DAY VIEWING SHARES 24
TABLE 12: PRIMETIME HOUSEHOLD DELIVERY (IN THOUSANDS) 25
TABLE 13: AVERAGE REVENUE PER TELEVISION STATION BASED ON AGGREGATE DATA, CURRENT AND CONSTANT DOLLARS 32
TABLE 14: AVERAGE REVENUES, EXPENSES, PRE-TAX PROFITS, AND CASH FLOW OF COMMERCIAL TELEVISION STATIONS, 2000 33
TABLE 15: AVERAGE REVENUES, EXPENSES, PRE-TAX PROFITS, AND CASH FLOW OF COMMERCIAL TELEVISION STATIONS, 1990 34
TABLE 16: AVERAGE PROFITS OF COMMERCIAL TV STATIONS AS A PERCENTAGE OF NET REVENUES, 1975-2000 34
TABLE 17: AVERAGE INFLATION-ADJUSTED NET REVENUES OF COMMERCIAL TV STATIONS, 1975-2000 (1982-1984 = 100) 36
TABLE 18: EXPENSE ITEMS OF COMMERCIAL BROADCAST STATIONS BY SELECTED MARKET SIZE, 2000 (% OF TOTAL EXPENSES) 37
TABLE 19: EXPENSE ITEMS OF COMMERCIAL BROADCAST STATIONS BY SELECTED MARKET SIZE, 1990 (% OF TOTAL EXPENSES) 37
TABLE 20; PROGRAMMING EXPENSES OF COMMERCIAL BROADCAST STATIONS, 1975-2000 (% OF TOTAL EXPENSES) 38
TABLE 21: CABLE SUBSCRIBERS AND HOMES PASSED 41
TABLE 22. CABLE OPERATOR REVENUES ($MIL) 46
TABLE 23; SYSTEM CAPACITY, JULY 2001 48
TABLE 24: DIRECT-TO-HOME SUBSCRIBERS AND CABLE SUBSCRIBERS 51
TABLE 25: ESTIMATED SHARE OF U.S. TV HOME SET USAGE BY PROGRAM SOURCE 62
TABLE 26: INTERNET VIDEO STATISTICS 70
TABLE 27: VCR PENETRATION 71
TABLE 28: HOME VIDEO SPENDING, RENTAL AND RETAIL ($ MILLIONS) 72
TABLE 29: VIDEO AND PC GAME GROWTH 74
TABLE 30: CONSUMER HDTV SURVEY 82
TABLE 31: TELEVISION ADS NOT WATCHED (PRIME TIME) 99
TABLE 32: PROGRAMMING EXPENDITURES ($MIL) 131

Figures

FIGURE 1: CABLE AND SATELLITE USAGE: SUBSCRIBERS/TVHH (%) 52
FIGURE 2: SAMPLE DIAGRAM OF ONE TYPE OF DATA BROADCAST NETWORK ARCHITECTURE 89
FIGURE 3: TOLLIN/ROBBINS ROSTER (2002-2003 SEASON) 119

I. Introduction

This study updates Office of Plans and Policy Working Paper 26, released in June 1991 ("Working Paper 26"). That paper and this one address changes over time in the competitive position of the television broadcasting industry and present some cautious predictions for the future. The approach is to examine audience shares, advertising revenues, and profitability of television networks and stations in some depth based primarily on published sources, supplemented with some discussions with network staff, analysts, and representatives of the advertising community. That examination is followed by a review of developments in the cable and direct broadcast satellite sectors, the major multichannel video program distribution platforms. The paper also considers developments in technology, advertising, and programming.

Working Paper 26 concluded that broadcast television "has suffered an irreversible long-term decline in audience and revenue share, which will continue throughout the current decade." This prediction has proved to be accurate, but it is fair to say that Working Paper 26 overestimated the severity of the impact on actual television industry performance and profitability. The decline in broadcast advertising as a share of total video advertising revenues was much smaller than the decline in broadcast audience shares. Moreover, the absolute level of both network and station advertising revenues actually increased, even in real terms (with the exception of a dip in 2001, from which it appears that the industry will recover). The television broadcast industry is larger, in terms of stations on the air, than it was then, and no full power stations have gone dark. Although the available data have limitations, it appears that, overall, the television station sector is at least as profitable as it was ten years ago.

Networking remains a viable and efficient program distribution technique, and the number of broadcast networks has actually increased. However, profit margins in that business are and were very small. Working Paper 26 predicted that digital compression would be a crucial technological development during the 1990's, and that has certainly been true, both in the cable and Direct Broadcast Satellite (DBS) contexts. It predicted rising programming costs and measures taken to adjust to them, such as a shift in the composition of programming toward less expensive genres. Finally, Working Paper 26 recommended relaxing various FCC media ownership rules in light of increased competition. Whether or not it was due to the paper, the Commission has, in some cases with Congressional instructions, eliminated the network-cable crossownership rule, relaxed the dual network and television duopoly rules, eliminated the broadcast-cable crossownership rule, and relaxed but not eliminated the television multiple ownership rule.

The present paper finds that, notwithstanding declining audience shares for broadcast television compared to cable in the aggregate, network and station audiences remain much larger than the audience for any particular cable network. This is the primary reason why broadcast advertising revenues have remained relatively strong. Broadcasting has survived a substantial increase in multichannel video programming

distribution ("MVPD") penetration and analysis and projections suggest that this penetration is flattening out. While MVPD subscribers will continue to increase their viewing of nonbroadcast programming, absent a major change in the media landscape, broadcasting will retain its relative audience size edge and hence its basic source of support. One possible major event is the rise of the personal video recorder which could undermine the revenue base for broadcasting. On the other hand, technological developments such as Interactive Television hold out the possibility of preserving and even enhancing broadcast television's advertising base.

The paper is organized as follows. Chapter II provides a brief overview of the size and structure of the video sector. Chapter III reviews some analyses of the impact on consumer welfare of video market structure (including a comparison of results under subscription payment and advertiser support for television). Chapter III also provides a retrospective look at trends in video advertising revenues. Chapter IV provides a detailed analysis of the television broadcasting sector, while Chapters V, VI, and VII review the impact of cable, DBS, and other technologies, respectively, on broadcast television. Chapter VIII considers important changes in technology, Chapter IX examines changes in the structure of the advertising market, and chapter X examines the market for video programming. Conclusions are found in Chapter XI (no reference to the bankruptcy code intended), which also serves as an executive summary of the paper.

II. The Market for Video Media

Working Paper 26 chronicled the evolution of the market for video media from the mid-1970's to 1990. During this period, video media availability expanded from broadcast television and movie theaters (with a smattering of cable television carrying mostly retransmitted broadcast signals) to a world in which cable television (supplemented by C-Band home satellite dish systems) brought a substantial range of non-broadcast programming to the home and movies were available for home viewing on videocassette not too long after theatrical release.

Since 1990, both the availability of broadcast television and the use of alternative video distribution platforms have expanded. In the broadcast space, the number of over-the-air broadcast television stations available to the median household increased by from ten (10) stations in 1990 to approximately thirteen (13) stations in 2001.[1] During this same time, as demonstrated by Table 1, the use of alternative video distribution platforms increased.[2] As of 2001, 65 percent of television households subscribed to cable service, up from 55.5 percent in 1990. The increase has occurred despite a relatively small rise in cable availability during this period. The share of television households passed by cable was 96.7 percent in 2001, up from 92.4 percent in 1990.[3] In 1990, DBS was not yet available, and only a small share of television households subscribed to home satellite dish ("HSD") service.[4] As of year-end 2001, approximately 17.7 percent of television households subscribed to satellite-delivered video services, most of them DBS. Table 1 also indicates that the penetration of players for pre-recorded media, videocassette players and DVD players, has increased noticeably in recent years.

Not only has the use of non-broadcast video distribution platforms expanded over the past decade, but the channel capacity on those platforms has also increased over that time. Indeed, most cable systems have expanded capacity significantly, and the satellite services offer channel capacity greater than virtually any cable system.[5] This expanded channel capacity coincides with an increase in the availability of non-broadcast, cable origination video programming networks. In 1990, there were only about 70 cable origination networks available to multichannel video program distributors

---

[1] Working Paper 26, at 13. Nielsen last reported the number of over-the-air broadcast televisions stations available to the median household in 1996 as 13. Nielsen Media Research, Television Audience 1996, at 13. Nielsen has not reported this figure since, but we do not believe this number has changed substantially over the last five years. We base this estimation partly on the fact that the total number of new stations overall has not increased substantially. *See* Table 4.

[2] See Chapter VIII for a discussion of some other platforms which have limited usage. In addition, note that the footprint of the DBS services covers the entire contiguous United States, but, because a clear line of sight to the southern sky is needed for reception, DBS is not available to 100 percent of television households.

[3] *See* discussion in Chpater V, *infra* regarding the reliability of the homes passed data.

[4] The large size of HSD antennas and local zoning restrictions meant that the service was not effectively available to a large fraction of households.

[5] These services are discussed in detail in Chapters V and VI.

("MVPDs") for carriage.[6] By year-end 2001, there were nearly 287 national non-broadcast, cable origination networks available for carriage.[7]

Table 1: Availability of Video Media

	1975	1980	1985	1990	1995	2000	2001	2010p
Total Households(1) (mil)	71.5(2)	81.8	87.6	94.8	97.5	104.1	107.4	123.3
TV Households(1) (mil)	69.6(2)	79.9	85.9	93.1	95.9	102.2	105.5	121.1
Cable Subs/TVHH (%)	14.1%(3)	24.0%	42.7%	55.5%	64.8%	67.0%	65.0%	61.4%
Cable HP/TVHH (%)	33.2%(4)	43.7%	75.3%	92.4%	96.7%	96.7%	96.7%	96.6%
Satellite Subs/TVHH (%)	0.0%	0.0%	0.0%	0.9%	4.8%	15.7%	17.7%	22.3%
Cable+Sat. Subs/TVHH(%)	14.1.0%	24.0%	42.7%	56.4%	69.6%	82.7%	82.7%	83.7%
VCR Homes/TVHH (%)	0.0%	1.0%	27.7%	66.1%	79.7%	86.1%	85.2%(5)	n/a
DVD Homes/TVHH (%)	0.0%	0.0%	0.0%	0.0%	0.0%	8.8%	13.0%	n/a

*Data is year-end unless otherwise noted
Sources: Total HH and TVHH: (1975-2001):Television Bureau of Advertising, Inc., Television Households, Trends in Television, at http://www.tvb.org (citing Nielsen). (2010p): Kagan World Media, Broadband Cable Financial Databook, July 2002, at 10. Cable Subs: (1975 and 2010p): Kagan World Media, Broadband Cable Financial Databook, July 2002, at 7 and 10; (1980-2001): Paul Kagan Associates, Cable TV Investor, May 24, 2002, at 9. Cable HP: (1975-2001): Paul Kagan Associates, Cable TV Investor, May 24, 2002, at 9; (2010p): Kagan World Media, Broadband Cable Financial Databook, July 2002, at 10. DBS and C-Band Subs (Satellite Subs): (1995-2010p): Kagan World Media, Economics of Basic Cable Networks 2002, Sept. 2001, at 23-27. C-Band Subs: (1990): 1995 MVPD Competition Report at Table G-1. VCR and DVD Homes: (1990-2001): Veronis Suhler, Communications Industry Forecast, 2001, at 192 and 194. (1980 and 1985): Television Bureau of Advertising, Inc., Cable, Pay Cable & VCR Households, Trends in Television, at http:///www/tvb.org.
Notes:
(1)Except where otherwise noted, data is reported by the source as of Jan 1 of the next year (e.g., figure reported for 2001 are actually Jan 1, 2002)
(2) Data is as of September of that year.
(3) Based on cable sub data that is not year-end, rather is an average of subscribers over the course of 1975.
(4) Based on 1976 data.
(5) Based on an estimate, not an actual count.

Despite the proliferation in the number of non-broadcast programming networks, and despite the increase in availability of non-broadcast programming, broadcasters still attract substantial revenues to support the production, acquisition, and distribution of programming. Table 2 gives a rough indication of the relative size of various sectors of the video market, by providing figures on end user expenditures (advertising plus direct viewer payment) for broadcast television, cable television, DBS, and filmed

[6] See Rate Deregulation & the Commission's Policies Relating to the Provision of Cable Television Serv., Report on Competition, MM Docket No. 89-600, Report ("1990 Cable Report"), 5 FCC Rcd 4962, 5106-07 (1990).
[7] NCTA, *National Video Programming Services: 1994-2001*, Cable Developments 2002, May 2002, at 23. In the Commission's Annual Report on the Status of Competition in the Market for the Delivery of Video Programming, the Commission estimated the number of national programming services at 294. NCTA notes in its latest Cable Developments, that there were errors in this calculation, and that the number of national programming networks was actually 287. *See* Video *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Docket No. 01-129, Eighth Annual Report ("2001 MVPD Competition Report"), 17 FCC Rcd 1244, 1309-10 ¶ 157 (2002).

entertainment.[8] The table shows that in 1990 total expenditures (by advertisers) on broadcast television were $26.7 billion, compared to a total of advertiser and subscriber expenditures on cable television of $18.4 billion. By the year 2000, broadcast expenditures had risen by 67.7 percent, to reach $44.8 billion. Expenditures on cable television also equaled $44.8 billion in 2000, an increase of 143.5 percent since 1990. Cable plus DBS expenditures in 2000 were $53.3 billion, so the increase in expenditures on pay media (cable plus DBS in 2000 over cable in 1990) was 189.5 percent.[9] As noted above, the 1990-2000 time period saw a major increase in the number of cable networks. Even considering the modest increase since 1990 in broadcast networks, broadcasting continues to generate more revenue than cable on a per-network basis. Within the filmed entertainment category it is clear that home video (which more than doubled in revenue from 1990 to 2000) rather than box office receipts (which rose by 48 percent from 1990 to 2000) is the major growth area. By comparison, US GDP grew by 73.7 percent during this period.

[8] The figures are not precise measures of the resources available to broadcasters, cable operators, DBS operators, or film producers to acquire and distribute programming, since the advertising figures are gross expenditures. Nor do they separate out the costs of distribution infrastructure and programming for the four (five, if one separates theatrical and home video distribution) delivery platforms. Moreover, because advertiser valuation of viewer exposures is not the same as viewer valuation of programming, and because direct payments for video programming underestimate their total value to consumers, the figures do not reflect the total value to consumers of video programming.

[9] Table 2 does not include HSD revenues or revenues from other delivery platforms (e.g., MMDS) that have low subscriber levels.

Table 2: End-User Expenditures on Various Video Media 1990-2000

	1990	1995	2000
Broadcast TV	**26,716**	**32,720**	**44,802**
Network Ad Revenues	9,963	11,600	15,888
Syndication Ad Revenues	1,109	2,016	3,108
Stations' Advertising Revenues (local+national spot)	15,644	19,104	25,806
Cable TV Operators[1]	**16,604**	**22,898**	**34,352**
Video Subscriptions[2]	16,128	21,823	31,922
Advertising Revenues	476	1,075	2,430
Basic Cable Network Advertising Revenue	**1,797**	**3,972**	**10,456**
Total Cable Video-Related Revenue	**18,401**	**26,870**	**44,808**
DBS Revenue	**0**	**663**	**8,467**
Video Subscriptions	0	663	8,440
Advertising[3]	0	0	27
Total Subscription Video-related Revenue	**18,401**	**27,533**	**53,275**
Filmed Entertainment[4]	16,129	21,023	29,906
Box Office	5,022	5,494	7,453
Home Video	11,107	15,529	22,453

Sources: Broadcast TV Revenues: *See* Table 4. Cable Operator Revenues: Kagan World Media, Cable TV Investor, May 24, 2002, at 9. Cable Network Revenues: Kagan World Media, The Economics of Basic Cable Networks DBS Revenues: Kagan World Media, The State of DBS 2002, Dec. 2001, at 16. Filmed Entertainment Revenues: Veronis Suhler, Communications Industry Forecast, July 2001, at 203.

Notes:

[1] Only video-related revenues are listed here. Revenues from installations, equipment and non-video services like high-speed Internet access services and telephony are not included.

[2] Includes home shopping commissions.

[3] DBS advertising is the equivalent of cable's "local avails," though they are sold as national time.

[4] The data source for filmed entertainment includes expenditures on television programming as a third category. Because programming is an input into television, cable, and DBS services, it is not listed separately under filmed entertainment.

III. The Economics of Television Financing Methods

Introduction

Broadcast television in the United States is financed by the sale of advertising time. Other video media generally have two revenue streams—subscription fees from viewers and advertising revenues. The different financing methods of course affect the financial viability of video media, as well as the range of programming that these media find it profitable to present. This chapter briefly reviews the ways that financing methods influence the range of programming made available and then examines trends in the availability of advertising revenues to support broadcast programming. Later chapters discuss in more detail the financing of broadcast and cable television and technological changes, such as the personal video recorder and interactive television, that may have a significant impact on the future flow of advertising revenues to video programmers.

The Impact of Financing Methods on Video Programming Availability[10]

Video programming, like other types of intellectual property, has the characteristic that consumption by one viewer does not reduce the amount available for others. Hence, assuming that a program has been produced and that it is being transmitted, the cost of serving an additional viewer is zero.[11] In order to maximize consumer welfare from the transmission, the optimal price is also zero. At this price, all who value the program more than its cost of delivery gain access to the program. Of course, a zero price will not lead to efficient production of video programming, since there would be no compensation to producers.

When television is supported by advertising, the revenue that a program attracts is based roughly on the size of the audience it attracts (demographic composition is also important) and the value of that audience to the advertisers who have bought time on the program. The value of the programming to the viewers will differ from the value of the audience to the advertisers. Viewers of broadcast programs cannot express the intensity of their preference for the programs. All they can do is tune in or not tune in. By contrast, pay media permit subscribers to (imperfectly) register the intensity of their preferences for different programs and networks. Broadly speaking, advertiser-supported channels tend to cater to the mass audience and pay channels to more specialized audiences. Even within the broadcasting sector, however, an increase in the number of channels available will make it profitable for at least some broadcasters

---

[10] For a more detailed discussion of this topic, see generally Owen, Bruce and Wildman, Steven, Video Economics (Cambridge, MA: Harvard University Press) 1992 ("Owen and Wildman") and Setzer, Florence and Levy, Jonathan, Broadcast Television in a Multichannel Marketplace, chapter II; OPP Working Paper 26, Federal Communications Commission, June 1991.

[11] "Additional viewer" must be understood as an additional viewer who is within the range of a broadcast station or DBS operator's signal or who is connected to a cable system carrying the signal.

to cater to segments of the audience, e.g., particular demographic groups. While many cable channels are narrowly targeted, some do provide mass appeal programming.

Owen and Wildman provide a useful summary of the economics of program choice.[12] Drawing on their own and others' theoretical work, they note that both advertiser-supported and pay television are subject to three biases. Compared to the benefits that viewers receive, both delivery systems are biased against minority-taste programming, against high-cost programming, and in favor of "mass appeal" programming (programming that attracts large audiences). Because pay television subscribers can indicate the intensity of their programming preferences via subscription payments, the biases are weaker for pay than for advertiser-supported television.

Ideally, the policy maker would like to know which video media market structure leads to maximum consumer welfare. Although theory suggests that a competitive pay television industry performs better than a monopoly pay television industry, the relative ranking of a monopoly advertiser-supported industry, a competitive advertiser-supported industry, and a competitive pay television industry depends on the nature of viewer preferences for programming (i.e., whether tastes are relatively homogeneous or whether preferences vary widely across viewers) Of course, the real-world situation is even more complex, since we have both pay and advertiser-supported video programming distributors.

We can conclude, based on revealed subscriber willingness to pay, that cable and DBS subscribers value those services highly. If we knew that the "qualtity" of broadcast service had not declined, we could say unambiguously that the welfare of subscribers to cable and DBS was higher than it would be in their absence. We could also conclude in this case that nonsubscribers to pay media were at least not worse off than before. Quality is, of course, elusive to define let alone measure. We do know that the quantity of television broadcast service has increased over time, as measured by the number of stations on the air. And we can speculate that even if broadcast quality has declined, the nonbroadcast services to which 85 percent of US television households subscribe probably more than compensate even taking subscription fees into account. The situation of those who do not subscribe to pay television is less clear. If they are people who value video highly but whose income prohibits them from purchasing video service, then they are vulnerable to declines in the quality of broadcast service. If they are people, rich or poor, who place a low value on video service generally, then they will be less affected by any quality decline.

The balance of this study examines the advertising and programming markets in which television broadcasters operate and the impact of new media and technologies with a view to understanding how changes in these areas have and will affect the broadcasting industry and consumers. The first step is to consider advertising—the financial base of broadcast television.

[12] Owen and Wildman at 148-150.

Aggregate Trends in Video Advertising

Advertising revenues fund the television broadcasting industry, so any assessment of that industry must consider developments in the market for advertising. This section examines the growth of advertising revenues over the past 25 years or so, and how the composition of those revenues has changed. Chapter IX discusses structural changes on both the "buy" and "sell" sides of the market; i.e., the rise of companies that own (and sell advertising time in) multiple program channels and the consolidation of advertising agencies.

The Growth and Composition of Advertising Revenues

Television advertising is one component of a larger advertising market. One standard source of data on advertising presents information for the following categories: newspapers, magazines, broadcast television, cable television, radio, yellow pages, direct mail, business papers, out of home (including billboards), internet, and miscellaneous.[13] Depending on the product or service being advertised, the purpose of the advertisement (e.g., creating brand awareness, introducing a new product, announcing a sale), and the target audience, many of these media may serve as substitutes for one another. Because different advertisers may wish to reach different demographic groups, an advertising exposure in a particular television program will be worth different amounts to each, depending on the demographic composition of the audience.

Chapter IV presents data showing that the composition of viewing has shifted over time, with cable increasing at the expense of broadcast television. This suggests that broadcast and cable advertising are, at some level, substitutes for one another, and the remainder of this chapter concentrates on those categories.[14] Table 3 presents historical data on Gross Domestic Product (GDP) and various categories of advertising. Because advertising demand is cyclical, it is important to examine data over a long period of time. The cyclical components come, in part, from demand generated by political campaigns, presidential and Congressional, and from the Olympics. The significant drop in expenditures in 2001 compared to 2000 is due in part to these considerations. The year 2000 featured not only the Summer Olympics but presidential and congressional elections as well. The collapse of the "dot com" sector also likely contributed to the decline. Moreover, the tragedy of September 11, 2001 and its aftermath undoubtedly had an impact on the level of advertising. It is premature to project any long-term downturn in advertising expenditures based on the 2001 experience.

---

[13] Television Bureau of Advertising, www.tvb.org

[14] A detailed analysis of substitutability among advertising media is beyond the scope of this paper, but see Silk, Alvin et al., "Íntermedia Substitutability and Market Demand by National Advertisers." Working Paper 8624, National Bureau of Economic Research (December 2001); available at www.nber,org/papers/w8624.

Table 3: Total Advertising Volume, Video Advertising Volume, and GDP

	GDP	Total Ad Volume	Video Ad Volume	Broadcast Ad Volume	Cable Ad Volume	Total Ad Volume as Percentage of GDP	Total Video Ad Volume as Percentage of GDP	Total Broadcast Ad Volume as Percentage of GDP	Total Cable Ad Volume as Percentage of GDP
1975	1,635,200	27,900	5,263	5,263	0	1.71	0.32	0.32	0
1980	2,795,600	53,570	11,488	11,416	72	1.92	0.41	0.41	0.0026
1985	4,213,000	94,900	21,287	20,298	989	2.25	0.51	0.48	0.0235
1990	5,803,200	129,968	29,247	26,616	2,631	2.24	0.50	0.46	0.0453
1991	5,986,200	128,352	28,606	25,461	3,145	2.14	0.48	0.43	0.0525
1992	6,318,900	133,750	31,079	27,249	3,830	2.12	0.49	0.43	0.0606
1993	6,642,300	140,956	32,471	28,020	4,451	2.12	0.49	0.42	0.0670
1994	7,054,300	153,024	36,342	31,133	5,209	2.17	0.52	0.44	0.0738
1995	7,400,500	165,147	38,886	32,720	6,166	2.23	0.53	0.44	0.0833
1996	7,813,200	178,113	43,824	36,046	7,778	2.28	0.56	0.46	0.0995
1997	8,318,400	191,307	45,643	36,893	8,750	2.30	0.55	0.44	0.1052
1998	8,781,500	206,697	49,513	39,173	10,340	2.35	0.56	0.45	0.1177
1999	9,268,600	222,308	52,581	40,011	12,570	2.40	0.57	0.43	0.1356
2000	9,872,900	243,680	60,257	44,802	15,455	2.47	0.61	0.45	0.1565
2001	10,082,200	231,287	54,423	38,887	15,536	2.29	0.54	0.39	0.1541

Sources: Television Bureau of Advertising; Trends in GDP/Total Ad Volume/TV Ad Volume, Trends in Advertising Volume, available at www.tvb.org/tvfacts/trends, visited June 26, 2002. For GDP 2001, see US Department of Commerce, Bureau of Economic Analysis, "Gross Domestic Product: Second Quarter 2002 (preliminary)," available at www.bea.doc.gov/bea/newsrel/gdpnewsrelease.htm, visited Sept. 24, 2002.

It is also important to note that the advertising data in table 3 and the other tables in this section are gross revenue data. That is, they depict gross payments by advertisers, including agency commissions. The dataset is valuable because it provides consistent information over a long time period for all advertising categories. It is better used for examining trends in advertising than for assessing for a particular year the funding available for supporting particular sectors of the media industry.

Because advertising is designed, broadly speaking, to provide information about goods and services offered for sale, it has exhibited a stable relationship to GDP, a measure of the economy's total output. The share of total advertising in GDP has ranged between 1.7 and 2.5 percent of GDP in the period from 1975-2001, having ratcheted up in the mid-1980's. It is too early to tell whether the somewhat more modest upward jump in the late 1990's represents any kind of longer term shift.

The share of video (broadcast plus cable) advertising has increased over time, doubling from 1975 to 2000. This increase has been accompanied by a decline in the

newspaper share of total advertising revenues from 27.6 percent in 1980 to 19.8 percent in 2000.[15]

The video advertising market can be divided into two major sub-markets—national and local. The national market includes network advertising, "national spot," and syndication. Networks, both broadcast and cable, sell time to national advertisers, with broadcast networks reaching virtually 100 percent of television households and cable networks reaching no more than about 80 percent via cable, Direct Broadcast Satellite, and other distribution platforms.[16] National spot advertising is sold by stations to national advertisers, who aggregate national or regional coverage by purchasing advertising spots from stations in multiple markets.[17] The syndication sector refers to advertisements sold in syndicated programs (programs that are distributed to ad hoc groups of stations assembled by syndicators). Television stations participate in the local as well as the national spot advertising markets. Cable television system advertising sales are virtually all local.

Table 4 provides data on the components of video advertising from 1975-2001 in current dollars. Total video advertising volume has been steadily increasing over the years, with the exception of dips in 1991 and 2001. The same pattern holds for broadcast network and national and local television station spot advertising. The syndication sector has grown steadily as have total cable advertising and cable network advertising. Local cable advertising, i.e., advertising sold by local cable television systems[18], dipped slightly in 2001.

Table 5 presents the components of video advertising in constant dollars. The pattern is similar to that of table 4, but the constant dollar figures reveal more clearly the cyclical nature of the advertising market. For example, broadcast network advertising volume in constant dollars exhibits an upward trend over the 1975-2001 period, but it falls in 1991, 1993, 1997, 1999, and 2001. Three of these years (1993, 1997, and 2001) follow election and Olympics years. The other two (1991 and 1999) follow years of Congressional elections and 1991 was a recession year.

Table 6 provides the percentage distribution of the components of video advertising. The most striking feature is the expansion of cable's share in total video advertising. Cable accounted for no video advertising in 1975, but had risen to 28.5

---

[15] Television Bureau of Advertising, "Trends in Advertising Volume." Available at www.tvb.org/tvfacts/trends/advolume; visited Jne 26, 2002.

[16] Multichannel video programming distributors (MVPDs), such as cable television and Direct Broadcast Satellite services are subscribed to by about 85 percent of US television households 2001 MVPD Competition Report, 17 FCC Rcd 1244 (2002), Table C-1.No cable network is carried by every MVPD. However, 12 cable networks reach more than 80 percent of television households, with TBS having the largest reach at 82.7 percent. See Paul Kagan Associates, Cable Television Investor, July 29, 2002, p. 14 and table 1 in chapter II.

[17] Broadcast networks distribute their programming to affiliates via regional satellite feeds, so they have the flexibility to sell regional as well as national exposures.

[18] Cable operators generally pay cable networks a per-subscriber fee and receive in return the right to retransmit the network's programming and the right to sell some of the advertising availabilities within the program stream.

percent of the total in 2001. The composition of video advertising has also shifted slightly away from national to local, with the national share dropping from 74.7 percent to 70.8 percent from 1975 to 2001. Within the national video advertising sector, the rise of cable is particularly pronounced, with the cable share of national video advertising rising from zero in 1975 to 30.9 percent in 2001.[19] A comparison of television station sales of local advertising spots with total local cable system advertising sales shows that the cable share in 2001 was 23 percent.

This retrospective examination of aggregate advertising revenues reveals that all components of video advertising have been growing over time but that the cable components have been growing much faster than the broadcasting components. Cable accounted for 41.4 percent of the total increase in video advertising revenues from 1990 to 2000.

The longstanding stable relationship between GDP and advertising volume suggests that all of the video advertising sectors will continue to grow over time. Indeed, a recently released prediction by Veronis Suhler Stevenson (VSS) forecasts that broadcast television advertising spending will grow at a compound annual rate of 3.6 percent from 2001-2006.[20] VSS put the 1996-2001 growth rate at 2.7 percent, a figure heavily influenced by the 2001 drop in advertising revenues. It is also safe to assume that cable shares of total video advertising will continue to grow.

---

[19] If the focus is narrowed to network advertising sales only (i.e, national spot and syndication are not included), the cable network share in 2001 was 45.4 percent.

[20] Veronis Suhler Stevenson "Veronis Suhler Stevenson Issues Annual Communications Industry Forecast," August 5, 2002 PR Newswire. See also Communications Daily, August 27, 2002 (quoting Standard and Poor's chief economist to the effect that television advertising revenue will grow by 3.5 percent this year, will pick up momentum in 2003, but will not return to the rapid growth levels of the mid and late 1990's).

Table 4: Components of Video Advertising (millions of current $)

	National Plus Local			National					Local		
	Total Video Advertising Volume	Total Broadcast Advertising Volume	Total Cable Advertising Volume	National Video Advertising Volume	Broadcast Network Advertising Volume	National Spot Advertising Volume	Syndication Advertising Volume	Cable Network Advertising Volume	Local Video Advertising Volume	Local Spot Advertising Volume	Local Cable Advertising Volume
1975	5,263	5,263	0	3,929	2,306	1,623	0	0	1,334	1,334	0
1980	11,488	11,416	72	8,509	5,130	3,269	50	60	2,979	2,967	12
1985	21,287	20,298	989	15,377	8,060	6,004	520	793	5,910	5,714	196
1990	29,347	26,716	2,631	20,860	9,963	7,788	1,109	2,000	8,487	7,856	631
1991	28,606	25,461	3,145	20,296	9,533	7,110	1,253	2,400	8,310	7,565	745
1992	31,079	27,249	3,830	21,970	10,249	7,551	1,370	2,800	9,109	8,079	1,030
1993	32,471	28,020	4,451	22,880	10,209	7,800	1,576	3,295	9,591	8,435	1,156
1994	36,342	31,133	5,209	25,554	10,942	8,993	1,734	3,885	10,788	9,464	1,324
1995	38,886	32,720	6,166	27,235	11,600	9,119	2,016	4,500	11,651	9,985	1,666
1996	43,824	36,046	7,778	30,797	13,081	9,803	2,218	5,695	13,027	10,944	2,083
1997	45,643	36,893	8,750	31,907	13,020	9,999	2,438	6,450	13,736	11,436	2,300
1998	49,513	39,173	10,340	34,644	13,736	10,659	2,609	7,640	14,869	12,169	2,700
1999	52,581	40,011	12,570	36,736	13,961	10,500	2,870	9,405	16,025	12,860	3,165
2000	60,257	44,802	15,455	43,025	15,888	12,264	3,108	11,765	17,232	13,542	3,690
2001	54,423	38,887	15,536	38,514	14,300	9,223	3,108	11,883	15,909	12,256	3,653

Source:Television Bureau of Advertising; Trends in Advertising Volume, available at www.tvb.org/tvfacts/trends, visited June 26, 2002.

Note: The 1990 total broadcast advertising volume figure obtained by adding up its components in the source is 100 million dollars lower than the total reported in the source. This table reports the higher figure.

Table 5: Components of Video Advertising (millions of 1982-84 $)

	National Plus Local			National					Local		
	Total Video Advertising Volume	Total Broadcast Advertising Volume	Total Cable Advertising Volume	National Video Advertising Volume	Broadcast Network Advertising Volume	National Spot Advertising Volume	Syndication Advertising Volume	Cable Network Advertising Volume	Local Video Advertising Volume	Local Spot Advertising Volume	Local Cable Advertising Volume
1975	9,783	9,783	0	7,303	4,286	3,017	0	0	2,480	2,480	0
1980	13,942	13,854	87	10,326	6,226	3,967	61	73	3,615	3,601	15
1985	19,783	18,864	919	14,291	7,491	5,580	483	737	5,493	5,310	182
1990	22,454	20,441	2,013	15,960	7,623	5,959	849	1,530	6,493	6,011	483
1991	21,003	18,694	2,309	14,902	6,999	5,220	920	1,762	6,101	5,554	547
1992	22,152	19,422	2,730	15,659	7,305	5,382	976	1,996	6,493	5,758	734
1993	22,471	19,391	3,080	15,834	7,065	5,398	1,091	2,280	6,637	5,837	800
1994	24,522	21,007	3,515	17,243	7,383	6,068	1,170	2,621	7,279	6,386	893
1995	25,516	21,470	4,046	17,871	7,612	5,984	1,323	2,953	7,645	6,552	1,093
1996	27,931	22,974	4,957	19,628	8,337	6,248	1,414	3,630	8,303	6,975	1,328
1997	28,438	22,986	5,452	19,880	8,112	6,230	1,519	4,019	8,558	7,125	1,433
1998	30,376	24,033	6,344	21,254	8,427	6,539	1,601	4,687	9,122	7,466	1,656
1999	31,561	24,016	7,545	22,050	8,380	6,303	1,723	5,645	9,619	7,719	1,900
2000	34,992	26,017	8,975	24,985	9,226	7,122	1,805	6,832	10,007	7,864	2,143
2001	30,730	21,958	8,772	21,747	8,075	5,208	1,755	6,710	8,983	6,920	2,063

Source: Table 4 and U.S. Bureau of Labor Statistics, "Consumer Price Index for all Urban Consumers," available at http://data.bls.gov/servlet/SurveyOutputServlet, visited August 9, 2002.

Table 6: Components of Video Advertising (Percentage of Total Video Advertising Volume)

	National Plus Local			National					Local		
	Total Video Advertising Volume	Total Broadcast Advertising Volume	Total Cable Advertising Volume	National Video Advertising Volume	Broadcast Network Advertising Volume	National Spot Advertising Volume	Syndication Advertising Volume	Cable Network Advertising Volume	Local Video Advertising Volume	Local Spot Advertising Volume	Local Cable Advertising Volume
1975	100.0	100.0	0.0	74.7	43.8	30.8	0.0	0.0	25.3	25.3	0.0
1980	100.0	99.4	0.6	74.1	44.7	28.5	0.4	0.5	25.9	25.8	0.1
1985	100.0	95.4	4.6	72.2	37.9	28.2	2.4	3.7	27.8	26.8	0.9
1990	100.0	91.0	9.0	71.1	33.9	26.5	3.8	6.8	28.9	26.8	2.2
1991	100.0	89.0	11.0	71.0	33.3	24.9	4.4	8.4	29.0	26.4	2.6
1992	100.0	87.7	12.3	70.7	33.0	24.3	4.4	9.0	29.3	26.0	3.3
1993	100.0	86.3	13.7	70.5	31.4	24.0	4.9	10.1	29.5	26.0	3.6
1994	100.0	85.7	14.3	70.3	30.1	24.7	4.8	10.7	29.7	26.0	3.6
1995	100.0	84.1	15.9	70.0	29.8	23.5	5.2	11.6	30.0	25.7	4.3
1996	100.0	82.3	17.7	70.3	29.8	22.4	5.1	13.0	29.7	25.0	4.8
1997	100.0	80.8	19.2	69.9	28.5	21.9	5.3	14.1	30.1	25.1	5.0
1998	100.0	79.1	20.9	70.0	27.7	21.5	5.3	15.4	30.0	24.6	5.5
1999	100.0	76.1	23.9	69.9	26.6	20.0	5.5	17.9	30.5	24.5	6.0
2000	100.0	74.4	25.6	71.4	26.4	20.4	5.2	19.5	28.6	22.5	6.1
2001	100.0	71.5	28.5	70.8	26.3	16.9	5.7	21.8	29.2	22.5	6.7

Source: Table 4

Advertising agency sources suggest that there is particular room for growth in the cable system sector. Earlier on, it was difficult to assemble full coverage of a local market via cable. This was due to fragmentation of ownership of cable systems within local markets and the limited availability of intermediaries to aggregate cable system availabilities to achieve full coverage. Two things have changed in this regard. First, cable multiple system operators (MSOs) are increasingly acquiring "clusters" of cable systems in individual markets. Second, cable "interconnects" are much more widespread and sophisticated than they were, say, ten years ago. Interconnects sell time and distribute advertisements on behalf of cable operators in a particular market, simplifying the task of an advertising buyer wishing to reach the market via cable. Interconnects also facilitate delivery of advertisements targeted to a particular geographic area within a market. This is an advantage for some advertisers, since a local television station advertisement of necessity reaches the station's full service area and is priced accordingly.[21]

Just as it would be inappropriate to place too much predictive emphasis on one down year (2001), it is not possible to glean too much insight from the network advertising time sales for the current season that took place a few months ago. Nevertheless it is worth noting that they did show a fairly sizeable increase over last year's figures. Network advertising, both broadcast and cable, is sold in two ways. There is an "upfront" market and a "scatter" market. The television "season" begins in September and networks sell a substantial majority of their advertising time in the upfront market that took place this year in early summer. The upfront market allows buyers to negotiate volume discounts and to lock in a base level of advertising availabilities for the coming season. During the season, advertisers make additional purchases as their needs and priorities become clearer. Press reports indicate that this year's broadcast network upfront sales were up by around 14 percent over last year, while the cable network upfront market grew by roughly 15 percent over last year.[22]

While concurring that 2002 upfront sales are bigger than expected, Bear Stearns adds a note of caution, pointing out that the increases are due only in part to rising prices ("cost per thousand" or "CPM"). In part the increased revenues are a consequence of networks selling a larger portion of their total inventory in the upfront market than they did last year. In other words, apparently this year fewer sales will take place in the scatter market.[23] Bear Stearns also comments on the local television advertising sector, raising the prospect of double digit growth in the second half of 2002.[24]

---

[21] Discussions with advertising agency personnel suggest that local cable can be attractive to different categories of advertising buyer. The discussion in the text emphasizes developments that appear to make local cable advertising an increasingly good substitute for local broadcast advertising. However, observers point out that cable also is attractive for low-budget local advertisers who may see it as much a substitute for local radio as for local television.

[22] Electronic Media, July 8, 2002, p. 2 and Multichannel News, July 22, 2002 p. 2.

[23] "Upfront on the Upfront." Bear Stearns Equity Research Entertainment; June 7, 2002.

[24] "Television Broadcasting: Local TV Advertising; Can It Post Double-Digit Growth in Second-Half 2002?" Bear Stearns Equity Research, Media; June 2002.

Based on available evidence at this point, it appears that a solid and gradually expanding advertising revenue base will be available to support broadcast television programming. Future chapters will examine trends on the cost side of the programming industry and the likelihood that cable will cut further into broadcast advertising revenues. The chapters on technological change and the future of advertising will also consider developments, such as the personal video recorder (PVR) that have the potential to cut significantly into the revenue base and possible industry response strategies. If the PVR or some other development, substantially changes the relationship between GDP and video advertising, then the assumptions and predictions cited here of current trends basically continuing would have to be revised.

IV. Broadcast Television

Overall Industry Trends

Working Paper 26 painted a somewhat pessimistic picture of the future of broadcasting. While some of the report's predictions have come true, and while the broadcasting industry continues to face competitive and technological challenges, 2002 finds the industry in pretty good shape. The report referred to "an irreversible long-term decline in audience and revenue shares, which will continue throughout the current decade." It highlighted the important role that digital video compression would play in making nonbroadcast media stronger competitors by increasing their channel capacity. It raised the possibility that some television stations might go dark.

It is certainly true that television broadcast audience shares have continued to drop significantly and that the television share of total video advertising revenues has also continued to decline. However, broadcast advertising revenue shares have declined much less than viewing shares and, although 2001 was a tough year for television advertising, the actual level of advertising revenues has generally continued to grow. No television broadcast stations have turned in their licenses and gone dark. Indeed, the number of full power stations has increased substantially over the last ten years. This chapter reviews the financial and competitive position of the television industry over the past ten years and assesses the impact on its financial health of competitive and some regulatory developments during that time period.

Table 7 shows that the total number of television stations has continued to grow over the past decade, increasing from 1,442 to 1,619 between 1990 and 2000. This increase of 12.3 percent is almost entirely due to new UHF stations, and nine out of ten of them were commercial rather than educational stations. The result is that the number of stations available off-air to the average US television household rose from 11.7 in 1990 to 13.1 in 1996, the last year for which Nielsen published this information.[25] In view of the limited number of stations that came on the air between 1996 and 2000, the current figure is not likely to be much higher than 13.1.

In 1990, 35 percent of commercial television stations were classified as "independent," i.e., not affiliated with a broadcast network.[26] One important development of the past decade has been the entry of several new broadcast networks—UPN, the WB,and Paxson in particular—so the number of independent stations is far fewer now than it was in 1990. Network entry is discussed in more detail later in this chapter.

---

[25] Nielsen Media Research, Television Audience 1996 (1997) contains average station per household figures for 1990 and 1996

[26] Working Paper 26 Table 3, p. 15.

Table 7: Television Stations On Air

	1975	1980	1985	1990	1995	2000
Number of Stations						
Total	953	1,011	1,197	1,442	1,532	1,619
VHF	609	625	641	672	688	688
Commercial	514	516	520	547	562	564
Educational	95	109	121	125	126	124
UHF	344	386	556	770	844	931
Commercial	192	218	363	545	599	684
Educational	152	168	193	225	245	247
Total Commercial	706	734	883	1,092	1,161	1,248
Total Educational	247	277	314	350	371	371
% Change Over 5 Years						
Total		6.1%	18.4%	20.5%	6.2%	5.7%
VHF		2.6%	2.6%	4.8%	2.4%	0.0%
Commercial		0.4%	0.8%	5.2%	2.7%	0.4%
Educational		14.7%	11.0%	3.3%	0.8%	-1.6%
UHF		12.2%	44.0%	38.5%	9.6%	10.3%
Commercial		13.5%	66.5%	50.1%	9.9%	14.2%
Educational		10.5%	14.9%	16.6%	8.9%	0.8%
Total Commercial		4.0%	20.3%	23.7%	6.3%	7.5%
Total Educational		12.1%	13.4%	11.5%	6.0%	0.0%

SOURCE: Warren Communications News, Television and Cable Factbook, 2001 ed.

Total viewing of television has continued to expand over the past ten years, rising from 6 hours 53 minutes per household in 1990 to its highest level ever, 7 hours 35 minutes, in 2000.[27] Table 8 shows that cable households watch much more total television and much less broadcast television than broadcast-only households.[28] Households that choose to subscribe to cable likely have particularly strong demands for video programming. If cable were not available, these households would probably have watched more broadcast television than broadcast-only households do. However, it is unlikely that differences in viewer tastes for video account for the entire difference. The availability of a larger quantity of desirable programming on cable almost surely also plays a role.

Table 8 shows that in 1990-91 broadcast-only households watched 41.6 hours of television per week, while cable households watched 54.7 hours per week, of which 31.9 were of broadcast stations and 22.8 were of cable networks. Thus, cable households watched almost ten fewer hours of broadcast programming per week than did broadcast-only households. The gap increased to almost 19 hours per week in

[27] Neilsen Media Research, cited by the Television Bureau of Advertising at www.tvb.org.
[28] The data for table 8 come from Nielsen. Unless otherwise specified, “cable viewing” data includes viewing via the other multichannel video program distributors, such as DBS.

2000-01. Moreover, the average cable subscriber reduced broadcast programming viewing by five hours per week between 1991 and 2001.

	1990-91			2000-01		
	Broadcast-Only Households	Cable Households	Difference	Broadcast-Only Households	Cable Households	Difference
Total TV Viewing	41.6	54.7	13.1	45.3	63.0	17.7
Total Broadcast	41.6	31.9	-9.7	45.3	26.8	-18.5
Network Affiliates*	29.4	24	-5.4	29.4	20.8	-8.6
Independents**	10.3	8.1	-2.2	12.9	4.7	-8.2
PBS	1.9	1.3	-0.6	3.0	1.3	-1.7
Total Cable	--	22.8		--	36.2	
Ad-Supported	--	18.2		--	29.8	
Premium Pay	--	4.6		--	4.0	
All Other Cable***	--	--		--	2.4	

Source: Cabletelevision Advertising Bureau, Cable TV Facts 1992 ed., p. 6 and 2002 ed. p. 41.
Notes: * Network affiliates ABC/CBS/NBC in 1990-91 and ABC/CBS/NBC/FOX in 2000-01.
** WB/UPN/PAX affiliates and independents.
***This category was not listed separately in 1990-91. It includes cable networks neither ad-supported nor premium pay, e.g., pay per view, home shopping.

Table 8: TV Viewing by Cable and Non-Cable Households, 1990-91 and 2000-01 (hours/week)

Table 9 chronicles trends in all-day viewing shares in total, cable, and non-cable households.[29] By 2001 cable accounted for close to half of all-day viewing over all television households. In cable households, its share was 57.4 percent. The table 9 figures make it clear that cable has cut substantially into the broadcast audience. The cable viewing share, measured across all television households, rose from 25.7 percent in 1990 to 46.6 percent in 2000. The cable share grew by 90 percent (13.5 to 25.7) from 1985 to 1990, 28 percent from 1990 to 1995, and 41 percent from 1995 to 2000.

[29] Viewing shares in this report are presented based on the sum of household delivery. Taking account of multiset viewing, the figures are percentages of total viewing and sum to 100 percent.

Table 9: All Day Viewing Shares, Cable and Non-Cable Households

	All Households					Cable Households					Non-Cable Households				
	1984/85	1989/90	1994/95	1999/00	2000/01	1984/85	1989/90	1994/95	1999/200(	2000/01	1984/85	1989/90	1994/95	1999/00	2000/01
Network Affiliates	63.5	52.4	53.2	39.9	37.4	52.8	43.0	44.1	35.2	33.1	74.3	70.7	77.2	66.7	64.9
Independents	20.2	19.0	11.0	10.7	10.2	19.8	15.0	8.1	7.8	7.4	21.9	24.2	17.8	27.0	28.4
Local	14.4	13.3	na	na	na	11.3	9.3	na	na	na	18.1	22.2	na	na	na
Distant and Superstations	5.8	5.7	na	na	na	8.5	5.6	na	na	na	3.8	2.0	na	na	na
Public	2.9	2.9	2.8	2.8	2.7	2.8	2.8	2.7	2.1	2.1	3.8	5.1	5.0	6.3	6.7
Cable	13.5	25.7	33.0	46.6	49.7	24.5	39.3	45.0	54.9	57.4	--	--	--	--	--
Basic	7.7	20.0	27.5	38.1	41.1	14.2	29.9	37.8	44.9	47.3	--	--	--	--	--
Pay	5.8	5.7	5.5	5.5	5.4	10.4	9.3	7.2	6.4	6.2	--	--	--	--	--
Other	0.0	0.0	0.0	3.0	3.2	0.0	0.0	0.0	3.6	3.8	--	--	--	--	--
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Cabletelevision Advertising Bureau, Inc.; Cable TV Facts, 1986, 1991, 1996, 2001, and 2002 eds.

Notes: Affiliates includes ABC, CBS, and NBC in all years and Fox starting with 1994/95. WB/UPN/PAX affiliates are included under "independents." WTBS is included under "Basic Cable" in all years except 1984/85. In 1999/00 and 2000/01, the source breaks out "All Other Cable," which includes cable networks "that are neither ad-supported nor premium pay," such as home shopping or pay-per-view. For 1984/85 and 1989/90, the source divides the "Independent" category into local, distant, and superstations. Some non-cable households receive distant signals via satellite. Shares are normalized to sum to 100 (totals originally exceeded 100 due to multi-set use).

A similar pattern of broadcast share erosion is present in the prime time daypart, as illustrated by Table 10. For example, the cable share rose from 20 percent in 1990 to 43.1 percent in 2000. This trend has apparently continued with cable achieving a 54 percent primetime share in June 2002 and a cable trade association reporting that, over the 2001-02 season, advertiser-supported cable achieved higher primetime ratings than did the seven major commercial broadcast networks.[30]

An increase in the cable viewing share can be driven by at least two factors—increased viewing of cable programming within existing cable households and an increase in the share of television households that subscribe to cable. As table 24 in chapter VI indicates, total MVPD subscribership has increased substantially since 1990. The increase in the second half of the decade due to the advent of DBS is particularly notable. With regard to the future, 86 percent of US television households now subscribe to an MVPD, mostly cable or DBS.[31] While DBS is still growing, at least some of its subscribers come from cable. There is not nearly as much room for MVPD growth as there used to be, and some of the current non-subscribers may be people with a limited taste for video. Thus, further MVPD subscriber expansion is probably not going to be a substantial source of increased cable viewing shares.

Table 8 shows, however, that cable subscribers have been increasing their viewing of cable programming, from 22.8 hours per week in 1991 to 36.2 hours in 2001. One could speculate that this increase was driven in part by expansion in the range of cable programming available, a consequence of increases in cable channel capacity and in the number of cable networks from which cable operators (and subscribers) can choose. To the extent that channel capacity and programming availability continue to grow, then broadcast shares are likely to continue to fall.

---

[30] See "Editorial: Networks need to get serious about summer." Electronic Media, July 22, 2002, p. 10. See also "A TV First: Ad-supported Cable Wins Primetime Viewership Race for Entire 2001/2002 Season," available at www.cabletvadbureau.com; visited Sept. 29, 2002.

[31] 2001 MVPD Competition Report, 17 FCC Rcd 1244 (2002),

Table 10: Prime Time Viewing Shares by Channel Type

	1984/85	1989/90	1994/95	1999/00	2000/01
Network					
Affiliates	69.2	57.3	58.4	50.9	49.6
Independents	15.0	19.1	9.7	3.4	3.5
Public	3.7	3.6	3.5	2.6	2.6
Basic Cable	6.5	14.5	23.9	35.3	36.5
Pay Cable	5.6	5.5	4.4	5.2	5.2
All Other Cable	0.0	0.0	0.0	2.6	2.6
Commercial Broadcast	84.1	76.4	68.1	54.3	53.0

Source: Neilsen Galaxy Explorer.
Notes: Shares are normalized to 100 to account for multiset usage. Affiliates are Big 4 up to 1994/95; seven afterwards. "All Other Cable" is cable networks neither ad-supported nor premium pay, e.g., pay-per-view, home shopping.

Notwithstanding the decline in broadcast viewing shares over time, advertising revenues have not dropped proportionately. Table 11 compares broadcast and cable shares of total video advertising revenues with broadcast and cable shares of all-day viewing of advertiser-supported programming.[32] The universe of viewing for this table consists of advertiser-supported cable programming and programming of commercial broadcast stations. Pay cable and public television are not included.[33] The last row of the table shows the cable advertising share as a percentage of the cable viewing share. If cable and broadcast advertising were perfect substitutes, one would expect the ratio to be equal to one (although the converse is not true). The fact that cable's revenue share is lower than its viewing share suggests that advertisers, overall, value broadcast exposures more highly than cable exposures. The fact that the ratio is rising toward one suggests that cable advertising is becoming a closer substitute for broadcast advertising and that cable is likely to make further inroads into the broadcast advertising share.

[32] The comparison could not be done for prime time due to the lack of data on total cable and broadcast advertising revenues for the prime time daypart.
[33] In 2000 and 2001, Nielsen separated out "all other cable" from pay and basic. This is not included in the universe of advertiser-supported programming. See notes to table 11.

Table 11: Comparison of Cable Television Share of Total Video Advertising Revenues and Cable Television All-Day Viewing Shares

	1984	1985	1990	1995	2000	2001
Total Video Advertising Revenues ($ millions)	20,043	21,287	29,247	38,886	60,257	54,423
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
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
Broadcast Share of All-day Viewing of Ad-Supported Programming (%)	90.72	91.58	78.13	70.00	57.04	53.70
Cable Share of All-day Viewing of Ad-supported Programming(%)	9.28	8.42	21.88	30.00	42.96	46.30
Cable Advertising Share as a Percentage of Cable Viewing Share	**39.4**	**55.2**	**41.1**	**52.9**	**59.7**	**61.7**

Sources: Advertising data from "Trends in Advertising Volume," Television Bureau of Advertising, available at www.tvb.org/tvfacts/trends, visited June 26,2002. Viewing data from Cable TV Facts, Cabletelevision Advertising Bureau (various years), except 1984 from Cable Television Developments, September 1991, National Cable and Telecommunications Association.

Notes: Viewing shares data are based on the sum of US household delivery of advertiser-supported programming; i.e., network and independent broadcast stations and advertiser-supported cable, and so sum to 100. For 2000 and 2001, the source separates out "all other cable," which includes channels neither ad-supported nor premium pay (e.g., home shopping channels and pay-per view). This category is not included in the calculations in this table. To the extent that viewing of this nature was included in basic cable in earlier years, the cable viewing shares of ad supported programming are biased upward and the cable ad shares as a percentage of cable viewing shares are biased downward. Viewing shares data are for a viewing year, not a calendar year (i.e., year 2000 data are for the viewing year beginning in Fall 1999).

The obvious question is why broadcast advertising is, overall, so much more attractive to advertisers. The general consensus of advertising, broadcast, and cable industry personnel consulted is that the broadcast audience is more valuable because

of its greater size and national reach. It would be possible in principle to put together a national audience via a purchase of time on multiple cable networks, but the audience would not necessarily be unduplicated. The same person might see the advertisement on more than one network. Also, the transactions costs of negotiating with multiple cable networks are higher than those of dealing with a single broadcast network.

Table 12 provides historical data on prime time household delivery (i.e., the number of households viewing particular categories of stations) for broadcast and cable outlets. When considering the data in table 12 it is important to keep in mind that the definition of "network affiliate" changed with the 1999-00 season, moving from affiliates of the four commercial networks (ABC, CBS, NBC, FOX) to affiliates of seven commercial networks (the four plus UPN, WB, and Paxton). Hence the most meaningful comparison is probably of total commercial broadcast households delivered over time with basic and total cable households delivered over time. Commercial broadcast household delivery has dropped steadily since 1985, except for a small rise in 2001. Cable household delivery has risen steadily over the years. However the increase in cable household delivery has been accompanied by a massive rise in the number of cable networks. As suggested above, the efficiency and value of an advertising buy is a function of the size of the audience on the individual network on which an advertisement is being purchased. No one buys "all cable households."

	Network Affiliates	Indep. Stations	Public Stations	Comm. Broadcast Total	Broadcast Total	Basic Cable	Pay Cable	All Other Cable	Cable Total
1984-85	38,035.2	8,235.3	2,207.4	46,270.5	48,477.9	3,056.4	3,396.0		6,452.4
1989-90	33,616.5	10,959.9	2,026.2	44,576.4	46,602.6	8,289.0	3,315.6		11,604.6
1994-95	36,729.0	6,201.0	2,098.8	42,930.0	45,028.8	15,168.6	3,052.8		18,221.4
1999-00	34,776.0	2,116.8	2,016.0	36,892.8	38,908.8	24,192.0	3,528.0	1,915.2	29,635.2
2000-01	35,156.8	2,452.8	2,044.0	37,609.6	39,653.6	26,061.0	3,474.8	2,044.0	31,579.8

Source:Calculated from Nielsen Galaxy Explorer ratings data and households/rating point from Bear Stearns, Television Broadcasting: Broadcast Television Factbook, May 2002, p. 122.
Note: Up to 1998-99 affiliates are big 4; afterwards includes WB, UPN, Pax. Up to 1998-99, pay-per-view is in basic; afterwards, pay-per-view and pay audio are in "all other cable." Network affiliates figure for 1998-99, the last year in which only the big four networks were included, is 31,509.8.

Table 12: Primetime Household Delivery (in thousands)

For this reason, it is instructive to examine households delivered on a per network basis. The four major commercial networks (ABC, CBS, NBC, and FOX) delivered 42,366,000 primetime households during the 1989-90 season and 32,761,000 primetime households during the 1999-00 season. The average number of households delivered per network was 10.6 million in the earlier year and 8.2 million in the later year. During the 1999-00 season, UPN delivered an average of 2.7 million households

in prime time and the WB delivered an average of 2.6 million households[34] During the year 2000, the four cable networks with the largest audiences were USA, TBS, Lifetime, and Nick at Nite. [35] The average number of households delivered per network was 1.4 million (for the full sample of 33 networks it was 0.6 million). In 1990, the four largest were USA, TBS, ESPN, and CNN, with an average number of households delivered per network of 1.1 million (for the full sample of 15 networks it was 0.5 million).

Thus, in 1990, the major broadcast networks delivered audiences on average nine times as big as those for the largest cable networks. In 2000 the broadcast audience averaged 5.6 times the size of the cable audience on a per network basis. Even the new broadcast networks UPN and WB delivered audiences almost twice as big as the largest cable networks and four times as large as the average cable network. Although this scenario is based on prime time household delivery, it is illustrative of the conditions that keep broadcast advertising revenues disproportionately large relative to overall broadcast viewing shares. At the same time, the fact that the gap in broadcast and cable network prime time audience size is narrowing suggests once again that cable will continue to expand its advertising revenue share at the expense of broadcasting.

The preceding discussion utilized comparisons of total households delivered by cable and broadcast channels. In fact, advertisers are frequently concerned with reaching specific demographic groups and make their purchases accordingly. Although a detailed analysis of advertising markets is beyond the scope of this paper, the following brief discussion is designed to demonstrate that, even taking demographics into account, the broad conclusion regarding the greater value of broadcast network advertising exposures remains valid.

Depending on the nature of the product and the particular message, different advertisers are interested in reaching different demographic groups with their messages. Thus, while some advertisers in some cases might merely purchase "tonnage," and pay for the slots that they buy based on the size of the total audience, many if not most "buys", particularly on the national level, are based on demographics such as "Adults 18-49," "Women 18-34," or "Men 25-54." Advertisers are frequently interested in other demographic characteristics of the audience, such as income.

Media Dynamics, Inc. reports advertising "cost per thousand" ("CPM") estimates for the 2000-01 season for various video media, dayparts, and demographic groups.[36] For the big three broadcast networks, the CPM in prime time over all households reached is $15.75. However, the price by demographic ranges from $11.35 for "Adults 18+" to $77.35 for "Men 18-34." The corresponding figure for "Women 18-34" is $61.50

---

[34] Nielsen data compiled by Bear Stearns in Bear Stearns Equity Research, Media, Broadcast Television Fact Book ; May 2002, p. 122.
[35] Paul Kagan Associates, Economics of Basic Cable Networks 2002, p. 61.
[36] See Media Dynamics, Inc., TV Dimensions 2001 at 60.

and for “Adults 25-54” it is $21.35. The patterns are broadly similar in other dayparts and for the “spot” advertising rates that television stations receive.[37]

Turning to a comparison of broadcast and cable CPMs, data are available in prime time for three different categories of cable network: “youth,” “mass,” and “upscale.” The all households CPMs range from $6.75 for mass to $11.15 for upscale, compared to the network level of $15.75. The upscale figure for “Men 18-34” is $86.15, even higher than the comparable figure for broadcast networks, illustrating the value of the relatively homogeneous demographics that some cable networks can deliver. Nevertheless, in general, cable advertisements do sell at a significant CPM discount to broadcast. A recent analysis of 2001-02 data from a different source suggests that the cable “discount” ranged from 30 to 60 percent, depending on the daypart and the demographic target of the cable network. Interestingly enough, the analysis showed that the cable discount is apparently slightly larger than it was four years back during the 1997-98 season.[38]

Television Networks

The last ten years have seen substantial changes in the structure of the television network business. These changes were to a great extent set off by changes in the regulatory environment. The major event was the repeal of the Commission’s syndication and financial interest (“fin syn”) rules, but the relaxation of the dual-network rule also played a role.[39] The fin syn rules essentially prohibited television networks from owning any of their prime time entertainment programming. The dual network rule prohibited any company from owning more than one television network. The current version of the rule merely prohibits the big four commercial networks from merging with each other.

As television networks increased the amount of programming produced “in-house,” the movie studios, which had produced most prime time programming, apparently began to fear that it would become more difficult for them to find outlets for their programming. It is likely that the desire to ensure the availability of a distribution outlet for their programming provided at least some of the motivation for the studios Viacom and Warner Brothers to launch the UPN and WB networks, respectively. This factor may also have played a role in the decision by Disney to purchase ABC and

---

[37] Data are available for spot rates received by affiliates of the big three networks. For all households, the average CPM is $17.45. Id. The rate is slightly higher than the network rate of $15.75. This is likely a reflection of the fact that most network advertising is bought in bulk during the “upfront” market and also the lower transactions costs associated with purchasing national exposure via a single transaction as opposed to assembling coverage from multiple sources in the spot market.

[38] John M. Higgins and Allison Romano, “Cheaper by the thousand.” Broadcasting and Cable Feb. 4, 2002, at 20-28.

[39] See Report and Order in MM Docket No. 95-39 (Review of the Syndication and Financial Interest Rules), 10FCC Rcd 12165 (1995) and Report and Order in MM Docket No. 00-108 (Amendment of Section 73.658(g) of t he Commission’s Rules – The Dual Network Rule), 16 FCC Rcd 11114 (2001).

Viacom to purchase CBS. Even if one were to concede that the motivation to launch UPN and WB was primarily defensive, it is still true that well over 200 television stations found it advantageous to affiliate with these networks, suggesting that networking remains a valuable program distribution technique. The emergence of the smaller "Pax" network is also consistent with this. The repeal of the dual network rule permitted Viacom to purchase UPN alongside CBS and for NBC to acquire the Spanish language network Telemundo.

Notwithstanding the entry into television networking, the business is currently not particularly profitable. Precise data are not publicly available, but most observers suggest that, in the aggregate, the networks are losing money. [40] It is certainly true that their revenues have been growing only very slowly. Table 5 shows that, in real terms, network advertising revenues grew at an average annual rate of 2.1 percent from 1990-2000. The large and increasing share of network video advertising accounted for by cable networks suggests that broadcast networks are feeling significant competitive pressure. In addition, it appears that programming costs have been rising.

The networks have adopted various measures to respond to the competitive environment and cost pressures that they face. On the revenue side, they have been able to raise prices (costs per thousand) fairly steadily. Primetime broadcast network CPMs have risen from $9.74 in 1990 to $13.42 in 2000, an average annual growth rate of 3.8 percent.[41] They have also been able to increase the quantity of advertising availabilities for sale by adding more commercial minutes per hour. An advertising industry compilation indicates that the big four commercial networks increased hourly commercial minutes by 16.4 percent from 1991 to 2000, from an average of seven minutes and 47 seconds to an average of nine minutes and three seconds.[42] Many observers doubt that it will be possible to increase further the number of commercial minutes per hour on network television. Too many advertising interruptions could reduce viewer willingness to watch network programming and too much advertising clutter could reduce advertiser willingness to pay for network advertising exposures.

On the cost side, different networks have adopted a variety of approaches to containment. NBC has reduced the amount of expensive sports programming in its schedule. Several networks have increased the amount of news magazine type programming and reality programming in their schedules.[43] Various networks have

---

[40] See Bear Stearns Diversified Entertainment Equity Research, Media, Diversified Entertainment, We Are Family, May 2002, p. 5 (stating that the big three commercial networks were marginally profitable in the 1980's and that in 2002 the six major commercial networks, taken together, will lose money).

[41] "Network Television Cost and CPM Trends," in Trends in Media, Television Bureau of Advertising, at www.tvb.org/tvfacts/index.html, visited Aug. 13, 2002. The 2000 figure includes seven networks—ABC, CBS, NBC, Fox, UPN, WB, and Pax.

[42] Bear Stearns, Broadcasting/TV&Radio, Equity Research Media, November 2001, p. 23.

[43] Reality programming has lower production cost than scripted series, so adding reality programming to the regular season lineup cuts production costs. On the other hand, to the extent reality programming is introduced during the summer, replacing reruns, then it does not actually result in lower programming costs. Reality programming is unlikely to represent a long term solution to the cost pressures networks face.

resorted to “repurposing” programming. Repurposing generally refers to exhibiting a program on cable very shortly after it runs on broadcast, say within the same week. Chapter X provides a more detailed look at network programming strategies.

As the next section of this chapter shows, profit margins remain high for a large segment of the television station business. Network programming is, of course, a major input into the service that stations provide, and they presumably value it highly. Hence it is possible that some of the revenue problems of the networks will be solved via evolution in the relationship between networks and affiliates.[44] Currently most networks pay some “network compensation” to affiliates. In 2000, network compensation accounted for 4.3 percent of net revenues on average of affiliates of ABC, CBS, and NBC.[45] Interestingly enough, the reported figure for Fox is -1.4 percent. This underlines the possibility that, to finance network programming in the future, affiliates may need to contribute directly to the networks. This could happen via direct payments or a change in the division of advertising availabilities within and adjacent to network programs, some of which are now assigned to affiliates.[46]

An additional possibility for networks and stations, for that matter, is to secure a second revenue stream via cash payments by cable and DBS operators for retransmission consent. Historically, most broadcasters have opted for (or settled for) in-kind compensation from cable operators in exchange for retransmission consent—the right to program a channel on the cable system or some cable advertising availabilities. In the event that broadcast stations were able at some point to secure cash payments for retransmission consent, it would clearly be due in significant measure to the value of network-supplied programming, so the network would likely participate in any revenue from retransmission consent.

Television Stations

This subsection examines in some detail trends in profitability, cash flow, and expenditures for television broadcast stations. It does not examine one key aspect of the television station environment—the transition from analog to digital television. That subject is addressed in Chapter VIII, the review of technological change.

As indicated above, the number of television stations has increased by 12.3 percent from 1990 to 2000. The increase in the number of networks since 1990 means that many more stations are now network affiliates than in 1990. Of the 1,248 commercial television stations in 2000, over 1,000 are affiliated with one of the seven

---

[44] A discussion of a pending petition for revision of Commission rules governing network-affiliate relations is beyond the scope of this paper.

[45] National Association of Broadcasters, Television Financial Report, 2001 edition, p. 34.

[46] Some have argued that the way for network companies to become more profitable is to buy additional stations with high profit margins. While this could raise the profitability of the resulting combination, it is not clear that purchase of a station is required in order to effect a change in the revenue split between stations and networks.

largest commercial networks.[47] In addition to the increase in the number of networks since 1990, the Commission's recently-relaxed television duopoly rules are likely to affect the profitability of stations that become parts of duopolies, but it is too early to assess that effect quantitatively.[48]

The year 2001 was a difficult one for television stations and the decline in advertising revenues during that year had a significant negative impact on their financial situation. As argued in chapter III, however, the industry is expected to recover from this year. Rather than emphasizing this one year excessively in the present analysis, the approach is to examine longer term trends. The review of television station profitability herein draws on the aggregate advertising revenue data cited in chapter III and data from the National Association of Broadcasters Television Financial Reports. The Television Financial Reports provide a wealth of data on television stations, based on a survey, and aggregated into various categories. This paper uses the data extensively, but it has certain limitations with respect to various reported performance ratios.[49]

Table 13 contains data on total television station advertising revenues (national spot plus local spot) and also on total broadcasting advertising revenues per commercial station in current and constant dollars. It is important to look at both because network programming is an input, a crucial input, into the service distributed by television stations to viewers. From 1990-2000 the average annual growth rate of both categories of current dollar revenue was in the neighborhood of 4.5 percent, while in constant dollars it was around one percent. A revenue growth rate of one percent in constant dollars does not appear too favorable, but it is still higher than the 1980-1990 average annual growth rate, which was actually negative for total broadcast advertising revenue per station during this period. This may be due in part to the fact that the number of commercial stations increased by 49 percent from 1980-1990 and only 14 percent from 1990-2000.

Tables 14 and 15 provide data for 2000 and 1990, respectively, on average net revenues, expenses, profits, and cash flow of commercial television stations by market size. In 2000, both profits and cash flow data are positive in every category and quite robust particularly for the larger markets. Dollar values of profits and cash flow are reported in addition to their percentages of net revenue because the data on which the

---

[47] According to network company staff, the big four commercial networks have anywhere from 176 to 213 affiliates. The others have smaller numbers of affiliates.

[48] See Broadcasting and Cable, January 21, 2002, p. 60, for a list of duopoly combinations.

[49] The Television Financial Report provides average figures for a variety of measures. It also provides various performance ratios, which are calculated by first averaging the numerator values, then averaging the denominator values, and the calculating the quotient. The problem with this procedure is best illustrated by an example. Suppose that two stations had ratios of profit to net revenues of one-fourth and one-sixth, respectively. The average profit to net revenue ratio for the two is 5/24. However, the financial report calculation procedure is to average the numerators and denominators and then divide, yielding an estimate of 1/5.

calculations are based do not permit precise calculations of margins.[50] In 1990, the cash flows are positive in every category. It appears that cash flow margins for the average station have increased over the past decade. The 1990 profit figures are negative in four of the smaller market size categories; in every category but one, profits and profit margins are up in 2000 over 1990.

In addition to averages, the Television Financial Report also provides 25th percentile data for all of the categories cited in tables 14 and 15. For 2000 every market size category showed positive cash flow, while the pre-tax profit levels were mostly negative but small in magnitude. For 1990, all but one market category had positive cash flow and all but one had negative pre-tax profits. While caution should be used in drawing inferences from these data, it does appear that, even among the less profitable stations, the situation probably did not deteriorate since 1990.[51]

Station revenues are predominantly from advertising, but some network affiliates receive "network compensation" payments from the parent network. In 2000 these payments averaged 3.2 percent of net revenues for big three affiliate stations.[52] Network compensation looms larger for stations in the smaller markets, as illustrated by the fact that the average in 2000 was 2.4 percent for the top 25 markets and 6.3 percent for markets outside the top 100. In 1990, the average level of compensation for big three affiliates was 5.1 percent of net revenues, so this category of revenue has declined.

---

[50] The National Association of Broadcasters Television Financial Report provides average figures for profits, cash flow, net revenues, etc. for each station category. Dividing, for example, the average cash flow figure by the average net revenue figure, gives a result that is different from what would be obtained if the quotient were first calculated for each station and then averaged. This does not, of course, affect the sign of the calculated percentages, and the magnitudes are roughly correct. See note 49, supra.
[51] See National Association of Broadcasters, Television Financial Report, 1991 and 2001 eds. The 25th percentile figure is the one that has 75 percent of the observations in the sample above it. It is, of course, true that the identity of stations in the "bottom quarter" may have changed from 1990 to 2000.
[52] National Association of Broadcasters, Television Financial Report, 1991 and 2001 eds.

Table 13: Average Revenue per Television Station Based on Aggregate Data, Current and Constant Dollars
(All figures except number of stations and growth rates in millions of dollars)

	Television Station Advertising Volume	Broadcast Advertising Revenue	Total Commercial Television Stations	TV Station Advertising Revenue per Station in Current Dollars	Broadcast Advertising Revenue Per Station in Current Dollars	Television Station Advertising Revenue per Station in Constant Dollars	Broadcast Advertising Revenue per Station in Constant Dollars
1975	2,957	5,263	706	4.2	7.5	7.8	13.9
1980	6,236	11,416	734	8.5	15.6	10.3	18.9
1985	11,718	20,298	883	13.3	23.0	12.3	21.4
1990	15,644	26,616	1092	14.3	24.4	11.0	18.6
1991	14,675	25,461	1098	13.4	23.2	9.8	17.0
1992	15,630	27,249	1118	14.0	24.4	10.0	17.4
1993	16,235	28,020	1138	14.3	24.6	9.9	17.0
1994	18,457	31,133	1145	16.1	27.2	10.9	18.3
1995	19,104	32,720	1161	16.5	28.2	10.8	18.5
1996	20,747	36,046	1174	17.7	30.7	11.3	19.6
1997	21,435	36,893	1205	17.8	30.6	11.1	19.1
1998	22,828	39,173	1204	19.0	32.5	11.6	20.0
1999	23,360	40,011	1216	19.2	32.9	11.5	19.8
2000	25,806	44,802	1248	20.7	35.9	12.0	20.8
2001	21,479	38,887	1302	16.5	29.9	9.3	16.9
Average Annual Growth Rate 1980-1990				6.86%	5.67%	0.63%	-0.12%
Average Annual Growth Rate 1990-2000				4.43%	4.73%	0.96%	1.18%

Sources: Tables 3, 4, 5

Table 16 provides profits as a percentage of net revenues for affiliate and independent stations over the 1975-2000 period and compares the figures with comparable data for the 500 largest industrial corporations. The data show that margins for big three network affiliates have risen slightly over the past 25 years and compare very favorably to margins for the largest corporations. Historically, independent station margins have been lower than those for network affiliates, but still above the largest corporation level. The year 2000 figure for independents is probably not too significant, since by 2000 most stations were affiliates of one network or another. The relatively high year 2000 margins of ABC compared to NBC probably do

not reflect the current realities, given the relatively strong performance of the NBC network and the relatively weak current performance of the ABC network. The negative profits for the Paxson affiliates are unlikely to prompt the owners of those stations to turn in their licenses. The owner of some of those stations has estimated that the channel 60-69 spectrum band in which many of them are located will bring as much as $30-36 billion at auction.[53]

Market Rank	Average Net Revenue ($ Million)	Average Expenses ($ Million)	Average Pre-Tax Profit ($ Million)	Profit as % of Net Revenue	Average Cash Flow ($ Million)	Cash Flow as % of Net Revenue
1-10	60.2	32.3	27.8	46.2%	33.5	55.6%
11-20	34.6	23.4	11.3	32.7%	15.5	44.8%
21-30	27.0	20.4	6.5	24.1%	10.8	40.0%
31-40	19.0	15.5	3.5	18.4%	7.3	38.4%
41-50	14.0	12.7	1.3	9.3%	4.9	35.0%
51-60	13.7	10.2	3.5	25.5%	5.9	43.1%
61-70	11.0	8.8	2.2	20.0%	4.5	40.9%
71-80	9.7	9.5	0.2	2.1%	3.0	30.9%
81-90	10.8	8.7	2.0	18.5%	4.1	38.0%
91-100	9.4	8.7	0.7	7.4%	3.2	34.0%
101-110	7.8	6.8	1.0	12.8%	3.0	38.5%
111-120	6.8	6.4	0.4	5.9%	2.1	30.9%
121-130	6.8	6.2	0.6	8.8%	2.1	30.9%
131-150	5.7	5.1	0.6	10.5%	1.9	33.3%
151-175	5.3	4.6	0.7	13.2%	1.9	35.8%
176+	4.0	3.4	0.7	17.5%	1.5	37.5%

Source: National Association of Broadcasters, Television Financial Report, 2001 ed., pp. 2-33.

Note: In 1990 the Report included depreciation, amortization, and interest in total expenses, but in 2000 it did not. For consistency, the total expense figures herein have been adjusted to include these categories in total expenses. Hence, pre-tax profit equals net revenue less expenses, while cash flow equals net revenue less expenses other than depreciation, amortization, and interest.

Table 14: Average Revenues, Expenses, Pre-tax Profits, and Cash Flow of Commercial Television Stations, 2000

[53] See "Bud Paxson leads deal to clear analog channels for wireless use." Electronic MediaU, Feb. 26, 2001, p. 32.

Table 15: Average Revenues, Expenses, Pre-tax Profits, and Cash Flow of Commercial Television Stations, 1990

Market Rank	Average Net Revenue ($ Million)	Average Expenses ($ Million)	Average Pre-Tax Profit ($ Million)	Profit as % of Net Revenue	Average Cash Flow ($ Million)	Cash Flow as % of Net Revenue
1-10	58.4	41.8	16.6	28.4%	20.1	34.4%
11-20	27.3	23.2	4.2	15.4%	7.2	26.4%
21-30	22.4	18.7	3.7	16.5%	7.2	32.1%
31-40	14.6	13.4	1.2	8.2%	4.5	30.8%
41-50	11.3	10.4	0.9	8.0%	2.9	25.7%
51-60	9.6	9.2	0.4	4.2%	3.0	31.3%
61-70	8.5	8.1	0.4	4.7%	2.5	29.4%
71-80	7.3	6.9	0.4	5.5%	1.8	24.7%
81-90	6.3	5.6	0.7	11.1%	1.8	28.6%
91-100	7.0	6.4	0.5	7.1%	2.0	28.6%
101-110	6.2	6.7	-0.6	-9.7%	1.5	24.2%
111-120	4.8	5.0	-0.2	-4.2%	1.4	29.2%
121-130	4.0	4.4	-0.4	-10.0%	1.1	27.5%
131-150	3.8	3.9	-0.1	-2.6%	1.2	31.6%
151-175	3.6	3.2	0.4	11.1%	1.2	33.3%
176+	2.8	2.6	0.2	7.1%	0.9	32.1%

SOURCE: National Association of Broadcasters, Television Financial Report, 1991 edition, pp. 1-16.

Table 16: Average Profits of Commercial TV Stations as a Percentage of Net Revenues, 1975-2000

Year	Affiliates*	ABC	CBS	NBC	Fox	UPN	WB	Pax	Indep. Stations	500 Largest Industrial Corporations
1975	26.2%								8.1%	
1980	29.1%								17.1%	4.5%
1985	29.9%								13.3%	3.9%
1990	22.6%								6.4%	4.1%
1995	29.8%	29.1%	24.5%	34.8%	25.9%				21.8%	
2000	30.2%	38.0%	23.7%	25.2%	5.6%	21.8%	27.5%	-154.0%	42.3%	6.8%

SOURCES: 1975 and 1980, FCC, Public Notice, "TV Broadcast Financial Data," August 2, 1976 and August 10, 1981; other years, National Association of Broadcasters, Television Financial Report, 1991, 1996, and 2001 eds.; 500 largest corporations, 1975 and 1980, Statistical Abstract of the United States: 1990 (110th ed.), p. 542. For 1998, Statistical Abstract of the United States: 1998 (118th ed.), p. 564. For 2000, Fortune, April 16, 2001, p. F-19. Note: *ABC/CBS/NBC affiliates only.

Table 17 uses the NAB Television Financial Report data to calculate average television station net revenues in constant dollars and should be reviewed in

comparison with table 13. Table 13 is based on aggregate advertising revenues and yields a 2000 figure of $12 million per station in constant dollars. This is certainly the same order of magnitude as the 2000 figures from the NAB data, which adds some certainty that the picture is roughly correct.[54] They confirm that, by and large, station revenues in constant dollars have not grown much. The decline in net revenues from 1995-2000 for independent stations is likely a consequence of the fact that many stations that were independents in 1995 had affiliated with one of the new networks by 2000.

Tables 18 and 19 provide a breakdown of station expenses for several market size categories in 2000 and 1990 respectively. The tables show that the share of expenses devoted to programming and production has fallen for all size categories but the share of expenses devoted to news has increased in all categories. Of course, the averages mask increases for some stations and decreases for others. Some stations have, in fact, dropped local news service in recent years.[55]

News expenditures, of course, vary by station category as well. Thus, in 2000 big three affiliates averaged 27.2 percent of expenses for news. The figure for Fox was 12.5 percent, UPN 7.6 percent, WB 10.1 percent, Pax 0 percent, and 16.8 percent for independents. In both years the share of programming in expenses rises with market size. This is due to the fact that even network affiliates acquire some syndicated programming and this programming is priced based on market size.

---

[54] There are, of course, differences in the two data sets. The Table 13 data do not include network compensation, but do include gross advertising revenues, including agency commissions, so they overestimate what is available to stations. The table 17 data include network compensation and do use net advertising revenues, but, as the introduction to the 2001 Television Financial Report makes clear (at i), several large market NBC and Fox stations that had previously participated in the survey did not do so in 2000. This likely explains the precipitous drop in the Fox net revenue figure from 1995 to 2000.

[55] See Dan Trigoboff, "The news not out of Topeka," Broadcasting and Cable, April 22, 2002, p. 12 (noting that the third-ranked station in Topeka, DMA 138, has dropped local news, as have some stations in other markets).

Table 17: Average Inflation-Adjusted Net Revenues of Commercial TV Stations, 1975-2000 (1982-1984 = 100)

	1975	1980	1985	1990	1995	2000
Revenues ($ Million)						
Affiliates*	6.3	8.0	12.1	12.1	12.1	11.9
ABC					12.3	14.5
CBS					11.3	10.6
NBC					12.7	10.4
Fox					11.4	5.4
UPN						7.2
WB						13.7
Pax						0.9
Independents	7.5	9.4	12.2	12.3	12.7	10.3
% Change in Revenues**						
Affiliates*		27.0%	50.7%	0.7%	-0.2%	-2.0%
ABC						17.7%
CBS						-5.8%
NBC						-18.6%
Fox						-52.3%
UPN						
WB						
Pax						
Independents		25.3%	30.0%	0.8%	3.4%	-19.2%

SOURCES: 1975 and 1980, FCC, Public Notice, "TV Broadcast Financial Data," August 2, 1976 and August 10, 1981; other years, National Association of Broadcasters, Television Financial Report, 1991, 1996, and 2001 eds.; numbers inflation-adjusted using Bureau of Labor Statistics "Consumer Price Index for all Urban Consumers," available at http://data.bls.gov/servlet/SurveyOutputServlet, visited August 9, 2002.
Notes:*ABC/CBS/NBC affiliates only.
**Percent change over previous five years.

Table 18: Expense Items of Commercial Broadcast Stations by Selected Market Size, 2000 (% of Total Expenses)

Market Rank	Engineering	Programming and Production	News	Sales	Advertising and Promotion	General and Administrative
1-10	8.9%	35.1%	23.2%	12.8%	4.8%	15.1%
41-50	8.4%	25.2%	22.7%	16.7%	5.0%	21.9%
91-100	9.2%	23.9%	20.2%	16.9%	4.2%	25.7%
131-150	8.5%	22.5%	20.1%	18.1%	3.6%	27.2%
176+	10.0%	20.8%	18.6%	18.0%	3.5%	29.0%

Source: National Association of Broadcasters, Television Financial Report, 2001

Table 19: Expense Items of Commercial Broadcast Stations by Selected Market Size, 1990 (% of Total Expenses)

Market Rank	Engineering	Programming and Production	News	Sales	Advertising and Promotion	General and Administrative
1-10	7.7%	47.1%	19.1%	7.7%	6.2%	12.1%
41-50	8.0%	35.3%	17.6%	12.8%	4.9%	21.4%
91-100	9.2%	31.9%	15.3%	15.5%	4.2%	24.0%
131-150	11.6%	26.7%	16.5%	17.3%	3.6%	24.3%
176+	13.3%	21.6%	15.0%	18.4%	3.9%	27.8%

Source: National Association of Broadcasters, Television Financial Report, 1991

Table 20 examines more closely station programming expenses over time for affiliates (ABC, CBS, and NBC only) and independents. For both categories of station, the share of news in expenses has risen steadily. The “other” category is a residual, calculated by subtracting broadcast rights, news, and music licensing fees from total programming expenses. Other therefore includes (and is probably best interpreted as an upper bound on) the share of expenses devoted to non-news local programming. There is no strong trend in the data, but the share dropped from 1995 to 2000 for both affiliates and independents. The decline in the programming expenses share for independents from 1995-2000 is likely a consequence of many formerly independent stations affiliating with one of the new networks during the 195-2000 period.

Table 20; Programming Expenses of Commercial Broadcast Stations, 1975-2000 (% of Total Expenses)

	1975	1980	1985	1990	1995	2000
AFFILIATES*						
Programming	42.8	42.5	50.9	55.9	53.6	52.6
Broadcast Rights	12.1	11.5	13.7	22.6	15.4	15.2
News	--	--	23.9	24.5	27.3	27.2
Music License Fees			2.5	2.0	1.7	1.5
Other	--	--	10.8	6.8	9.2	8.7
INDEPENDENTS						
Programming	48.8	49.4	60.9	66.1	62.4	39.3
Broadcast Rights	26.8	32.6	44.6	50.9	41.7	11.9
News	--	--	5.0	6.0	9.6	16.8
Music License Fees			1.7	1.1	1.0	1.1
Other	--	--	9.6	8.2	10.1	9.5

SOURCES: 1975 and 1980, FCC, Public Notice, "TV Broadcast Financial Data," August 2, 1976 and August 10, 1981; other years, National Association of Broadcasters, Television Financial Report, 1986, 1991, 1996, and 2001 eds.
NOTES: *ABC, CBS, and NBC affiliates only
Expense categories from the original FCC reports are used. The "Programming" category consists of the NAB categories of programming and production and news. The "Other" category is a residual calculated as programming less broadcast rights less news less music license fees. Expenditures for locally-produced non-news programming would fall in this category. The 1986 and 1991 reports include Depreciation and Amortization and Interest in total expenses, but the 1996 and 2001 reports do not. The expense figures used to calculate the percentages in this table have these categories removed.

Summary

Television broadcasting viewing shares and shares of video advertising revenue continued to fall during the past decade. That the revenue share fell much more slowly than the viewing share is explained by the fact that broadcast audience on a per-network basis remain much larger than cable network audiences on a per-network basis. This keeps broadcast advertising availabilities, on the whole, more valuable than cable advertising availabilities. However, cable advertising revenue shares are rising and moving closer to cable viewing shares, suggesting that cable advertising is becoming a closer substitute for broadcast advertising. While broadcast audiences remain much larger than cable audiences, the ratio (comparing the largest four broadcast and cable networks in primetime) has dropped from about nine to one down to about five to one.

Broadcast revenues, whether it be for networks or stations, have risen gradually in absolute terms over the 1990-2000 period, although 2001 saw a significant (but likely transitory) drop. Programming costs continue to rise. The program production and distribution environment has changed over the past decade, with the elimination of the syndication and financial interest and dual network rules, the entry of new broadcast networks, and the increased ownership and production of primetime programming by networks and their sister studios.

Television networking by itself continues to be roughly a breakeven business while television station margins remain rather robust. The efficiency of networking and the value of network programming to affiliates, along with the strong margins realized by many television stations, means that the networks will, in fact, obtain the financial support they need to continue in operation. Television stations will face increasing competition in the local spot advertising market as cable interconnects become more widespread and sophisticated.

V. Cable Television

Cable television remains the most significant competitor to over-the-air broadcast television. Cable television was originally developed to provide broadcast television to areas with poor over-the-air reception. The first cable systems were built in 1955, at which time there were approximately 250,000 subscribers and grew to only 750,000 subscribers during the next five years.[56] It wasn't until the creation of non-broadcast or "cable-origination" programming that cable subscribership began to proliferate. With the development of such cable programming networks as HBO, CNN, and ESPN, cable operators began to find a market for cable in urban areas as well as the predominately rural areas that were first served. Table 21 provides data on subscribership for various categories of cable service. It shows that by 1975, basic subscribership had reached nearly 9.8 million and only five years later, with the addition of even more cable origination networks such as MTV, TBS, and USA, cable subscribership grew to more than 19.2 million. As of year-end 2001, there were approximately 287 national and approximately 56 regional satellite-delivered cable origination programming networks available for carriage over cable networks and nearly 69 million cable television subscribers.[57] Table 21 reports an estimate that by 2010, there will be more than 74 million basic cable subscribers.

The Nature of Cable Television

Some people subscribe to cable television with the sole intent of obtaining better reception of local broadcast signals, though it is not known exactly how many. The vast majority, however, subscribe to cable in order to obtain increased programming options, though many of those subscribers also benefit from the improved reception of local broadcast networks. Yet others subscribe to cable television to receive better reception of local broadcast networks, while seeking increased programming options through subscription programming services from a non-cable subscription video provider such as direct broadcast satellite ("DBS").[58]

Currently, most cable system operators offer five categories of service: the basic service tier ("BST"); the expanded basic tier, otherwise known as the cable programming service tier ("CPST"); the digital tier, (which offers channel capacity for both additional "basic" cable origination networks and additional premium and pay-per-view networks); premium services, also known as "pay" services (offered in

---

[56] Kagan World Media, *History of Cable and Pay TV Subscribers And Revenues*, Cable TV Investor, May 24, 2002, at 8.

[57] See NCTA, National Video Programming Services: 1994-2001, Cable Program Services, Cable Developments 2002, May 2002, at 23, 27-212; see also Table 21.

[58] While some DBS subscribers do receive local broadcast signals via their DBS service pursuant to the Satellite Home Viewer Improvement Act of 1999, DBS subscribers in approximately 158 DMA's are not provided with local broadcast network signals via satellite. DBS can offer distant network signals, but only to a portion of DBS households (only those households unserved by local network affiliates over the air).

Table 21: Cable Subscribers and Homes Passed

	1975	1980	1985	1990	1995	2000	2001	2010p
Total Households[1] (mil)	71.5[2]	81.8	87.6	94.8	97.5	104.1	107.4	123.3
TV Households[1] (mil)	69.6[2]	79.9	85.9	93.1	95.9	102.2	105.5	121.1
Basic Cable								
Cable Homes Passed (mil)	23.1[3]	34.9	64.7	86.0	92.7	98.8	102.0	117.0
Basic Subscribers (mil.)	9.8[4]	19.2	36.7	51.7	62.1	68.5	68.6	74.3
Cable HP/TVHH (%)	33.2%	43.7%	75.3%	92.4%	96.7%	96.7%	96.7%	96.6%
Basic Subs/TVHH (%)	14.1%	24.0%	42.7%	55.5%	64.8%	67.0%	65.0%	61.4%
Basic Subs/Cable HP(%)	42.4%	55.0%	56.7%	60.1%	67.0%	69.3%	67.3%	63.5%
Premium ("Pay") Cable								
Premium Subscriptions (mil)	0.47	9.1	29.9	41.5	45.8	59.69	64.8	84.3
Premium Households (mil)	1.0[3]	9.1	21.8	23.9	29.6	35.6	36.1	42.2
Digital Cable								
Digital Cable Subscribers (mil)	-	-	-	-	-	10.1	16.7	62.5
Digital Subs/Basic Subs (%)	-	-	-	-	-	14.7%	24.3%	84.1%

Sources: Total HH and TVHH: (1975-2001): Television Bureau of Advertising, Inc., Television Households, Trends in Television, at http://www.tvb.org (citing Nielsen). (2010p): Kagan World Media, Broadband Cable Financial Databook, July 2002, at 10. Cable Subs and Premium Subs: (1975 and 2010p): Kagan World Media, Broadband Cable Financial Databook, July 2002, at 7 and 10; (1980-2001): Kagan World Media, Cable TV Investor, May 24, 2002, at 9. Cable HP and Premium Households: (1975-2001): Kagan World Media, Cable TV Investor, May 24, 2002, at 9; (2010p): Kagan World Media, Broadband Cable Financial Databook, July 2002, at 10. Digital Subs: (2000): Kagan World Media, Broadband Cable Financial Databook, July 2001, at 10; (2001 and 2010p): Kagan World Media, Broadband Cable Financial Databook, July 2002, at 10.

Notes:

[1]Except where otherwise noted, data is reported by the source as of Jan 1 of the next year (e.g., figure reported for 2001 are actually Jan 1, 2002).

[2] Data is as of September of that year.

[3]1976 data

[4] Data is not year-end, but is an average of subscribers over the course of 1975.

both the analog and digital tiers); and pay-per-view ("PPV") services (also offered in both the analog and digital tiers). Some cable operators have also begun to offer their customers such video products as video-on-demand ("VOD") and high-definition television ("HDTV") formatted programming. Most cable operators also offer their customers non-video services, (e.g., high-speed Internet access, cable telephony, digital audio programming, and interactive services such as electronic programming guides, and video gaming). By offering these non-video, ancillary services, cable operators are able to attract and retain subscribers more easily than without these services. These services also provide additional revenue streams for cable operators.

The basic service tier ("BST") includes, at minimum, all local broadcast signals distributed by the cable operator, along with any public, educational, and government ("PEG") access channels that the local franchise authority requires the system operator

to carry on the basic tier.[59] Pursuant to the Communications Act, cable operators have an obligation to set aside a specified number of channels, based on their total channel capacity for the carriage of local broadcast signals.[60] At the discretion of the cable operator, this tier may also include additional program services such as national or regional satellite-delivered cable origination networks. Currently, more than 50 percent of cable systems voluntarily carry superstation TBS on the BST and approximately 25 percent of all cable systems report carrying either Discovery, CNN, or ESPN.[61]

Consumers pay a flat monthly fee for the BST package of channels. As of July 2001, the industry-wide average price of the BST was $12.84.[62] The BST is the lowest level of service offered by cable operators, and is required for any additional level of service.[63] With a few exceptions (e.g., PEG access channels, public television stations), most of the programming offered on the BST is advertiser-supported.

The CPST provides all analog video programming distributed over the system that is not on the basic service tier and for which the operator does not charge a per-channel or per-program basis.[64] Most of the programming carried on the CPST is advertiser-supported national and regional cable origination networks. Subscribers do

---

[59] 47 U.S.C. § 543(b)(7); 47 C.F.R. § 76.901(a).

[60] 47 U.S.C. § 534(a), (b)(1), 47 C.F.R § 76.56(b) (obligations to carry local commercial stations); 47 U.S.C. § 535(a), (b); 47 C.F.R. § 76.56(a) (obligations to carry qualified noncommercial stations). Under these statutory provisions and the Commission's rules, commercial broadcast television stations may elect whether they will be carried by local cable television systems. 47 U.S.C. § 325(b)(3)(B); 47 C.F.R. § 76.64(f). The must carry provisions of the 1992 Cable Act also directed the Commission to initiate a proceeding at the time that it prescribes modified standards for what is now referred to as digital television ("DTV") and “to establish any changes in the signal carriage requirements of cable television systems necessary to ensure cable carriage of such broadcast signals of local commercial television stations which have been changed to conform with such modified standards." This provision is codified as Section 614(b)(4)(B) of the Communications Act, 47 U.S.C. § 543(b)(4)(B). In the 1996 Act, Congress stated that no ancillary or supplementary broadcast service shall have must carry rights. 47 U.S.C. § 336(b)(3) which was added to the Communications Act by Section 201 of the 1996 Act In the context of adopting digital television standards, the Commission sought comment on relevant must carry rules or policies that might be needed both during the transition to DTV and once DTV has replaced the current analog system. *Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, MM Dkt. No. 87-268, Fourth Notice of Proposed Rulemaking and Third Notice of Inquiry, 10 FCC Rcd 10540, 10552-10554 (1995). Depending on the rules that the Commission may ultimately adopt, if any, cable and OVS operators subject to the must carry rules would be required to allocate a portion of their channel capacity to the carriage of DTV signals.

[61] Information gathered in re: Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992, Statistical Report on Average Prices for Basic Service, Cable Programming Services, and Equipment, MM Docket No. 92-266, Report on Cable Industry Prices, 17 FCC Rcd 6301, 6308, Tbl. 1 (2002).

[62] Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992, Statistical Report on Average Prices for Basic Service, Cable Programming Services, and Equipment, MM Docket No. 92-266, Report on Cable Industry Prices, 17 FCC Rcd 6301, 6308, Tbl. 1 (2002).

[63] Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992, Buy-Through Prohibition, MM Docket No. 92-262, Order, 8 FCC Rcd 2274 (1993); Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992, Tier Buy-Through Prohibitions, MM Docket No. 92-262, Order, 7 FCC Rcd 8672 (1992).

[64] 47 U.S.C. § 543(l)(2); 47 C.F.R. § 76.901(b).

not need to subscribe to the CPST to subscribe to other, higher tiers of cable service such as premium or pay-per-view.[65]

The digital tier was first introduced commercially in 1996 and provides additional channels of basic and premium services through the use of digital compression technologies.[66] Digital service was initially offered by cable operators as a response to the entry of high-capacity DBS services to the multichannel marketplace. DBS offered and continues to offer greater channel capacity than cable systems and also superior video quality. In some cases, the video programming offered on cable's digital tier is offered at a higher quality than standard analog video. In other cases, the digital tier is used simply to compress more analog-quality channels into the same bandwidth.

At year-end 1996, there were approximately 100,000 digital video subscribers, and just three years later, there were approximately 7.2 million digital video subscribers.[67] As Table 21 shows, there are approximately 16.7 million digital video subscribers by year-end 2001, and it is estimated that by 2010, there will be more than 62 million digital video subscribers.

Premium cable services are channels of service offered on an a la carte basis. Sometimes these channels are marketed in groups of channels for special discounts. Premium cable services include such well-known cable networks as HBO, Showtime, and Cinemax. These services rarely include advertising and derive revenue primarily through the subscription fee charged for each service. Premium services are offered in analog and also on the digital tier. In 1990, there were five premium networks available for carriage over cable systems.[68] By 1995, 21 premium networks are available to cable operators for distribution over their systems.[69] By 2001, with expanded channel capacity enabled by digital compression, there were 40 premium cable networks available for delivery over cable systems.[70] The premium service model allows consumers to pay for those networks that have the most value to them, as opposed to purchasing groups of general programming and niche networks available on the basic, expanded basic, and digital basic tiers.

---

[65] Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992, Buy-Through Prohibition, MM Docket No. 92-262, Order, 8 FCC Rcd 2274 (1993); Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992, Tier Buy-Through Prohibitions, MM Docket No. 92-262, Order, 7 FCC Rcd 8672 (1992).

[66] *See* Paul Kagan Assocs., Inc., *Paul Kagan's 10-Year Cable TV Industry* Projections, The Cable TV Financial Databook, July 1996, at 11; *see also* Paul Kagan Assocs., Inc., *Paul Kagan's 10-Year Cable TV Industry* Projections, The Cable TV Financial Databook, July 1997, at 10.

[67] *See* Paul Kagan Assocs., Inc., *Paul Kagan's 10-Year Cable TV Industry* Projections, The Cable TV Financial Databook, July 1997, at 10; Paul Kagan Assocs., Inc., *Paul Kagan's 10-Year Cable TV Industry* Projections, The Cable TV Financial Databook 2000, July 2000, at 10.

[68] NCTA, *National Cable Video Networks by Type of Service*, Cable Television Developments, Apr. 1994, at 7-A.

[69] NCTA, *National Cable Video Networks by Type of Service 1976-1995*, Cable Television Developments, Spring 1996, at 6.

[70] NCTA, *National Cable Video Networks by Type of Service 1980-2000*, Cable Television Developments 2001, Fall 2001, at 8.

Pay-per-view services offer video programming on a program-by-program basis for a fee. Programming offered includes movies, sporting events, concerts, and other similar programming. Pay-per-view services rarely include advertisements and derive revenue primarily through the fees charged per-program. In 1990, there were seven pay-per-view networks offering pay-per-view services to cable operators for carriage on their systems.[71] The number of pay-per-view networks has remained relatively stable over the last decade. As of 2001 there are 11 pay-per-view networks available for carriage over cable systems.[72]

Video-on-demand ("VOD") is the newest video service category being developed and deployed by cable operators. VCD services are similar to pay-per-view services in that video-on-demand provides mostly advertising-free material on a program-by-program basis. The subscriber may choose from a wide array of programming and pick the time of viewing. Some operators are opting to offer video-on-demand via the subscription model ("SVOD"). In the SVOD model, the subscriber pays one monthly fee for unlimited access to a finite library of select programming. This model more closely resembles the premium service tier, and may offer fewer programming options than standard video-on-demand services. In contrast to the pay-per-view model, in which programming is essentially cablecast (the same) to every home at network-selected times, VOD systems both subscription and standard, utilize a server located in the cable operator's headend (or central office). Consumers may choose from a number of video programming selections at virtually any time, with VCR-like pause and rewind capabilities. Video-on-demand is largely in test-phase, though commercial deployments have begun in a few systems.[73]

Availability and Subscribership of Cable Television

Table 21 provides data on the availability and subscribership of cable television since 1975. It shows that, since 1990, at least 90 percent of television households have had access to cable television. The percentage has been rising gradually over that period. The homes passed data in Table 21 are drawn from Kagan World Media ("Kagan"). This is the only consistent source of time series homes passed figures available. However, a comparison of the Kagan 2001 homes passed figure with one from Warren Communications News reveals a significant discrepancy. The Kagan figure is 102 million, while the Warren Communications News figure is 89.6 million.[74] This difference suggests that the Kagan data should be used with some caution and that they are probably most reliable as a trend indicator rather than a precision estimate for any one year. Nevertheless, it is reasonable to conclude that the share of television households passed by cable is very high and rising gradually over time. Those homes

[71] NCTA, *National Cable Video Networks by Type of Service*, Cable Television Developments, Apr. 1994, at 7-A.
[72] NCTA, *National Cable Video Networks by Type of Service 1980-2000*, Cable Television Developments 2001, Fall 2001, at 8.
[73] Kagan World Media, *Major U.S. VOD Deployments and Trials*, Broadband Cable Financial Databook 2002, July 2002, at 79.
[74] Warren Publishing, Television and Cable Factbook 2002, Services Volume, at G-3.

not passed by cable are likely located in rural, sparsely-populated areas. Given the virtually nationwide presence of DBS and the cost of building cable infrastructure in areas with low population density, these homes may never be served by cable.

Bearing in mind the caveats about the cable homes passed figures, Table 21 shows that the share of television households with access to cable that chose to subscribe jumped from 60 to 67 percent from 1990 to 2001. As a share of total television households, cable subscribership jumped from 56 percent in 1990 to 67 percent in 2000, before dropping in 2001 to 65 percent. The slow growth in homes passed as a fraction of television households, the apparent flattening out of cable penetration of total television households, the flattening out of subscribers as a percentage of homes passed, and the fact that only 13.6 percent of television households do not subscribe to some form of multichannel video programming distribution service,[75] all are consistent with the conclusion that cable is approaching a saturation point. The KAGAN projections for 2010 in Table 21 are also consistent with this conclusion, showing cable penetration of television households in 2010 at 61.4 percent and an average annual subscribership growth rate from 2001-2010 of under one percent, slower than the expected growth rate for television households.

The expected decline in cable penetration of television households is undoubtedly due in part to the development of other attractive delivery systems, e.g., DBS. Chapter VI discusses DBS and presents and analyzes comparative data on cable and DBS penetration. It should be noted that the pattern of consumer demand for new non-video and video services that cable and, in some cases DBS, will offer will also affect penetration patterns. For example, cable operators provide or will provide high-speed Internet access and cable telephony, as well as video-on-demand. Strong consumer take up of these services (not all of which can be provided in a comparable way by DBS) could lead to a higher than expected cable subscribership in the future.

Cable Operator Revenues

Table 22 provides comparative data on cable operator revenues. Perhaps the most striking feature of the table, consistent with the discussion in the previous paragraph, is the expected jump in "advanced services" (e.g, Internet access, cable telephony) revenues. The jump in subscription revenues for advanced analog and digital services attests to the value subscribers apparently place on expanded programming choice. Pay-per-view and video-on-demand revenues are currently quite modest, but are poised to increase, and the data show a modest increase in home shopping and advertising revenues for cable operators.[76] These share increases come at the expense of the traditional basic and pay subscription categories. Basic

[75] *See* Video *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Docket No. 01-129, Eighth Annual Report ("2001 MVPD Competition Report"), 17 FCC Rcd 1244, 1338.

[76] Advertising is an important source of revenue for cable networks. See Chapter X.

subscription revenues are expected to continue growing significantly in absolute terms, but pay revenues will grow, and indeed already have been growing at a very low

Table 22. Cable Operator Revenues ($mil)

	1990	1995	2000	2001	2010p
Cable Operator Revenue					
Basic/Expanded Basic	10,674	16,860	24,729	27,031	41,890
Premium Revenue ("Pay")	5,105	4,306	5,115	5,617	6,961
PPV/VOD	253	498	751	993	5,623
Advanced Analog/Digital	0.0	30	1,088	2,365	11,407
Home Shopping Commissions	96	129	239	260	530
Advertising Revenue	476	1,075	2,430	2,430	6,216
Install and Equipment Revenue	1,068	1,888	2,451	2,463	2,698
High-speed Internet access, cable telephony, and video games	0.0	0.0	1,164	2,835	19,316
Total Revenue	**17,672**	**24,786**	**37,967**	**43,994**	**94,641**
Percent of Total Revenue					
Basic/Expanded Basic	60.4%	68.0%	65.1%	61.4%	44.3%
Premium Revenue ("Pay")	29.0%	17.4%	13.5%	12.8%	7.4%
PPV/VOD	1.4%	2.0%	2.0%	2.3%	5.9%
Advanced Analog/Digital	0.0%	0.1%	2.9%	5.4%	12.1%
Home Shopping Commissions	0.5%	0.5%	0.6%	0.6%	0.6%
Advertising Revenue	2.7%	4.4%	6.4%	5.5%	6.6%
Install and Equipment Revenue	6.0%	7.6%	6.4%	5.6%	2.9%
High-speed Internet access, cable telephony, and video games	0.0%	0.0%	3.1%	6.4%	20.4%

Sources: (1990-2001): Kagan World Media, Cable TV Investor, May 24, 2002, at 9; (2010p): Kagan World Media, Kagan's 10-Year Cable TV Industry Projections, Broadband Cable Financial Databook 2002, July 2002, at 10.

rate. This is true notwithstanding an increase in the number of pay channels and pay service subscriptions. The likely explanation for this is increased competition from home video. The same phenomenon also possibly explains the low level of PPV revenues.

The Competitive Impact of Cable on Broadcast Television

Considering the enormous value that consumers continue to place on cable television viewing options, it is no wonder that (as documented in Chapter IV) viewership shares of non-premium cable networks have continued to grow over the past decade, while viewership shares of broadcast television stations have steadily declined. Both cable subscribership and viewing patterns in cable households depend on the menu of programming offered by cable. Growth in programming options (both in terms of an increased number of networks offered and increased quality of programming) have and will continue to increase the popularity of cable television relative to broadcast television.

Programming Choice Factors

Chapter X contains a detailed examination of cable programming. For now, it is important to note that, while cable's collective share of the viewing audience has been increasing over the years, ratings for individual networks (and programs) remain quite low. The Television Bureau of Advertising provides an analysis of "season-to-date" network ratings, covering the period from August 27, 2001-May 26, 2002.[77] It shows the following prime time ratings for the major broadcast networks: NBC 8.6, CBS 8.0, ABC 6.4, and Fox 5.0. The corresponding figures for the top four cable networks are: Lifetime 1.7, TBS 1.4, TNT 1.4, and USA 1.3.[78] The same source provides a listing of the top 100 programs on broadcast and cable for various periods.[79] The May 2002 compilation reveals that 92 of the top 100 programs were on broadcast television. The top five were all broadcast programs. Their ratings ranged from 12.8-16.0. The highest-rated cable program was number 76, and the ratings for the top five cable programs ranged from 2.0-3.4. The eight cable programs that ranked within the top 100 included three from children's network Nickelodeon, one MTV reality program ("The Osbournes"), one professional wrestling show, and three Sunday night movies on Lifetime.

These data illustrate that, while cable programmers do provide some general interest channels, in the mold of traditional broadcast services, in many cases, they program to a particular audience niche, e.g., children, young adults, sports fans, etc. One additional niche worthy of note is news. Chapter X documents the significant increase in news service provided via cable, including in many markets local news. Ten years ago local broadcast stations were the only providers of local television news.

Technological Factors

Cable operators have invested substantial sums over the past decade to upgrade channel capacity, both by expanding bandwidth and by employing digital compression. From 1990 to 2000, the share of cable subscribers served by cable systems with 54 or more analog channels increased from 24 percent to 62 percent.[80] In the absence of information on the number of channels devoted to digitally compressed signals and the precise compression ratio used, however, it is not possible to infer from these data the number of channels available to cable subscribers. The Commission's recent cable industry price survey provides some data on this subject.

Table 23 provides survey data on cable system capacity and channel allocation as of July 2001. It shows that approximately two–thirds of all cable systems have facilities

---

[77] "Season-to-Date Broadcast v. Cable Primetime Ratings: 2001-2002," in "Viewer Track" section, available at http://www.tvb.org/rcentral.

[78] Cable networks tend to have somewhat lower total day ratings compared to prime time. *See e.g,* Kagan World Media, Cable Programming Investor, at 11

[79] "Top 100 Programs on Broadcast & Cable: May-2002," in "Viewer Track" section, available at http://www.tvb.org/rcentral.

[80] Warren Publishing, Television and Cable Factbook: 1990 Edition, at C-385, and 2001 Edition, at F-2.

that provide bandwidth of 750 MHz or above. The average system capacity in the survey is 659 MHz and it devotes 82.5 channels, or 495 MHz, to video delivery.[81] If the

Table 23; System Capacity, July 2001

Average system capacity (MHz)	659
Percent of Cable Systems with capacity of:	
330 MHz and below	8.40%
331 through 749 MHz	25.65%
750 MHz and above	65.95%
Number of 6-MHz activated channels:	
Devoted to analog service	70.95
Devoted to digital service	11.55
Total number of channels	82.5

Source: *Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992*, *Statistical Report on Average Prices for Basic Service, Cable Programming Services, and Equipment*, MM Docket No. 92-266, Report on Cable Industry Prices, 17 FCC Rcd at 6313, Tbl. 11 (2002). These figures are based on sampling derived from a survey administered by the Commission. For detailed survey methodology, *see Id*., 17 FCC Rcd at 6304.

digital channels are provided at a 10:1 compression ratio, then the average system could, in theory, be offering 187 channels.

The combination of increased channel capacity and, as documented above, a growing share of television households passed by cable and, since 1994, DBS, means cable networks can begin to approach the national reach of the biggest broadcast networks. The big four broadcast networks each reach around 98 percent of television households. KAGAN provides subscribership data for cable networks as of June 30, 2002.[82] Utilizing the January 2002 television household estimate of 105.5 million, the largest cable network, TBS, reached 83 percent of television households, and 11 other cable networks reached at least 80 percent of television households. In 1990, the largest cable network was ESPN, and it reached only 62 percent of television households.[83]

The relatively slow growth of individual cable network audience sizes suggests that even the mass appeal cable networks will not soon approach the audience size of broadcast networks. The increases in channel capacity and homes passed, however, do suggest that the gap between cable network and broadcast network audience sizes, which has been narrowing, will continue to do so. And the same factors suggest that cable subscribers will have an increasingly wide range of program channels from which to choose, so that cable will continue to chip away at total broadcast audience sizes.

[81] The remaining capacity its used to provide non-video services such as high-speed Internet access services and cable telephony.
[82] Kagan World Media, Cable Program Investor, July 29, 2002 at 14.
[83] Kagan World Media, Economics of Basic Cable Networks 2002, at 50. TVHH from Table 1

In addition, at the time of Working Paper 26, VOD was a relatively fledgling product. These services were expected to attract subscribers because of the improved quality and advanced timeshifting capabilities these technologies could offer. Because cable operators have instead shifted the focus to system upgrades and installation of digital capability, cable operators have yet to launch VOD widespread. Many are waiting until their systems are fully digital-ready before launching VOD. As discussed in Working Paper 26, video-on-demand and pay-per-view allow the customer greater flexibility than broadcast services, increasing the relative value of these MVPD platforms compared to broadcasting. The economics of VOD and PPV also could have significant potential to impact the broadcast market because the ability to charge for single highly-valued events could come closer than conventional cable services to measuring consumer's tastes for programming.

Psychological Factors That Influence Cable Viewing

It appears that many cable subscribers watch broadcast channels in part out of habit and in part due to lack of good information on cable program availability. While consumer habit may be reasonably stable, multichannel video programmers are devising technologically advanced ways to disseminate programming information to consumers.

While most changes in viewer habit are largely evolutionary, versus revolutionary, certain events may accelerate the process of change, increasing both cable subscribership and viewing of cable by subscribers. For example, since the Persian Gulf War, consumers have become accustomed to 24-hour news coverage of world-wide and national interest events. Again, a gradual shift in viewing patterns is more likely than a radical change in the relative popularity of broadcast television and cable. Willingness to subscribe to cable may be sensitive to income as well as programming choices and habitual or convenience factors. Economic theory shows that one would expect the demand for cable services to increase as consumers' income rises.[84]

Conclusions

Cable television has significantly expanded the reach of non-broadcast networks. These services are very valuable to viewers because they provide highly targeted programming not otherwise available. Although cable subscriber growth appears to be slowing, increased channel capacity and flexibility in viewing options may make cable subscribers shift viewing more to cable programming from broadcast. Again, radical

[84] In its 2001 Annual *Report on Cable Industry Prices* ("Price Survey"), the Commission analyzed demand for cable services by creating a demand equation model. Based on its analysis, the Commission found that changes in median household income has a direct relationship to demand (i.e., as this variables increases, the demand for cable service increases), since, as income rises, households can better afford cable service. *Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992*, *Statistical Report on Average Prices for Basic Service, Cable Programming Services, and Equipment*, MM Docket No. 92-266, Report on Cable Industry Prices, 17 FCC Rcd 6313 (2001).

changes in the popularity of cable programming are not anticipated and changes in the relative popularity of cable over broadcast will likely be evolutionary not revolutionary.

VI. Direct-to-Home Satellite Transmissions

The most significant technological advance in the distribution of video media of the last ten years is the widespread deployment of direct broadcast satellite systems. In 1990, direct-to-home satellite transmission services (also known as "satellite-to-home") were comprised mostly of home satellite dish systems in the C-Band. As Table 24 shows, in 1990, there were approximately 760,000 C-Band subscribers.[85] By year-end 2001, however, there were less than one million home satellite C-Band subscribers left, but

Table 24: Direct-to-Home Subscribers and Cable Subscribers

	1985	1990	1995	2000	2001	2010p
Total Households[(1)] (mil)	87.6	94.8	97.5	104.1	107.4	123.3
TV Households[(1)] (mil)	85.9	93.1	95.9	102.2	105.5	121.1
Cable Subscribers (mil.)	36.7	51.7	62.1	68.5	68.6	74.3
Satellite Subscribers (mil.)	0.0	0.8	4.6	16.0	18.7	27.0
C-Band Subscribers[(2)] (mil)	0.0	0.8[(3)]	2.4	1.2	0.8	0.0
DBS Subscribers (mil)	0.0	0.0	2.2	14.8	17.9	27.0
Satellite + Cable Subscribers (mil)	36.7	52.5	66.7	84.5	87.3	101.3
Satellite Subs/TVHH (%)	0.0%	0.9%	4.8%	15.7%	17.7%	22.3%
C-Band Subs/TVHH(%)	0.0%	0.9%	2.5%	1.2%	0.8%	0.0%
DBS Subs/TVHH (%)	0.0%	0.0%	2.3%	14.5%	17.0%	22.3%
Satellite + Cable/TVHH (%)	42.7%	56.4%	69.6%	82.7%	82.7%	83.7%

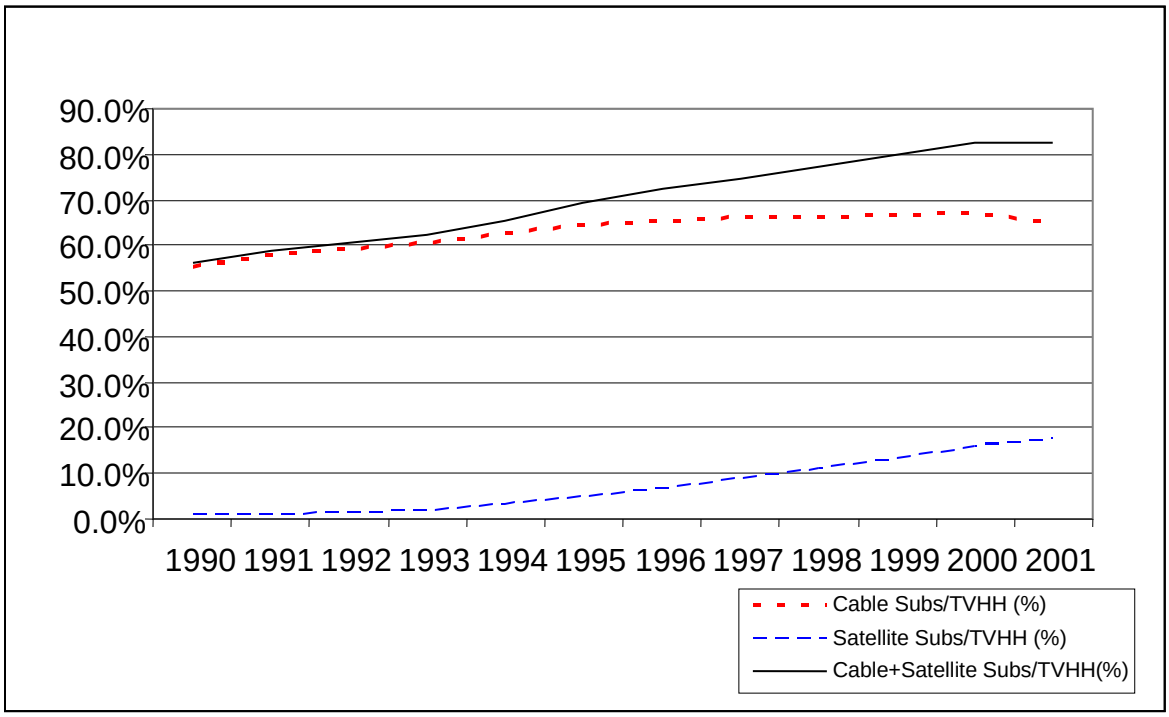
Sources: Total HH and TVHH: (1975-2001):Television Bureau of Advertising, Inc., *Television Households,* Trends in Television, at http://www.tvb.org (citing Nielsen). (2010p): Kagan World Media, Broadband Cable Financial Databook, July 2002, at 10. **Cable Subs:** (1975 and 2010p): Kagan World Media, Broadband Cable Financial Databook, July 2002, at 7 and 10; (1980-2001): Kagan World Media, Cable TV Investor, May 24, 2002, at 9. **DBS and C-Band Subs:** (1995-2010p): Kagan World Media, Economics of Basic Cable Networks 2002, Sept. 2001, at 23-27. **C-Band Subs:** (1990): 1995 MVPD Competition Report at Table G-1.
Notes:
* All data is year-end unless otherwise noted.
[(1)]Except where otherwise noted, data is reported by the source as of Jan 1 of the next year (e.g., figure reported for 2001 are actually Jan 1, 2002).
[(2)] Receipt of video programming through the use of a C-Band dish does not require a subscription, therefore there are a greater number of C-Band users than there are C-Band subscribers. There is no way to track the total number of C-Band users, only the number of subscribers.
[(3)] 1991 Data.

more than 17.9 million direct broadcast satellite subscribers, together comprising nearly 20 percent of the subscription video market.[86] In fact, in the last ten years, the rapid growth of the subscription video services market has been largely due to direct to home

[85] In 1990, there were approximately 1.4 million active C-Band users, of which more than half subscribe to packaged programming services. *See* Working Paper 26, at 95.
[86] C-Band and DBS make up 20 percent of the total MVPD market. *See* Table of Competing technologies in the 2001 MVPD Competition Report, 17 FCC Rcd 1244, 1338.

satellite services, namely direct broadcast satellite services. Figure 1 shows that the usage of cable and satellite services combined appears to be leveling off at around 83 percent of television households.[87] Projections for 2010 cable and satellite subscribership indicate that usage will continue this pattern.[88]

Figure 1: Cable and Satellite Usage: Subscribers/TVHH (%)



Source data:
TVHH: Television Bureau of Advertising, Inc., Trends in Television, at http://www.tvb.org (citing Nielsen). Cable Subs: Kagan World Media, Cable TV Investor, May 24, 2002, at 9. Satellite Subs: Kagan World Media, Economics of Basic Cable Networks 2002, Sept. 2001, at 23-27, except 1990 C-Band Subs: 1995 MVPD Competition Report at Tbl G-1.

Direct-to-Home Satellite Services

Direct-to-home satellite systems ("satellite-to-home") use satellites to deliver video programming directly to subscribers. As Table 24 indicates, there are two types of satellite-to-home services: home satellite dish ("HSD") services in the C-Band frequency, and direct broadcast satellite ("DBS") services in the Ku-band frequency. Both offer subscribers many of the same video programming services typically provided by cable systems, in addition to some offerings not typically available from cable systems.

[87] Since DBS does not provide local broadcast stations in every market and some subscribers subscribe to both cable and DBS services. We do not account for the overlap in this regard.
[88] Kagan World Media, Broadband Cable Financial Databook, July 2002 at 10, and The State of DBS 2001 at 3.

Home Satellite Dish

HSD is the original satellite-to-home service offered to consumers, and involves the home reception of signals transmitted by satellites operating generally in the C-Band frequency.[89] HSD technology was first developed in 1976, and commercialized in 1980. HSD users employ a 4-8 foot dish to receive unscrambled programming for free (subject to section 705(b) of the Communications Act),[90] and scrambled programming purchased in a secondary market from program packagers that are licensed to facilitate subscribers' receipt of video programming.

Owners of HSD systems have access to more than 500 channels of programming placed on C-Band satellites by programmers. Approximately 350 of these programming channels are unscrambled and approximately 150 are scrambled.[91] In order to receive one or more scrambled channels, an HSD owner must purchase an integrated receiver-decoder ("IRD") from an equipment dealer and then pay a monthly or annual subscription fee to a program packager. HSD systems are typically designed to receive programming from several different satellites at several different orbital locations. As such, most HSDs include motors that permit the receiving dishes to rotate and receive signals from these many satellites. Space considerations and zoning regulations restrict many viewers' ability to install the large antenna needed for HSD reception.

At its peak of popularity in 1994, there were an estimated 4.5 million active HSD users, roughly half of whom subscribed to one or more programming services.[92] As Table 24 shows, however, that the number of HSD subscriptions appears to have peaked in 1995, with an estimated 2.4 million authorized subscribers. As of year-end 2001, there were a little less than 1 million home satellite dish system subscribers remaining, and an unknown number of active system users. Much of the decline in HSD subscribership results from owners switching to DBS services. Not only are DBS systems smaller in size and easier to maintain, but they are also less expensive than the typical HSD equipment.

Future growth of the HSD industry is unlikely. Nevertheless, HSD remains the delivery vehicle for a core, niche contingent of satellite subscribers. Many existing HSD transponder leases extend past 2010, and in 2000, six new satellites were launched to replace older satellites.[93] The primary use of these satellites will be to distribute programming to cable headends, but they can also serve the HSD industry.

---

[89] Satellites in the C-Band frequency are also used to transmit programming to cable operators via C-Band receiving dishes at the cable central office or "headend."
[90] *See* 47 U.S.C. § 605(b) (satellite cable programming for private viewing).
[91] *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, CS Docket No. 97-141, Fourth Annual Report ("1997 MVPD Competition Report"), 13 FCC Rcd 1034, 1077 ¶ 68 (1998).
[92] How Many DTH Households Are Out There Anyway?, SkyReport, Oct. 1994, at 1.
[93] *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Docket No. 00-132, Seventh Annual Report ("2000 MVPD Competition Report"), 16 FCC Rcd 6005, 6045 ¶ 85 (2001).

Furthermore, new, digital equipment for C-Band HSD systems continue to be developed and made available to subscribers.[94]

Direct Broadcast Satellites – Medium Power DBS

At the time of the release of Working Paper 26, medium power Ku-band, Fixed Satellite Service (also referred to as "medium power DBS"), was being offered to consumers by Primestar Partners, LP.[95] Primestar was a joint venture owned by five of the major cable MSOs and GE American Communications, Inc., which owned the satellite used by Primestar. Primestar began operating as a medium-power Ku-band service provider in 1991. Subscribers used a 36 or 40 inch dish to obtain programming. At year-end 1998, prior to it's acquisition by high-power DBS operator DirecTV, Primestar offered 160 channels of video programming, similar in type to the programming now being offered by DirecTV.[96]

Over the last ten years many other entrants (other than Primestar), have received licenses to offer medium power DBS service and a few actually offered service. None of these firms ever attained significant subscribership, and none remain in the market today.

Direct Broadcast Satellites – High Power DBS

High-power Ku-band DBS service is also known simply as DBS. DBS offers high-power satellite service to subscribers who have a special 18-inch receiving dish. Each DBS operator transmits over 200 channels of video programming to subscribers from specific orbital locations. Permissible orbital locations are established by international telecommunications regulations (treaties) and Commission rules. Since launched in 1994, DBS has advanced substantially as a viable competitor to cable and

---

[94] *Id.* Although most C-Band satellite receivers are analog and do not receive digital signals, C-band customers may buy a digital decoder/receiver in order to access and view digital programming.
[95] Inquiry into the Development of Regulatory Policy in Regard to Direct Broadcast Satellites, Docket No. Report & Order, 90 FCC 2d 676 (1982).
[96] Kagan World Media, *The State of DBS* 2002, July 2002, at 56.

broadcast television.[97] Currently there are two major DBS operators offering service to consumers: DirecTV, owned by Hughes Corp., and Echostar Corp.[98]

Table 24 shows that DBS subscribership has grown substantially since it began offering service in 1994. At the end of 1994, DBS service had approximately 600,000 subscribers.[99] By year-end1995, there were more than 2.2 million subscribers. As Exhibit 1 shows, subscribership has continued to climb. At year-end 1996, there were about 4.3 million DBS subscribers; by year-end 1997, there were more than 6.4 million DBS subscribers; by year-end 1998, there were more than 8.8 million medium-power and high-power DBS subscribers; and as of year-end 2000, DBS providers had nearly 14.8 million subscribers. As of year-end 2001, there were approximately 18 million DBS subscribers. As of June 2002, DirecTV was providing service to more than 10 million subscribers, and Echostar had approximately 7.5 million subscribers. [100] There is some overlap, however, between cable and DBS subscribership. Of the approximately 60

---

[97] On June 17, 1994, DirecTV and United States Satellite Broadcasting Co., Inc. ("USSB") began providing high-power DBS service via a jointly owned satellite. *Implementation of Section 19 of the 1992 Cable Act* (*Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*), CS Docket No. 94-48, First Report ("1994 MVPD Competition Report"), 9 FCC Rcd 7442 ¶ 63 (1994). Echostar Communications Corp. initiated service in March 1996. Echostar Communications Corp., *Echostar II Reaches Final Orbit* (press release), Sept. 30, 1996.

[98] In 1999, DirecTV merged with USSB. *See* United States Satellite Broadcasting Co., Inc. Transferor and DirecTV Enterprises, Inc. Transferee*; For Consent to Transfer of Control of the United States Satellite Broadcasting Co., Inc. and DirecTV Enterprises, Inc. for Consent to Transfer Control of the USSB II Authorization to Operate a Direct Broadcast Satellite System Using Five Channels at the 101° W.L. Orbital Location; Authorization to Construct, Launch, and Operate a Direct Broadcast Satellite System Using Three Channels at 110° W.L. Orbital Location; and the Related Earth Registration*, (Call Sign E930437); Order and Authorization, 14 FCC Rcd 4585 (1999). In 1999, Hughes, the parent company of DirecTV, acquired PrimeStar. *See Tempo Satellite, Inc., Assignor and DirecTV Enterprises, Inc., Assignee, Application for Consent to Assign Authorization to Construct, Launch and Operate a Direct Broadcast Satellite System Using 11 Frequencies at the 119 degrees W.L. Orbital Location, TCI Satellite Entertainment, Inc., Transferor And Primestar, Inc., Transferee, Application for Transfer of Control of Tempo Satellite, Inc. Echostar Satellite Corporation And Directsat Corporation, Applications for Special Temporary Authority to Operate a Direct Broadcast Satellite System*, Order and Authorization ("Primestar Order"), 14 FCC Rcd. 7946 (1999).Dominion Video Satellite, Inc., a self-described Christian, family oriented DBS service, uses 2 transponders on an Echostar satellite offering 20 channels of video programming. Dominion has fewer than 1 million subscribers, and estimates that 60 to 65 percent of its subscribers also subscribe to Echostar's DISH Network. 2000 MVPD Competition Report, 16 FCC Rcd at 6038 ¶ 64. The Commission has granted the authority for R/L DBS Company to provide DBS service, but it has yet to commence service *In re: Application of R/L DBS Company For Assignment of Continental Satellite Corporation's Direct Broadcast Satellite Construction Permit*, Memorandum Opinion and Order, DA 97-725 (1997); In re: Petition of *R/L DBS Company, LLC, For Extension of its Direct Broadcast Satellite Construction Permit*, Memorandum Opinion and Order, DA 00-2852 (2000).

[99] Kagan World Media, The State of DBS 2002, July 2002, at 4.

[100] Hughes Electronics Corp, *Hughes Second Quarter 2002 Results TS Driven By Strong DirecTV U.S. Financial Performance* (press release), July 15, 2002; Hughes Electronics Corp., http://www.directv.com/DTVAPP/see/Landing.jsp; Echostar Communications Corp., *Echostar Reports Second Quarter 2002 Financial Results* (press release), August 15, 2002.

percent of DBS subscribers with access to cable, around 24 percent subscribe to cable in addition to DBS, primarily to receive local broadcast signals.[101]

DBS Public Interest Obligations[102]

On November 19, 1998, the Commission adopted rules implementing Section 25 of the 1992 Cable Act, which imposed certain public interest obligations on DBS providers.[103] The statute requires DBS service providers to set aside a percentage of channel capacity for non-commercial programming of an educational or informational nature. In implementing the statutory requirement, the Commission ruled that DBS providers must set-aside four percent of their channel capacity exclusively for non-commercial programming of an educational or informational nature.[104] In carrying out Congress's mandate, the Commission balanced two important goals -- providing DBS subscribers access to a greater diversity of non-commercial, educational programming, and providing flexible rules for an industry that promises to provide significant competition to cable television. As specifically required by statute, DBS licensees must also comply with the political broadcasting rules of Section 312(a)(7) of the Communications Act, granting candidates for federal office reasonable access to broadcasting stations, and Section 315 of the Act, which requires that licensees provide equal opportunities for those candidates to use broadcast stations at the lowest unit charge.

DBS as a Competitor in the Market for Multichannel Video Programming Distribution

Today, DBS is a significant competitor in the market for the delivery of multichannel video programming distribution service ("MVPD"). DBS systems are a particularly significant source of MVPD services in areas where cable is not available. Furthermore, DBS provides a much higher channel capacity than most, if not all, cable systems choose to provide, thereby opening the market further for niche programming that could not be supported otherwise, providing highly-targeted advertising opportunities. Like cable, DBS operators offer video programming packages for a monthly fee, premium channels, and pay-per-view services.

DBS services offer many features that consumers rate highly, such as digital picture quality, compact disc sound clarity, increased channel capacity and programming options, and near video-on-demand movies. For many consumers, the

---

[101] *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, CS Docket No. 99-230, Sixth Annual Report ("1999 MVPD Competition Report"), 15 FCC Rcd 978, 1011-1012 ¶ 70 (2000).
[102] Cable also has public interest obligations. See Chapter VI.
[103] Implementation of Section 25 of the Cable Television Consumer Protection and Competition Act of 1992, Direct Broadcast Satellite Public Interest Obligations, MM Docket No. 93-25, Report and Order, ("DBS Public Interest Order"), 13 FCC Rcd 23254 (1998).
[104] See Federal Communications Commission, Commission Implements Public Interest Obligations for Direct Broadcast Satellite Service, MM Docket 93-25, FCC News Release (Nov. 19, 1998).

large number of channels and programming variety was the initial draw to DBS services, especially sports and movies. DBS offers certain packages of out-of-market sports programming not elsewhere available to consumers.

DBS providers have also begun to offer two-way high-speed Internet access to consumers. For example, DirecTV offers two-way Internet access services to their subscribers under the brand name DirecPC, and consumers can receive video and high-speed Internet access through one satellite dish called the DirecDUO.[105]

In addition, DirecTV and EchoStar both provide subscribers with high-definition television ("HDTV") programming. In 2001, DirecTV premiered HDNet, an HDTV channel that will show Major League Baseball games, National Hockey League games, qualifying events for the 2002 Winter Olympic games, and other non-sports entertainment programming.[106] DirecTV also carries HBO, Showtime, and select pay-per-view movies in HDTV format.[107] EchoStar carries HBO, Showtime, CBS, Discovery, and select pay-per-view movies in HDTV format.[108]

The primary disadvantage of DBS with respect to cable television systems has traditionally been the relative availability to carry local network signals via satellite systems. In the past, both copyright law and technical limitations on channel capacity restricted the ability of DBS providers to carry local broadcast signals. In turn, this appears to have impeded DBS's ability to compete effectively with cable television.

In 1988, Congress passed the Satellite Home Viewer Act ("SHVA").[109] SHVA granted a limited exception to the exclusive programming copyrights enjoyed by television networks and their affiliates because it recognized that some households were unable to receive network station signals over the air.[110] The exception was a narrow compulsory

---

[105] *See* http://www.direcpc.com. DirecTV also continues to offer its one-way high-speed access service, with a telephone line return path.
[106] Monica Hogan, *DirecTV Readies HDTV Sports Net*, Multichannel News, Sept. 4, 2001.
[107] Monica Hogan, *DirecTV Readies HDTV Sports Net*, Multichannel News, Sept. 4, 2001. To receive DirecTV's HDTV service, subscribers must purchase either an HDTV set with a built-in DirecTV receiver, or a separate decoder box, and a second satellite dish that is capable of receiving the signals. *See* http://www.directv.com:80/yourservice/yourservicepages/0,1125,384,00.html.
[108] Monica Hogan, *DirecTV Readies HDTV Sports Net*, Multichannel News, Sept. 4, 2001. To receive EchoStar's HDTV service, subscribers must purchase a second dish, use a specialized decoder box, and pay an extra fee. *See* http://www.dishnetwork.com/content/programming/locals/cbshd/index.shtml and http://www.dishnetwork.com/ppv/features/hdtv/hdtv.html.
[109] 17 U.S.C. § 119.
[110] H.R. Rep. No. 103-703, at 5 (1994) (Congress enacted the SHVA so that "households that cannot receive over-the-air broadcasts or cable can be supplied with television programming via home satellite dishes"); S. Rep. No. 103-407, at 5 n.2 (1994) (the restriction on satellite delivery of network signals "actually refers to those geographic areas where subscribers are unable to receive the signal of a particular network"); H.R. Rep. No. 100-187(I), at 14-15, 18, 26, *reprinted in* 1988 U.S.C.C.A.N. 5638 (1988) ("The distribution of network signals is restricted to unserved households; that is, those that are unable to receive an adequate over-the-air signal.").

copyright license that direct-to-home (DTH) satellite video providers[111] were allowed to use for retransmitting signals of a defined class of television network stations[112] "to persons who reside in unserved households" (also known as “white areas”).[113] SHVA also contained a "superstation" compulsory copyright license with no geographic restrictions. Under SHVA, DirecTV and Primestar and Echostar each offered retransmission of distant broadcast signals to unserved households.

On November 29, 1999, a revision of the Satellite Home Viewer Act (“SHVA”) was enacted.[114] Under the Satellite Home Viewer Improvement Act of 1999 ("SHVIA"), satellite providers are allowed to retransmit television broadcast signals on a local into local basis. During the six month period after the date of the enactment of SHVIA, DBS providers were allowed to retransmit local signals without consent.[115] Thereafter, DBS operators were subject to retransmission consent rules similar to those established for cable operators.[116]

SHVIA also directed the Commission to undertake and complete rulemakings related to satellite carriage of broadcast stations within one year of enactment on November 29, 2000. As required by SHVIA, the Commission established rules to implement carriage of broadcast signals, retransmission consent, and program

---

[111] More specifically, the license is available to satellite carriers defined as an entity that uses the facilities of a satellite or satellite service licensed by the Commission and operates in the Fixed-Satellite Service under part 25 of title 47 of the Code of Federal Regulations.

[112] Under 17 U.S.C. § 119(d)(2), the term "network station" means: (A) a television broadcast station, including any translator station or terrestrial satellite station that rebroadcasts all or substantially all of the programming broadcast by a network station, that is owned or operated by, or affiliated with, one or more of the television networks in the United States which offer an interconnected program service on a regular basis for 15 or more hours per week to at least 25 of its affiliated television licensees in 10 or more States; or (B) a noncommercial educational broadcast station (as defined in section 397 of the Communications Act of 1934)

[113] 17 U.S.C. §§ 119(a)(1), (d)(9), and (d)(10). The term "unserved household” is defined by SHVA as a household that: (A) cannot receive, through the use of a conventional outdoor rooftop receiving antenna, an over-the-air signal of grade B intensity (as defined by the Federal Communications Commission) of a primary network station affiliated with that network, and (B) has not, within 90 days before the date on which that household subscribes, either initially or on renewal, to receive secondary transmissions by a satellite carrier of a network station affiliated with that network, subscribed to a cable system that provides the signal of a primary network station affiliated with that network.

[114] Pub. L. No. 106-113, § 1000(9), 113 Stat. 1501 (enacting S. 1948, including the Satellite Home Viewer Improvement Act of 1999 ("SHVIA"), Title I of the Intellectual Property and Communications Omnibus Reform Act of 1999 ("IPACORA"), relating to copyright licensing and carriage of broadcast signals by satellite carriers, codified in scattered sections of 17 and 47 U.S.C.).

[115] *See* 47 U.S.C. § 325(b)(2).

[116] *See* 47 U.S.C. § 325(b)(3)(C)(I) directing the Commission to establish election time periods for satellite carrier retransmission consent consistent with those established pursuant to the 1992 Cable Act.

exclusivity with respect to satellite carriage of broadcast stations.[117] Pursuant to SHVIA, these rules require that where a DBS provider chooses to offer local-into-local service pursuant to the statutory copyright license, it must carry all of the local stations within that market that request carriage.[118]

As of October 2002, DirecTV will offer for a fee, the local affiliates of ABC, CBS, NBC, and FOX in 51 markets, and a national PBS feed with every local station package.[119] Similarly, EchoStar transmits a local network package to its subscribers for a fee, and offers the national PBS feed as an added option.[120] DirecTV reports that its overall subscriber levels have increased by 20 percent due to the provisioning of local broadcast channel service, and that 47 percent of its customers to whom it is available take a local channel package.[121]

The vertical integration of non-broadcasting programming networks with cable operators is also an issue of continuing concern for DBS providers. The Commission's "program access rules," first adopted in 1993, prohibit unfair and discriminatory acts and prohibit or limit the types of exclusive programming contracts that may be entered into between cable operators and vertically-integrated programming vendors. In essence, the rules guarantee DBS access to satellite-delivered cable programming. DBS considers access to cable origination programming very important.[122] The program

---

[117] Implementation of the Satellite Home Viewer Improvement Act 1999: Broadcast Signal Carriage Issues, Retransmission Consent Issues, CS Docket Nos. 00-96, 99-363, Report and Order, 16 FCC Rcd 1918 (2000); Technical Standards for Determining Eligibility For Satellite-Delivered Network Signals Pursuant To the Satellite Home Viewer Improvement Act, ET Docket No. 00-90, Report, 15 FCC 24321 (2000); Implementation of the Satellite Home Viewer Improvement Act of 1999: Application of Network Non-Duplication, Syndicated Exclusivity, and Sports Blackout Rules To Satellite Retransmissions of Broadcast Signals, CS Docket No. 00-2, Report and Order, 15 FCC 22548 (2000); Implementation of the Satellite Home Viewer Improvement Act of 1999, Enforcement Procedures for Retransmission Consent Violations, Order, 15 FCC Rcd 2522 (2000); Implementation of the Satellite Home Viewer Improvement Act of 1999, Retransmission Consent Issues: Good Faith Negotiation and Exclusivity, CS Docket No. 99-363, First Report and Order, 15 FCC Rcd 5445 (2000).

[118] SHVIA provides DBS carriers with the opportunity to carry local stations in a Designated Market Area ("DMA") pursuant to a statutory copyright license similar to the one provided cable operators. If DBS carriers elect this option in a DMA, however, they must carry all the local stations in the DMA, effective January 1, 2002. The satellite industry challenged the SHVIA must-carry provisions. *See* DirecTV, Echostar, SBCA v. FCC & USA, No. 01-1151 (Fourth Circuit). In this consolidated case, the satellite carriers sought review of the Commission's Order implementing the statute. They also appealed a June 19, 2001, judgment of the United States District Court for the Eastern District of Virginia, which granted the government's motion to dismiss their complaint challenging the SHVIA. On December 7, 2001, the United States Court of Appeals for the Fourth Circuit denied these petitions for review and affirmed the United States District Court for the Eastern District of Virginia's opinion. *See Satellite Broadcasting and Communications Association v. FCC*, No. 01-1151 *et al.* (4th Cir. 2001). The Supreme Court has denied these petitions as well. *Satellite Broadcasting Communications Assoc v. FCC*, 275 F.3d 337 (4th Cir. 2001), cert. denied, 122 S. Ct. 2588 (2002).

[119] Satellite Business News Fax Update, Sept. 25, 2002.

[120] *See* http://www.skyreport.com/skyreport/local.htm.

[121] 2001 MVPD Competition Report, 17 FCC at 1273-74 ¶ 59.

[122] *See* 2001 MVPD Competition Report, 17 FCC Rcd at 1314.

access provisions, however, only apply to satellite delivered programming.[123] Programming services distributed by any other means are not subject to the program access requirements.[124] As a result, some argue that vertically-integrated programming vendors may have the incentive and ability to modify the distribution of their programming, using fiber optics or other non-satellite means, thereby removing the programming from the purview of the program access provisions, and thusly withhold valuable programming from DBS operators.[125] On June 13, 2002, the Commission extended for five years the statutory prohibition on exclusive contracts for satellite-delivered cable or satellite-delivered broadcast programming between cable operators and their affiliated programmers which was set to expire on October 5, 2002, but determined that it does not have the discretion to expand the prohibition to terrestrially delivered programming or non-vertically integrated programming.

DBS has also faced obstacles to competitive success in suburban and urban areas. Although the size of satellite dishes has shrunk significantly over the last ten years, many consumers were faced with local zoning restrictions and limits imposed by building managers and community associations on the use of satellite dishes for the reception of video programming. The Commission has preempted zoning restrictions by landlords, homeowner associations, etc., on dishes 1 meter or less in diameter.[126] Moreover, Commission rules on the use of over-the-air-reception devices ("OTARD"), prohibit restrictions that impair the installation, maintenance or use of antennas used to receive video programming.[127] Effective January 22, 1999, the Commission amended the rule so that it applies to rental property where the renter has an exclusive use area, such as a balcony or patio. The rule applies to viewers who place satellite dishes that meet size limitations on property that they own or rent and that is within their exclusive use or control, including condominium owners and cooperative owners, and tenants who have an area where they have exclusive use, such as a balcony or patio, in which to install the antenna.[128] The rule does not apply to common areas that are owned by a landlord, a community association, or jointly by condominium or cooperative owners. Other conditions, however, may continue to limit DBS access for some viewers. For instance, DBS antennas must face south to receive an acceptable quality signal from

---

[123] *See* I*mplementation of the Cable Television Consumer Protection And Competition Act of 1992, Development of Competition and Diversity in Video Programming Distribution: Section 628(c)(5) of the Communications Act,*
Sunset of Exclusive Contract Prohibition, CS Docket 02-190, Report and Order ("*Program Access Report &* Order") FCC 02-176, ¶¶ 123-41; 8 FCC Rcd at 3416-23; *see also* 47 C.F.R. §§ 76.1000 *et seq.*
[124] *See* 1994 MVPD Competition Report ¶¶ 182-83
[125] For example, regional clustering of systems combined with a system's ownership of one or more regional programming networks may create one such opportunity for cable operators to shift (regional) programming to terrestrial distribution to facilitate denial of the programming to competitors. *See Program Access Report &* Order, FCC 02-176, ¶¶ 123-41.
[126] The satellite dishes may be of any size in Alaska.
[127] 47 C.F.R. § 1.4000
[128] Restrictions on Over-the-Air Receptions Devices: Television Broadcast, Multichannel Multipoint Distribution and Direct Broadcast Satellite Services, CS Docket No. 96-83, Second Report and Order, 13 FCC Rcd 23874 (1998); Restrictions on Over-the-Air Receptions Devices: Television Broadcast, Multichannel Multipoint Distribution and Direct Broadcast Satellite Services, CS Docket No. 96-83, Order on Reconsideration, 14 FCC 19924 (1999).

the satellite, which transmits the video programming service. Therefore, renters and property owners who do not have south-facing exclusive use areas cannot opt for DBS service.[129]

Conclusion

Consumers have adopted the DBS service at one of the fastest rates of any consumer good in history. The presence of DBS in the market for the delivery of video programming has expanded the market such that now almost all televisions households have access to subscription video. In addition, the competitive presence of DBS has forced cable to expand channel capacity and service options. Although DBS cannot now provide the advantage of local advertising availabilities, through its substantially expanded channel capacity, and ability to serve areas not reached by cable, DBS extends carriage opportunities for non-broadcast networks and by providing additional viewers for national advertising opportunities.

Although DBS providers are not required to provide local broadcast signals into local markets, consumer demand has prompted them to provide local-into-local service in many markets.[130] Although this will serve to deliver broadcast television programming even more widely, it will also serve to shore up the popularity of non-broadcast networks and the pay television model. DBS has significantly solidified the pay-TV landscape, and promises to remain an enticing option for consumers for the foreseeable future.

---

[129] DBS also expresses concern regarding potential interference from newly authorized MVDDS service. The Commission has determined, however, that it is technically feasible for MVDDS and DBS to share spectrum and that such sharing can be accomplished under an already existing fixed allocation in the 12.2-12.7 GHz band. This allocation requires that MVDDS not cause harmful interference to incumbent DBS services *See Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency With GSO and Terrestrial Systems in the Ku-Band Frequency Band; Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Licensees and Their Affiliates; and Applications of Broadwave USA, PDC Broadband Corporation, and Satellite Receivers, Ltd., to Provide A Fixed Service in the 12.2-12.7 GHz Band*, ET Docket No. 98-206, RM-9147, RM-92-45, First Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd 4096 (2001).

[130] The DBS signal carriage rules require that where DBS elects to carry a local signal into a local market, it must carry all of the local signals in that market.

VII. Other Video Media Delivery Platforms

Introduction

Consumers have several options for sources of video programming, in addition to free terrestrial broadcast television, cable and DBS. These include Multichannel Multipoint Distribution Service ("MMDS"), cable overbuilders of one kind or another, VHS tapes, DVDs, theatrical films, and IP-based video streams and downloads over the Internet. These video programming sources and viewing options clearly increase viewers' choices and affect the broadcast television market. The cumulative effect of these alternatives may become considerable. As Table 25 suggests, the explosion of cable, DBS and home video, as well as video games has lured viewers away using their television sets to watch only broadcast television. Several of these alternative video programming sources are briefly discussed below.

Table 25: Estimated Share of U.S. TV Home Set Usage by Program Source
Annual Averages

	Early 1950s	Early 1960s	Early 1970s	Early 1980s	Early 1990s	Early 2000s
ABC/CBS/NBC	60%	58%	55%	49%	31%	21%
DuMont	4	-	-	-	-	-
Fox/WB/UPN/PAX	-	-	-	-	2	8
Network Affiliates[131]	30	29	25	23	18	10
Independent Stations[132]	6	11	16	20	16	11
PBS Stations	-	2	4	3	3	3
Pay Cable	-	-	-	4	4	6
Basic Cable[133]	-	-	1	3	20	35
VCR Play	-	-	-	-	5	5
Video Games	-	-	-	1	1	1
PPV	-	-	-	-	-	-[134]
Ave. Hours of Set Usage (Weekly)[135]	35	39	46	51	54	62

Source: Media Dynamics, TV Dimensions 2001 Report (2001).

MMDS

Working Paper 26 discussed video distribution as provided by MMDS. MMDS systems, often referred to as "wireless cable," transmit video programming and other services to subscribers through 2GHz microwave frequencies, using Multipoint Distribution Service ("MDS") and leased access channel capacity on Instructional

[131] Includes syndicated shows.
[132] Excludes WTBS and Fox or other on-air networks; includes syndicated shows.
[133] Includes WTBS.
[134] Less than 1%.
[135] Counts multiple-set usage to different sources at the same time as separate exposures.

Television Fixed Service ("ITFS") channels.[136] At the time of the release of Working Paper 26, MMDS was a promising competitor to traditional wireline cable services. Working Paper 26 noted that wireless cable subscribership was around 180,000 and growing.[137] By year-end 1996, MMDS provided service to almost 1.2 million subscribers.[138] As of December 2001, though, there were only about 700,000 MMDS subscribers out of the 36 million homes capable of receiving an MMDS signal ("homes seen").[139]

Clearly, MMDS has not become a significant competitor in the market for the delivery of video programming since the release of Working Paper 26. MMDS provides competition to the cable industry in limited areas only, and subscribership remains low and declining. Despite its lack of promise as a future competitor in the market for video programming, however, or perhaps because of its lack of promise, many MMDS providers are currently focusing on data transmissions rather than video service. Some believe the MMDS industry is in fact transitioning from offering video programming to offering data services instead. In 1998, the Commission released the *Two-Way Order* permitting MDS/ITFS licensees to construct digital two-way systems that could provide high-speed, high-capacity broadband service, including two-way Internet service via cellularized communication systems.[140] In addition, on September 6, 2001, the Commission adopted a *First Report and Order and Memorandum Opinion and Order* ("*First R&O/MO&O*") in the New Advanced Wireless Services proceeding, which made the spectrum used by MMDS services potentially available for advanced mobile and fixed terrestrial wireless services, including 3G and future generations of wireless systems.[141] The Commission decided not to relocate the existing licensees or otherwise modify their licenses.[142] In addition, the Commission recognized that it will

---

[136]Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act - Competitive Bidding, MM Docket. No. 94-131 and PP Docket No. 93-253, Report and Order, 10 FCC Rcd at 9589, 9593 ¶ 7 (1995).

[137]Working Paper 26, at 110.

[138] Paul Kagan Assoc., Inc., *Wireless Cable Sub Count and Revenue Projections, 1996-2000*, Wireless Cable Investor, Dec. 31, 1996, at 10-11; Paul Kagan Assoc., Inc., *Wireless Cable Sub Cont and Revenue Projections 1997-2001*, Wireless/Private Cable Investor, March 25, 1998, at 4-5.

[139] NCTA, *Cable & Telecommunications Industry Overview 2001*, Cable Television Developments 2001, at 11.

[140] Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions, MM Docket No. 97-217, Report and Order, 13 FCC Rcd. 19112 (1998), recon., 14 FCC Rcd 12764 (1999), further recon., 15 FCC Rcd 14566 (2000).

[141] See Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems, ET Docket No. 00-258, First Report and Order and Memorandum Opinion and Order, 16 FCC Rcd 17222 (2001).

[142] See Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems, ET Docket No. 00-258, First Report and Order and Memorandum Opinion and Order, 16 FCC Rcd 17222 (2001).

have to explore the service rules that would apply to permit mobile operations in the 2.5-2.69 GHz band in a separate future proceeding.[143]

Overbuilders

The term “overbuild” describes the situation in which a second cable operator enters a local market in direct competition with an incumbent cable operator. In these markets, the second operator, or “overbuilder,” lays wires in the same area as the incumbent, “overbuilding” the incumbent’s plant, thereby giving consumers a choice between cable service providers. Many overbuilders are LECs or utility companies as discussed below.

Historically, overbuilding incumbent cable systems has been economically difficult. Overbuilders appear to be attempting to overcome the economic difficulties of overbuilding by building systems that are more advanced than those of the incumbent cable operators. Building advanced systems allows these overbuilders, (also known as broadband service providers or "BSPs"), to offer a bundle of services, such as video, voice, and high-speed Internet access, which may increase per subscriber revenue and decrease churn. Overbuilders, or BSPs, have also become extremely careful in selecting communities to overbuild, focusing their efforts on communities with high population density for the highest potential subscriber base. But even with their selective strategy, BSPs face considerable challenges. BSPs are also facing difficulties in obtaining capital. As a result, many BSPs have scaled back plans, reduced capital expenditures, reduced staffs, or shut down operations altogether.[144] BSPs also face difficulties obtaining franchises. As a result, many BSPs have been taking advantage of open video system rules stemming from the 1996 Act to help them gain entre into local communities. Nevertheless,

At the time of Working Paper 26, the number of overbuilders was relatively small, although overbuild activity picked up significantly in 1995. By June 2001, competing franchises had been awarded covering more than 460 communities in 38 states.[145] However, just because a franchise is awarded does not mean it is operational. After a franchise is awarded, it can take a significant amount of time for the franchisee to build, or gain access to, a network over which to provide video service. For example, in June 1999, Ameritech held 108 franchises but offered service in only 90 communities.

Competition from overbuilders is important part of competition to incumbent cable operators in local markets. But the future of competition from overbuilds is uncertain.

---

[143] See Amendment of Part 2 of the Commission’s Rules to Allocate Spectrum Below 3GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems, ET Docket No. 00-258, First Report and Order and Memorandum Opinion and Order, 16 FCC Rcd 17222 (2001).

[144] See New Broadband Players Retreat From Cable, Telecom Markets, Comm. Daily, Apr. 11, 2001, at 2-3.

[145] Kagan World Media, *Cable TV Franchising Competition,* 1995-1998 *Franchise Awards*, The Broadband Cable Financial Databook, 2001, at 76-79.

Capital constraints are just one of many difficulties being faced by overbuilders. And access to programming remains crucial to their survival.

Utilities

At the time of Working Paper 26, electric and gas utilities were foreclosed from entering the video program distribution marketplace by the Public Utility Holding Company Act of 1935 ("PUHCA"). PUHCA imposed strict "line of business" restrictions on registered public utility holding companies which sought to diversify into telecommunications or information services markets.[146] This changed, however with the 1996 Telecommunications Act. Section 103 of the 1996 Act, which added a new Section 34 to PUHCA, permitted registered public utility holding companies to enter telecommunications industries without prior SEC permission through the acquisition or maintenance of an interest in an "exempt telecommunications company" ("ETC").[147] This removed a significant regulatory barrier which had previously deterred registered public utility holding companies' entry into telecommunications, information services, and video markets.

On September 12, 1996, the Commission adopted final rules to implement Section 103. Following Congress's mandate, the rules provided a straight-forward procedure for determining ETC status, thus expediting the entry of public utility holding companies into the telecommunications industry.[148] Shortly thereafter, registered public utility holding companies entered into partnerships to provide a package of services including video service.

Electric and gas utilities continue to move forward with ventures involving multichannel video programming distribution, but are not yet major competitors in the telecommunications or cable markets.[149] Because electric and gas utilities own fiber optic networks in some areas, and generally have access to public rights-of-way in the areas they serve; however, they could become competitively significant in the future, especially in specific local markets.

---

[146] A registered public utility holding company could only enter into "any business (other than the business of a public utility company as such)" that was reasonably incidental, or economically necessary or appropriate to the operations of one or more integrated public-utility systems…which the [SEC] shall find necessary or appropriate in the public interest or for the protection of investors or consumers and not detrimental to the proper functioning of such systems or systems. PUHCA Section 11 (b)(1).

[147] According to new PUHCA Section 34(a)(1), an ETC is "any person determined by the 'Federal Communications Commission to be engaged directly or indirectly, wherever located, through one or more affiliates (as defined in Section 2(a)(11)(B) of PUHCA), and exclusively in the business of providing: (A) telecommunications services; (B) information services; (C) other services or products subject to the jurisdiction of the Commission; or (d) products or services that are related or incidental to the provision of a product or service described in (A), (B), or (C)."

[148] In re Implementation of Section 34(a)(1) of the Public Utility Holding Company Act of 1935, as added by Section 103 of the Telecommunications Act of 1996, GC Docket No. 96-101, Report & Order, 11 FCC Rcd 11377 (1996).

[149] 2001 MVPD Competition Report, 17 FCC Rcd 1293 ¶ 104.

Some utilities seek to offer video program distribution services on their own, while others, like RCN have partnered with broadband service providers to provide a package of services to consumers. It also appears that some utilities, particularly some municipal utilities in rural areas, have built advanced telecommunications networks offering a full range of services where incumbent cable operators and telephone companies are not willing to do so.

The largest utility to provide video programming distribution services is RCN which operates subscription video services in New York City, Washington, D.C., Washington, D.C. suburbs, South San Francisco, California, Boston, Massachusetts, and its suburbs, Northern New Jersey, and suburbs of Philadelphia.[150] By the first quarter of 2001, RCN passed more than 1.4 million homes and a total of 443,011 video subscribers, although some of these are subscribers to incumbent cable systems it operates. [151]

Although electric and gas utilities are not yet major competitors in the telecommunications or video distribution marketplace, utilities do in many cases, constitute the only competition to incumbent cable operators in specific local markets. But new entrants continue to report difficulties negotiating franchises, entering MDUs, gaining access to equipment, and gaining access to popular programming.[152] (*see* discussion of program access issues in Chapter 10 of this report). If utilities are to remain competitive, many of these issues will need to be addressed.

Local Exchange Carriers

At the time of Working Paper 26, entry into the video marketplace by local exchange carriers ("LECs") was not expected. At that time, local telephone companies were prohibited by statute and federal regulation from providing video programming directly to subscribers within their service areas.[153] Although LECs were permitted to provide video programming outside their telephone service areas, and channel service to unaffiliated cable operators within their service areas, few LEC participated in such ventures.[154]

---

[150] 2000 MVPD Competition Report, 16 FCC Rcd at 6063. RCN is not building within Philadelphia itself because it was unable to reach a franchise or OVS agreement with the city. *See, e.g.*, *Mass Media*, Comm. Daily, Feb. 16, 2001, at 7.
[151] 2001 MVPD Competition Report, 17 FCC Rcd 1295 ¶ 109.
[152] 2002 Program Access Report and Order, 17 FCC Rcd 12124 ¶¶ 28, 50, and 67; 2001 MVPD Competition Report, 17 FCC Rcd 1293-94 ¶ 106.
[153] Section 613 (b) of the Communications Act, 47 U.S.C. § 533 (b), prohibited a common carrier from providing video programming directly to subscribers in its telephone service area, either directly, or indirectly through an affiliate owned by, operated by, controlled by, or under common control with a common carrier. That statutory provision was referred to as the cross-ownership ban. In 1990, the Commission further restricted LECs to strict carrier-user relationships with cable operators, except in rural areas where telephone companies were permitted to provide video programming to subscribers within their service areas. *See* 47 C.F.R. §§ 63.54, 63.58 (1990).
[154] *See* 1994 MVPD Competition Report, 9 FCC Rcd 7442 ¶ 103.

In 1992, the Commission adopted orders creating a framework for LEC participation in the video program distribution marketplace consistent called "video dialtone" which spurred increased interest in video program distribution by LECs.[155] In 1995, LECs obtained authority to pursue entry through construction of cable systems.[156] In addition, LECs began in 1995 to pursue video program distribution through investments in, and acquisitions of, wireless providers, though none of these operators currently remain in the MMDS business.[157] Later, the 1996 Act created LEC options to replace the video dialtone framework through open video systems ("OVS.")[158]

Ameritech was the most aggressive and the most significant of the LECs offering subscription video service, acquiring as many as 111 franchises by 1999, serving as many as 250,000 subscribers, before it (as SBC) sold the franchised systems to cable overbuilder, WideOpenWest in May 2001.[159]

A number of small LECs are using VDSL to offer a bundle of services, including multichannel video, over phone lines. It is estimated that approximately 40 to 50 mostly-small LECs, are using VDSL technology to provide video to an aggregate of approximately 100,000 subscribers.[160] Companies are also deploying, or investigating

---

[155] *See Telephone Company-Cable Television Cross Ownership Rules, Sections 63.54-63.58*, Further Notice of Proposed Rulemaking, First Report and Order and Second Further Notice of Inquiry, 7 FCC Rcd 300 (1991), recon., 7 FCC Rcd 5069 (1992), aff'd sub nom., National Cable Television Association v. FCC, 33 F.3rd 66 (D.C. Cir. 1994); *Telephone Company-Cable Television Cross Ownership Rules, Sections 63.54-63.58*, Second Report and Order, Recommendation to Congress, and Second Further Notice of Proposed Rulemaking, 7 FCC Rcd 5781 (1992), appeal pending sub nom., Mankato Citizens Telephone Company, No. 92-1404 (D.C. Cir. filed Sept. 9, 1992) and modified on recon., FCC 94-269, _ FCC Rcd _ (rel. Nov. 7, 1994) (Video Dialtone Reconsideration Order).

[156] In August 1995, the Commission streamlined the Section 214 process for LECs to construct stand alone cable systems within their local service areas. The streamlined Section 214 procedures apply only to telephone companies that have obtained injunctions barring the Commission from enforcing the cable-telco cross-ownership ban. Telephone companies already had blanket Section 214 authority to operate cable systems outside their telephone service areas. *Telephone Co.-Cable Television Cross-Ownership Rules*, §§ 63.54-63.58, CC Docket No. 87-266, Fourth Report & Order, 11 FCC Rcd 818 (1995), *summarized at* 60 Fed. Reg. 44280 (1995), *petition for review pending, Ameritech Corp. v. FCC*, No. 95-1423 (D.C. Cir. filed Aug. 18, 1995) and No. 95-1441 (DC Cir. filed Aug. 25, 1995); *GTE Serv. Corp. v. FCC*, No. 95-1488 (DC Cir. filed Sept. 22, 1995).

[157] Bell Atlantic NYNEX, PacBell, Bell South, and GTE all made significant investments in wireless cable between 1995 and 2001, serving as many as 130,000 subscribers in aggregate, but none of these operators currently remain in the MMDS business. *See* CAI Wireless Systems, Inc., *Prospectus* 5 (Sept. 21, 1995); Paul Kagan Assoc., Inc., *Wireless Cable Public and Private Funding, June 1994 Through May 1995*, Wireless Cable Investor, May 31, 1995, at 1: Paul Kagan Assoc., Inc., *Wireless Cable Public Bond Offerings*, Wireless Cable Investor, June 30, 1995, at 1. In July 1995, PacBell acquired Cross Country which had wireless systems in PacBell's local telephone service area. Pacific Telesis Group, *Pacific Telesis Becomes Nation's First Telco To Offer Wireless Cable Television* (News Release), July 25, 1995; *see also* 2001 MVPD Competition Report, 17 FCC Rcd 1291 ¶ 101; 2000 MVPD Competition Report, 16 FCC Rcd 6061, ¶ 121; 1999 MVPD Competition Report, 15 FCC Rcd 1036 ¶ 122

[158] 47 U.S.C. § 571(a)(3)-(4).

[159] SBC Sells Americast Cable Overbuild Systems To Wide Open West, Comm. Daily, May 25, 2001, at 2-3.

[160] Matt Stump, *In Omaha, Cox and Qwest Wage Three-Way Contest*, Broadband Week, Oct. 1, 2001; Roger Bindl, Next Level Communications, *Video In Telephony*, Nov. 9, 2001; Karen Brown, *Getting the Picture? Telcos Struggle With Unfocused Video Market*, Broadband Week, June 4, 2001.

deploying, video over the lower bandwidth asymmetric digital subscriber line service ("ADSL"). Because of the lower capacity, video over ADSL involves an IP-based video-on-demand service, rather than full-fledged multichannel video. Between 5,000 and 10,000 households currently subscribe to ADSL video-on-demand service.[161] It is too early to tell what kind of impact these technologies will have on the marketplace.

Incumbent LECs have largely exited the video business, though there are a few exceptions. BellSouth, in addition to reselling DBS service, continues to operate some overbuild cable systems.[162] A number of smaller LECs are offering, or preparing to offer, video service over existing telephone lines (*see* discussion of "VDSL" in this Section). By-and-large, however, incumbent LECs do not appear to be potentially significant competitors in the market for video programming, even in local markets.

The Internet

The Internet provides not only a platform for the delivery of video programming, but it also supports a collection of other applications that may take time away from watching television. For example, the availability of real-time and downloadable video over the Internet ("Internet video") has increased greatly since the late 1990s.[163] The number of homes with access to the Internet, the number of home users accessing Internet video, and the amount of Internet video content has also increased over the last year. As of December 2001, an estimated 56.4% of all U.S. households had Internet access, compared with 52% as of July 2000.[164] Additionally, as of July 2001, 41 million residential Web users had accessed streaming video.[165] However, Internet video is not currently viewed by the Commission as a direct competitor to traditional video services, despite evidence of continued interest in Internet video deployment and use.[166]

---

[161] Roger Bindl, Next Level Communications, *Video In Telephony*, Nov. 9, 2001.
[162] Kagan World Media, *Cable TV Competitive Franchise, 1995*-2001, Broadband Cable Financial Databook 2001, July 2001, at 76-80.
[163] Internet video provided in real-time is also known as "streaming video."
[164] *Understanding Broadband Demand: A Review of Critical Issues*, Office of Technology Policy Report, U.S. Department of Commerce, September 2002, p. 5.; See Amanda Cantrell, *Growth of Internet Access Slows Dramatically in U.S.*, The Industry Standard, Aug. 14, 2001.
[165] Arbitron, Inc., Arbitron/Edison Media Research Study Reveals Most "Streamies" First Accessed Webcasting within the Last Year (press release), Sept. 5, 2001 (citing Nielsen// Net Ratings data).
[166] The Commission recently suggested that, given the nascent stage of the Internet video industry, it is premature to consider Internet video to be a full competitive alternative. *Amendment of Section 73.658(g) of The Commission's Rules – The Dual Network Rule*, MM Docket No. 00-108, Report and Order, 16 FCC Rcd 11114, 11120 (2001). In addition, industry sources believe that Internet video still is substandard to broadcast quality and that hurdles remain to watching video on a computer screen. Robert La Franco, *The Serious Game: Digital Video is Still Off-track*, Red Herring Online, Aug. 22, 2001, at http://www.redherring.com/ind…01&doc_id=170020017&rh_special_report_id=; Alan Goldstein, *Test Pattern: Yahoo Still Trying to Tune in Potential of Broadcast.com*, The Dallas Morning News Online, July 3, 2001, at http://www.dallas news.com/cgi-bin/…hnology/409092_yahoo_03bus.AR.html; *Dot.Bomb Won't Slow Streaming Media Growth*, CERF Predicts, Comm. Daily, Apr. 27, 2001, at 5-6; Chris Wallace, *Is Streaming Video Dead?*, ZDNet, Mar. 19, 2001, at http://www.zdnet.com/filters/printerfriendly/0,6061,2697806-2,00.html; *Streaming Media Poised for Big Growth, Speakers Say*, Comm. Daily, June 21, 2001, at 5-6.

The Commission suggests that broadcast-quality Internet video service requires a high-speed broadband connection of about 300 kilobits per second ("kbps") or higher.[167] The number of high-speed lines connecting homes and businesses to the Internet increased by 33% during the second half of 2001, from 9.6 million to 12.8 million lines, compared to a 36% increase, from nearly 7.1 million to 9.6 million lines, during the first half of 2001.[168] Of the 12.8 million high-speed lines in service at the end of 2001, 11 million served residential and small business subscribers, a 41% increase from the 7.8 million residential and small business high-speed lines reported six months earlier. About 7.4 million of the 12.8 million high-speed lines were advanced services lines that provide services at speeds exceeding 200 kbps in both directions, an increase of 25% during the second half of 2001. About 5.8 million of the 7.4 million advanced services lines served residential and small business subscribers.

At the end of 2001, the presence of high-speed service subscribers was reported in all 50 states, the District of Columbia, Puerto Rico and the Virgin Islands. High-speed service was also reported in 79% of the nation's zip codes, compared to 78% in June 2001 and 73% at the end of 2000. High-speed asymmetric DSL ("ADSL") lines in service increased by 47% during the second half of 2001, from nearly 2.7 million to over 3.9 million lines, compared to a 36% increase, from nearly 2 million to 2.7 million lines, during the preceding 6 months. High-speed Internet connections over coaxial cable systems (cable modem service) increased by 36% during the final six months of 2001, from 5.2 million to 7.1 million lines. By comparison, cable modem service increased by 45%, from nearly 3.6 million to 5.2 million lines, during the first half of 2001. The presence of high-speed service subscribers were reported in 98% of the most densely populated decile of zip codes at the end of 2001, the same percentage at the end of 2000, and in 43% of the least densely populated decile, compared to 28% at the end of 2000.

For zip codes ranked by median family income, high-speed subscribers were reported present in 97% of the top one-tenth of zip codes and in 63% of the bottom one-tenth of zip codes at the end of 2001. The comparable figures for 2000 were 96% and 55%.

There are a number of recent significant legal, business and technological developments in the Internet video industry. Some Internet video providers face difficulties with U.S. copyright laws.[169] Despite these obstacles, Internet users continue to download software for accessing Internet video. Streaming video websites continue to operate. Nielsen/Net Ratings estimates that Microsoft's Windows Media Player has over 24.7 million users, while, RealNetworks' RealPlayer has more than 24.4 million

---

[167] *See* 2000 Report, 16 FCC Rcd at 6054 (this data from this source is cited throughout this paragraph and the following twp paragraphs).
[168] *See* News Release *Federal Communications Commission Releases Data on High-Speed Services for Internet Access*, July 23, 2002, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-224580A1.doc (accessed August 11, 2002).
[169] JumpTV.com Pullout Doesn't End Debate on Streaming TV Copyright, Comm. Daily, Oct. 15, 2001, at 3-4.

users (See Table 26).[170] The amount of video programming content on the Internet also continues to grow.[171] Some traditional broadcast and cable television programmers offer Internet video versions of their programming or supplemental programming.

Table 26: Internet Video Statistics

	2000	2001
Internet access from home (% of U.S. population)	56%	58%
Total web users who have ever accessed streaming video (millions)	35	41
Microsoft Windows Media Player users (millions)	9.4	24.7
RealNetworks RealPlayer users (millions)	25.3	24.4

SOURCES: FCC, Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming, 2000 and 2001

As of August 2002, RealNetworks had 750,000 subscribers to its RealOne premium service. RealOne streams audio and video from content providers such as ABCNews.com, E!, FoxSports.com, Major League Baseball and CNN.[172] According to a recent study, U.S. consumers spent $300 million to access Web content in the first quarter of 2002. This represents a 155% increase from the same period in 2001.[173]

Partnerships and marketing agreements between Web sites and entertainment companies continue to exist. In August 2001, MGM, Paramount, Sony Pictures, Universal and Warner Bros. announced a joint venture called Movielink to distribute movies on-demand over the Internet.[174] Movielink has equal investments from these five studios.[175] Movielink's goal is to do more than just promote Internet-delivered VOD.[176] Its management believes that, over time, VOD will become a significant way consumers watch recorded material because of its convenience.[177] Whether the demand for the service results in a profitable business model is an open question.

---

[170] *RealNetworks Fuses Programs into Service*, Reuters, Sept. 23, 2001, at http://news.cnet.com/news/0-1005-200-7277594.html; *RealNetworks Melds Audio, Video Platforms*, InternetNews.com, Sept. 24, 2001, at http://www.internetnews.com/streaming-news/article /0,,861_889 881,00.html.
[171] http://www.breaktv.com; http://www.feedroom.com; http://www.intv.net; http://www.television.com; http:// www.broadcast.com; http://www.tvtaxi.com; http://www.tvworldwide.com.
[172] *See* http://news.com.com/2100-1023-947617.html and http://news.com.com/2100-1023-944242.html (both accessed August 6, 2002).
[173] *See* http://news.com.com/2100-1023-947617.html (accessed August 6, 2002) citing a survey conducted by the Online Publishers Association (OPA) and Web measurement company ComScore Networks.
[174] Bruce Orwall, *Five Studios Join Venture for Video on Demand,* Wall Street Journal, Aug. 17, 2001, at A3.
[175] Ken Kerschbaumer, *Leading Studios' VOD Charge*, Broadcasting and Cable, February 4, 2002.
[176] *Id*.
[177] *Id*.

Thus, the Internet may be able to support and deliver fairly traditional video programming and PPV plus much more.

Home Video Products

Analysts estimate that Americans watch an average of 58 hours of movies at home each year.[178] It is estimated that 89.9 million U.S. households, or about 85.2% of all television households, have at least 1 VCR (See Table 27). Nearly 46 million households own at least 2 VCRs.[179]

Table 27: VCR Penetration

Year	VCR Households (Millions)	% of Television Households
1975	0.00	0.0
1980	0.84	1.1
1985	17.74	20.7
1990	61.5	66.1
1995	76.4	79.7
2000	88.0	86.1
2001	89.9*	85.2*

Source: Television Bureau of Advertising, Inc., "Cable and VCR Households;" *Estimates only from Veronis Suhler (2001).

By the end of 2001, the number of homes with DVD players reached approximately 13.7 million.[180] Analysts estimate that 26.5 million homes will have DVDs players by the end of 2004.[181] Approximately 2 million homes have laser disc players.[182] In 2000, the total spent on home video cassette rentals was $10.27 billion, while the total spent on home video cassette sales was $7.55 billion.[183] In 2000, the total spent on home video DVD rentals was $600 million, and the total spent on home video DVD sales was $4.03 billion.[184] Overall, U.S. consumers spent approximately $22.45 billion renting and buying prerecorded video in 2000 (See Table 28).[185]

---

[178] *See* W. Michael Cox and Richard Alm, *Off the Books*, Reason Magazine, Vol. 34, Issue 4, August 1, 2002, citing Veronis Suhler's & Associates' Annual Communications Industry Forecast (Veronis Suhler).
[179] Veronis Suhler at 6, 26. Other sources provide alternative estimates of VCR penetration ranging between approximately 87 percent to over 93 percent of all television households. See, *e.g.*, Hollywood Entertainment 10-K *citing* Adams Media Research statistics; Veronis Suhler at 191.
[180] Veronis Suhler at 192, 194.
[181] Veronis Suhler at 6, 18. Hollywood Entertainment citing the DVD Entertainment Group estimates a 27 percent penetration for DVDs by the end of 2001. The number of DVD households is expected to grow significantly as DVD player prices continue to decline. The average DVD player now sells for $193, down from an average price of $298 in 1999, and compared to the average VCR price of $73. Christopher Stern, *Blockbuster Switching Focus to DVDs*, Washington Post, Sept. 11, 2001, at E1, 12.
[182] Tom Shales, *Shall We Dance? With DVD, Indeed*, Washington Post, June 2, 1999, at C1.
[183] *Id*. at 194.
[184] *Id*.
[185] Id. at 191.

Table 28: Home Video Spending, Rental and Retail ($ Millions)

	Video Cassette Rentals	Video Cassette Sales	Total Video Cassette Spending	DVD Rentals	DVD Sales	Total DVD Spending	Total Video Cassette and DVD Spending	Growth of Home Video Market Spending
1990	$7,755	$3,352	$11,107	n/a	n/a	n/a	$11,107	n/a
1992	$9,064	$3,834	$12,898	n/a	n/a	n/a	$12,898	7.10%
1994	$9,516	$5,497	$15,013	n/a	n/a	n/a	$15,013	7.50%
1996	$9,223	$7,640	$16,863	n/a	n/a	n/a	$16,863	8.60%
1998	$9,635	$8,443	$18,078	$19	$411	$430	$18,508	9.10%
2000	$10,273	$7,550	$17,823	$600	$4,030	$4,630	$22,453	16.20%
2002*	$10,342	$6,825	$17,167	$1,012	$7,989	$9,001	$26,168	5.10%
2004*	$10,339	$5,790	$16,129	$1,421	$10,560	$11,981	$28,110	2.40%

SOURCE: Veronis Suhler, *Communications Industry Forecast*, 2001
*Projected

In the last year, DVDs have doubled their share of both the rental and sales markets, accounting for 6.9% of all rental revenue and 16% of sales revenues.[186] Thus, the expenditures on home video products make it clear that viewers will spend large sums of money for small quantities of highly-valued programming. The video retail industry is the largest source of revenue for movie studios, generating approximately half of their revenues in 2000.[187] Since 1997, the largest video chains and several movie studios have shared rental revenues.[188] The video retail industry is competitive, with about 19,800 video specialty stores selling or renting home video programming.[189] More than 8,000 retail outlets, such as supermarkets and drugstores, rent videos.[190] Mass merchandise stores such as Wal-Mart and Target, and electronics chain stores such as Best Buy and Circuit City, compete with specialty video stores in the sale of videos.[191] The Internet is also now a source for video rentals[192] and sales.[193] In recent

[186] *Id.* at 12, 16. Retailers, both video specialty stores and others, are allotting increasing amounts of shelf space to DVDs; Christopher Stern, *Blockbuster Switching Focus to DVDs*, Washington Post, Sept. 11, 2001, at E1, 12.
[187] *See*, *e.g.*, Hollywood Entertainment 10-K citing Adams Media Research statistics (the movie studios' 2000 home video revenues of $9.5 billion represented 54.8 percent of their $17.4 billion domestic revenue), Blockbuster 10-K *citing* Paul Kagan Associates statistics (the movie studios' 2000 home video revenues of $7.9 billion represents 44.3 percent of their $17.8 billion domestic revenue).
[188] Veronis Suhler at 13-14; *2000 Report*, 16 FCC Rcd at 6058.
[189] *See*, *e.g.*, Veronis Suhler at 8; (Viacom 10-K).
[190] *Id*.
[191] Videos also can be borrowed from public libraries.

years, the home video industry has consolidated, with many independent operators selling to larger concerns or closing their businesses.[194]

Theatrical Films

Analysts estimate that Americans go out to an average of 5.4 movies a year, up from 4.5 three decades ago.[195] U.S. box office receipts rose 8.5% in 2001 to $8.35 billion.[196] Even with a 4% increase in the average ticket price, more people went to the movies in 2001 than in any year since 1998.[197] The top draws of 2001 were films that appealed to younger audiences: "Harry Potter," which grossed over $300 million in the U.S., followed by "Lord of the Rings" with $270 million and the animated "Monsters, Inc." with $251 million. Analysts predict that box office receipts will advance another 10% in 2002 and grow at annual rate of 7.2% from 2001 to 2006, resulting in annual receipts of $11.9 billion by 2006.[198] Box office hits will continue to be largely driven by blockbuster hits.

Video and PC Game Platforms and Applications

Video game consoles and PCs have provided interactive forms of entertainment to consumers for more than 25 years. [199] According to the Interactive Digital Software Association ("IDSA"), approximately 56% of the most frequent PC and video game console players have played games for six or more years, while 60% expect to play games ten years from now. Moreover, 60% of all Americans age six and older, or about 145 million people, play PC and video console games. The average age of a game

---

[192] For example, for a monthly fee of $19.95, Netflix allows consumers to rent DVDs from its Internet site with the movies sent to the consumer and returned to the company through the mail. *See* http://www.netflix.com. In addition, consumers in several markets can search Blockbusters' inventory over the Internet and reserve videos online before going to the store to pick them up. *See* http://www.blockbuster.com.

[193] For example, Best Buy and Amazon.com sell video programming through their Internet sites. *See* http://www.bestbuy.com and http://www.amazon.com. Express.com is limited to the sales of DVDs. *See* http://www.express.com. Previously, Blockbuster and Hollywood Entertainment, using its reel.com web site, sold video programming over the Internet. However, both companies now are withdrawing from e-commerce and focusing on providing entertainment news and information on their sites. *See* http://www.blockbuster.com and http://www.reel.com. *See also 2000 Report*, 16 FCC Rcd at 6058-9.

[194] For example, video superstores (*e.g.*, Blockbuster, Hollywood) have a 58.9 percent share of the video rental business. Veronis Suhler at 10. Etna comments that it is difficult for small independent video businesses to compete against the large video chain stores because of their revenue sharing agreements with the movie studios. Etna Comment at 1-2.

[195] *See* W. Michael Cox and Richard Alm, *Off the Books*, Reason Magazine, Vol. 34, Issue 4, August 1, 2002, citing Veronis Suhler.

[196] Christopher Grimes, *The Americas – Lord of the Rings Tops Oscar List*, Financial Times, February 13, 2002.

[197] Jack Mathews, *Box Office Boasts Record Run*, New York Daily News, January 1, 2002.

[198] PR Newswire, Veronis Suhler Stevenson Issues Annual Communications Industry Forecast (2002), August 5, 2002.

[199] *State of the Industry Report 2000-2001*, Interactive Digital Software Association (IDSA) at 5.

player is 28 years old, and 43% of game players are female. In 2001, about 31% of game players played games online, up from 24% in 2000 and 18% in 1999. More than 37% of Americans who own game consoles or PCs report that they also play games on mobile devices like handheld systems, personal digital assistants ("PDAs") and cell phones. With today's new technologies, the possibilities for interactivity seem endless for video console, PC and educational software ("Edutainment") titles.[200]

The video game industry has developed advanced technology that offers game players a rich, immersive interactive entertainment experience, which many find more compelling than passive art forms such as broadcast television or feature films. Advancements in video game console technology continue to position the console as a competitive media platform. The modern-day game console industry took shape in 1985 when Nintendo introduced the 8-bit Nintendo Entertainment System ("NES"). Soon thereafter, the 16-bit Sega Genesis System was launched, followed by Super NES. In the early 1990s, the PC game business surged with the introduction of CD-ROMs, falling prices for multimedia PCs, and the introduction of high-level 3D graphics cards.

Recent advancements in game console technology have spurred the growth of this industry. In 1995-1996, Sony PlayStation and Nintendo 64 launched a new generation of game consoles. In 1999 and 2000, more powerful and multi-functional game consoles were introduced as platforms for home video and audio entertainment. For example, Sony's PlayStation 2 consisted of a 300-MHz processor that allowed users to not only play games, but also watch DVDs and listen to audio CDs. Sega launched its Dreamcast console – the first 128-bit game console.

The year 2000 affirmed the durability and maturity of the PC and video game console industry, as gaming software sales reached $6.02 billion (See Table 29). Video game rentals also rose in 2000, generating $919 million compared to $880 million in 1999.

Table 29: Video and PC Game Growth

	Video and PC Game Software Unit Sales (millions)	Video and PC Game Software Sales (billions)
1996	105	$3.7
1997	133	$4.4
1998	181	$5.5
1999	215	$6.1
2000	219	$6.02
2001	225	$6.3

Source: Interactive Digital Software Association (2002)

The total U.S. video game industry grew to $9.4 billion in 2001, breaking 1999's all-time record of $6.9 billion.[201] Video and PC game software sales accounted for

[200] The rest of this discussion of video and PC game platforms and applications is based on the *State of the Industry Report 2000-2001*, IDSA (2002).
[201] NPD Funworld Report.

almost two-thirds of the total industry sales with 225 million game software units sold. Sales growth in 2001 was triggered in part by the launch of 3 new gaming systems – Nintendo's GameCube and Game Boy Advance and Microsoft's Xbox. The number of game console units sold increased 39%, while sales in dollar terms more than doubled, rising 120%. Next-generation console systems such as Sony Playstation 2, GameCube and Xbox, selling at higher price points, led to a triple-digit increase of over 120% in dollars for annual 2001 versus 2000.

In portables, Game Boy Advance continued to surpass its predecessors, Game Boy and Game Boy Color. In fact, Game Boy Advance dominated the portable market in 2001 with a 22% increase in hardware unit share, compared to the prior year.

Conclusion

Despite the decline of MMDS and LEC involvement in the market for the delivery of video programming, the number of video programming sources that consumers can choose from is growing. Since the release of Working Paper 26, digital technology has made pre-recorded video, theatrical movies and PC and video games more attractive alternatives for the average consumer. The market for high-quality pre-recorded video remains robust, as DVD sales continue to grow. As broadband deployment and consumer adoption increase, more viewers may opt to access and pay for more innovative Internet video streaming and downloads. Theatrical films and video games will continue to compete for eyeballs 24 hours a day, seven days a week. Video game consoles will become more of a mainstream media platform. Utilities and other overbuilders continue to challenge incumbent cable operators. The cumulative effect of these alternatives may become considerable.

VIII. Technological Developments

Introduction

The entertainment and communications industries are in the midst of a digital revolution. Digital technologies have the potential to radically change the economics of video distribution and the range of services delivered to viewers. This chapter examines several technological developments, all based on digital transmission of video programming. The purpose of this discussion is to explore (1) how broadcasters will use their digital spectrum and DTV technology, and (2) how digital technology will affect competition among broadcast and non-broadcast video media.

To remain competitive, broadcasters must embrace, or at least respond to several new technologies. Over the past ten years, video compression and encoding technologies have increased the ability of broadcasters and other competitive video distributors to transmit video over various systems and networks including the Internet. These technologies have increased capacity to provide not only “analog quality” program streams but also better picture and sound.

Transitioning from analog to digital technology has increased the picture and sound quality for consumers. It has created new categories of service, such as interactive services (e.g., those utilizing two-way communications). These categories may enhance services available today such as PPV and home shopping. If significant consumer demand and profitable business models develop for interactive services, new entertainment forms may emerge.

The digital transition is leading to an increased emphasis on copy protection and digital rights management. Any digital distribution system should have an adequate method of permitting access to the product while protecting copyright owners’ legitimate interests. Some multichannel analog video programming is encrypted and it appears that virtually all multichannel digital video programming is or will be encrypted. This ensures that only authorized subscribers get access. Copy protection engages after content has been decrypted in the subscriber’s premises. As discussed below, digital rights management for broadcast programming, which arrives “in the clear,” might be handled somewhat differently.

This chapter briefly discusses the technological developments outlined above. While there are many cutting-edge technologies that can be discussed in detail, the intent of this chapter is to highlight several that are relevant to this analysis. Digital video compression is examined first, followed by DTV and ancillary services, digital rights management, ITV and PVRs.

Video Compression Technologies

Digital video compression is a digital signal processing technique that permits transmission of a television signal using less bandwidth than is currently needed (6MHz for terrestrial broadcast signals and cable and 24 MHz for satellite signals). A full 6MHz DTV signal consists of a packet stream of approximately 19.4 Mbps. Digital video compression technology is applicable to all of the video delivery systems – satellite, cable, broadcast, and wireless cable. Cable and DBS have a "head start" over broadcasters in the application of this technology. For a given compression ratio, twice as many National Television Standards Committee ("NTSC") signals can be transmitted via a 24MHz satellite transponder as via a 6MHz terrestrial channel.

Digital video is recorded and played digitally, i.e. in on-on bits.[202] Traditional analog video – video consumers have viewed in their homes for over 60 years – is recorded and played back in analog format, or in analog wave forms. Due to its versatility, digital video has several advantages over analog video. In addition to editing capability, storage ease and transmission, it can be retrieved from an analog source, such as the standard over the air NTSC analog source.[203]

For digitized audio-visual content to be truly high-quality and versatile, it has to be encoded. MPEG, which stands for Moving Picture Experts Group, is the name of a family of hardware and software standards used for encoding[204] and compressing audio-visual information (e.g., movies, video, music) in a digital format.[205] The major advantage of MPEG compared to other video and audio coding formats is that MPEG files are much smaller for the same quality. MPEG uses very sophisticated compression techniques.[206] Without digital compression, the distribution of audio-visual content to consumers via delivery systems such as residential broadband would not be possible because uncompressed content requires too much bandwidth.

The key effects of compression technology are not only a substantial increase in channel capacity but also a concomitant reduction in the cost of a channel. Thus, delivery systems that utilize compression are able to offer a substantial degree of time diversity. This means viewers can now receive separate feeds of cable and broadcast networks for each time zone in the United States, in addition to the offering of staggered starting times for the showing of PPV movies. In other words, a PPV programmer can transmit a box office hit several times each night, with starting times every ten minutes

---

[202] *See* Newton's Telecom Dictionary (14th Ed. 1998) definition of digital video.

[203] It can also be taken from an analog video camera and a VCR. Analog video is typically recorded on tape, such as a VCR. Digital video is typically recorded on a hard disk (magnetic or optical) or on a CD-ROM.

[204] Encoding is the process by which traditional forms of audio (cassette, compact disc, radio, etc.) and video (VHS, Beta, television, movies, etc.) media are converted into a digital format that allows their distribution and broadcast, in streaming or downloadable form, over the Internet or other digital distribution system. There are many different formats and standards for encoding, depending on whether it is streaming or download.

[205] MPEG is most commonly known as a compression scheme for full motion video.

[206] http://www.mpeg.org/MPEG/index.html#mpeg (accessed June 19, 2002).

or so during prime time. Since viewers do not have to wait very long for the start of their movie selection, this service has been characterized as "near video-on-demand" ("NVOD").[207]

Working Paper 26 predicted that the reduction in the cost of channel capacity would also lower the barriers to entry for new channels. Working Paper 26 also expected more development of special interest or "niche" channels. While more program channels are now carried by cable operators and DBS providers, the reduction in channel capacity cost has not necessarily resulted in lower barriers to entry. While capacity may increase, this factor alone does not guarantee distribution of video programming content. There are a numerous other factors which affect which channels and what programs are distributed. Chapter Ten contains a more extensive discussion and analysis of this point.

Digital Television

DTV: Brief Historical Background[208]

For almost 60 years, television broadcasters have transmitted signals based on the NTSC standard.[209] However, since 1941 improvements or modifications include: (1) the introduction of color television in 1953, (2) "ghost canceling" provisions to enhance picture clarity, (3) the use of a previously unused portion of the transmission signal called the "vertical blanking interval" to send closed captioning, and (4) stereophonic sound.

To explore the issues posed by DTV, the Commission issued its *First Notice of Inquiry of Advanced Television Service* in July 1987.[210] It also appointed a 25–member advisory panel called the Advisory Committee on Advanced Television Services

---

[207] An alternative to near video-on-demand is pure video-on-demand or VOD, a service that allows many users to request the same videos or movies at the same time or anytime. Video on demand requires a high-end video server with hundreds of gigabytes of storage. Successful deployment of VOD services by operators has faced several challenges, including the high cost of provisioning the necessary complex equipment and the lack of consumer research on whether consumers are prepared to pay the price that will be necessary to sustain a profitable business model.

[208] DTV is sometimes referred to as "advanced television," or ATV. Because ATV embraces any enhancements to the existing television format (known as the NTSC standard, for National Television Systems Committee), ATV is a more inclusive term than "digital television" or "high-definition television." Once digital technology proved feasible and the most desirable technical standard for advanced television, the term DTV became virtually synonymous with ATV. See, e.g., *In the Matter of Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service,* Notice of Proposed Rule Making, 6 FCC Rcd 7024 n.1 (discussing the definition of "ATV"). See also, Adva*nced Television Systems and Their Impact Upon the Existing Television Broadcast Service,* Fourth Report and Order, 11 FCC Rcd 17771, 17773 (1996)(discussing the introduction of the term "DTV") (Fourth Report and Order).

[209] *In the Matter of Advanced Television Systems and Their Impact on the Existing Television Broadcast Service,* Notice of Inquiry, 2 FCC Rcd 5125, 5126 (1987) (Notice of Inquiry on ATV) (discussing the evolution of the NTSC standard and noting that "the NTSC transmission standard has proven to be remarkably durable and adaptable to changes over the years").

[210] Notice of Inquiry on ATV.

(ACATS). ACATS reviewed the technical issues and recommended an advanced television system to the Commission. ACATS collaborated with the Advanced Television Systems Committee ("ATSC"), an industry group, to recommend a series of technical specifications. By early 1993, this combined group affirmed the superiority of digital over analog.

This finding prompted seven entities, each with their own views and ideas regarding advanced television standards, to form a coalition to pool their expertise. They called this coalition the Grand Alliance.[211] Working with ACATS, the Grand Alliance agreed jointly to develop a new standard. By November 1995, ACATS formally recommended a set of prototype DTV protocols (the "Grand Alliance Standards") to the Commission.

In December 1996, the Commission adopted the Grand Alliance Standards for terrestrial broadcasting with some modifications.[212] The standards covered five major technical subsystems: (1) scanning, (2) video compression, (3) audio compression, (4) packetized data transport, and (5) radio frequency transmission. The standards also included 18 distinct scanning formats – a compromise that satisfied the interests of various industries (broadcasting, television set manufacturers, film studios, and computer and software makers) while ensuring greater flexibility in the use of DTV.

The Telecommunications Act of 1996 ("1996 Act") established the framework for licensing DTV spectrum to existing broadcasters.[213] Existing broadcasters are assigned a new DTV license and an additional 6 MHz channel to facilitate the transition from analog to DTV. They retain their original 6 MHz channel for analog broadcasts until the expected completion of the transition, when each licensee must return the channel to the Commission.[214]

To help broadcasters meet the target transition deadline of December 31, 2006, the Commission developed a schedule for the introduction of DTV that was designed to ensure that Americans receive a digital signal by the year 2002.

When Congress passed the Balanced Budget Act of 1997, it specified that broadcasters could keep their analog television service beyond 2006 under several conditions, including:

> 1) If one or more of the largest television stations in a market do not begin DTV transmission by the 2006 deadline through no fault of their own; or

---

[211] The seven members of the Grand Alliance were AT&T (now Lucent Technologies), General Instrument Corporation, Massachusetts Institute of Technology, Philips Electronics North American Corporation, Thomson Consumer Electronics, The David Sarnoff Research Center and Zenith Electronics Corporation.
[212] Fourth Report and Order.
[213] *See* 47 U.S.C. § 336.
[214] The Balanced Budget Act of 1997 Act directs the FCC to auction the so-called analog spectrum in 2002. The spectrum may be returned to the FCC and reassigned as early as 2006. 47 U.S.C. § 309(j)(14)(A)-(C) (1998).

2) If fewer than 85% of the television households in a market are able to receive DTV signals (either off the air or through a cable-type service that includes all local DTV stations).[215]

The last exception – often referred to as "the 85% rule" – has the potential to delay the cutoff of analog signals and the eventual return of spectrum beyond 2006. One possible reason for this may be that the 85% rule relies, to a certain extent, on consumer demand and adoption of DTV equipment.[216]

Station Build-out

Congress set December 31, 2006 as the target date for ending television broadcaster's analog transmissions. To meet this date, television stations must invest in new equipment, which can include antennas, digital transmitters and encoders, and additional transmission lines. The overall cost of building the DTV stations is more burdensome for some broadcasters than for others. Many stations are experiencing problems obtaining funding to pay for the transition to DTV.[217]

In November 2001, the Commission adopted a temporary rule allowing stations to build less than maximum broadcast facilities and to reduce the amount stations must spend to meet the initial requirements for DTV transmission.[218] The Commission also stated that in limited circumstances it will now consider financial hardship as a ground for extending the applicable construction deadline.[219] Stations seeking an extension of time to construct DTV facilities on this basis must provide detailed evidence that the cost of meeting the minimum build-out requirements exceeds the station's financial resources.

---

[215] Balanced Budget Act of 1997, Pub. L. No. 105-33 § 3003, 111 Stat. 251, 267 (1997). Some industry observers question whether the full transition to DTV and the return of analog spectrum will be consummated by 2006, as intended by the Balanced Budget Act of 1997. This view stems from doubts about consumer enthusiasm for DTV if sets are too expensive and, in turn, a likely triggering of the two contingency clauses adopted by Congress in 1997. Based on existing projections of the market penetration of DTV over the next 8 years, many analysts believe it is unlikely that 85 percent of households will be equipped to receive DTV by 2006. Josh Bernoff, a principal analyst with Forrester Research, an independent market research firm based in Cambridge, Massachusetts, estimates that only 23 percent of U.S. households (nearly 20 million) will have DTV sets by 2004 and only 48 percent (42 million) by the year 2007. See Statement by Josh Bernoff, Forrester Research, Transcript of Meeting of the Advisory Committee on the Public Interest Obligations of Broadcasters, at 33-34 (Jan.16, 1998) (on file with the Advisory Committee Secretariat).

[216] See Many Broadcasters Will Not Meet May 2002 Digital Television Deadline, Report to the Ranking Minority member, Subcommittee on Telecommunications and the Internet, Committee on Energy and Commerce, House of Representatives, U.S. General Accounting Office, GAO-020466, April 2002, p. 12.

[217] *Id*.

[218] *See In the Matter of Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, MM Docket No. 00-39, Memorandum Opinion and Order on Reconstruction, FCC 01-330 (2001). See also http://www.fcc.gov/Bureaus/Mass_Media/News_Releases/2001/nrmm0114.html (accessed August 12, 2002).

[219] *Id*.

Must Carry

In 2001, the Commission adopted rules resolving a number of technical and legal matters related to the cable carriage of digital broadcast signals. In its *Report and Order*, it noted that MSOs are currently undertaking significant cable system upgrades, including digital build-outs.[220] It stated that a commercial or non-commercial digital-only television station can immediately assert its right to carriage on a cable system. The Commission also said that a television station that returns its analog spectrum and converts to digital operation must be carried by cable systems. The Commission's action was one of a series of steps to facilitate the transition from analog to DTV.

The Commission also reviewed the issue of material degradation of the digital signal during transmission. It noted that a cable operator would not materially degrade a DTV signal if the cable operator carried less than the full 19.4 Mbps transmitted by a broadcaster.[221] The Commission stated that Section 614(b)(4)(A) of the Communications Act of 1934, as amended by the 1996 Act,[222] requires that cable operators shall provide the same "quality of signal processing and carriage" for broadcasters' signals as they provide for any other type of signal. Consequently, in the context of mandatory carriage of digital broadcast signals, a cable operator may not provide a digital broadcast signal in a lesser format or lower resolution than that afforded to any digital programmer (e.g., non-broadcast cable programming, other broadcast digital program, etc.) carried on the cable system, provided, however, that a broadcast signal delivered in HDTV must be carried in HDTV.[223] The Commission's January 2001 DTV Must Carry Order contains an initial determination that the requirement for cable operators to carry "primary video" refers to a single digital programming stream and "program-related" content.[224] Petitions to reconsider this decision are currently before the Commission. Moreover, the statute is clear that fee-based DTV services are considered ancillary and supplementary and are not subject to must carry obligations. For these reasons, broadcasters may well need to seek

---

[220] *In the Matter of Carriage of Digital Television Broadcast Signals,* First Report and Order and Further Notice of Proposed Rulemaking in CS Docket No. 98-120. 16 FCC Rcd 2598 (2001).
[221] *Id*. at p. 32-33.
[222] *Id*.; See also 47 U.S.C. 534.
[223] *Id*. The Commission recognized that it may be especially burdensome for small systems with limited channel capacity (such as systems with fewer than 330 MHz) to carry a HDTV signal if they are not otherwise providing any HDTV programming. In this regard, it noted that mandatory carriage is limited to one-third of the cable system's capacity. It also recognized that carriage of a HDTV signal using 8-VSB pass-through may require the allocation of more than 6 MHz of bandwidth due to the difference in channel alignments between broadcast over-the-air transmission and cable carriage. An 8-VSB pass-through of a broadcast station may straddle two cable channels and result in the loss of additional channels in the system (i.e., the cable operator is not able to use these additional channels to carry other programming). Therefore, if a small system, which is not otherwise carrying any HDTV signals, is required to carry a broadcast signal in HDTV such that it straddles two channels in this way, it may include all of its lost spectrum when calculating its one-third capacity.
[224] See *In the Matter of Carriage of Digital Television Broadcast Signals,* First Report and Order and Further Notice of Proposed Rulemaking in CS Docket No. 98-120, 16 FCC Rcd 2598 (2001.

commercial arrangements with cable (and DBS) operators for carriage of at least some Interactive Television material.[225]

Consumer Adoption

Consumer adoption is a major factor critical to the success of DTV. Key issues include (1) how soon will consumers appreciate high-definition or other value-added DTV programming and services;[226] (2) when will consumers choose to purchase DTV sets; (3) which companies will manufacture DTV sets and sell them in retail outlets; and (4) how much will the DTV sets cost?

To date, consumer acceptance of DTV has been limited, but adoption rates are encouraging. Many consumers consider DTV a new viewing experience and do not posses enough information to justify the purchase of a new DTV set. Companies have pondered why consumers are or are not purchasing DTV equipment. Surveys, such as the Consumer HDTV Survey conducted by the Consumer Electronics Association (CEA), consistently point to several reasons, including the cost of the DTV sets and the lack of available high-definition or value-added DTV programming (See Table 30).

Table 30: Consumer HDTV Survey

	Overall	Likely HDTV Buyer	Short-Term Likely Buyer	Potential HDTV Buyer	Short-Term Buyer
Premiere of Favorite TV Movie	60%	69%	73%	56%	66%
Super Bowl	45%	53%	63%	41%	50%
World Series	31%	34%	44%	29%	39%
Academy Awards	23%	27%	34%	21%	28%
Daytona 500	22%	26%	29%	20%	25%
NCAA Final Four	22%	26%	31%	20%	24%
Grammy Awards	21%	25%	29%	19%	26%
NBA Final	20%	25%	33%	17%	21%
Stanley Cup	13%	13%	12%	13%	16%
The Masters	12%	18%	20%	8%	8%
WWF Wrestling	12%	12%	16%	12%	19%
Triple Crown Horse Races	10%	11%	12%	9%	12%
World Cup Soccer Finals	8%	9%	13%	7%	9%
America's Cup	6%	8%	13%	4%	7%

Source: CEA Market Research – Consumer Perspectives of Digital Television III (2002)

[225] See the discussion of Interactive Television later in this section and the discussion of Interactive Advertisements in Chapter IX.

[226] Value-added DTV programming could be high-definition, innovative multicasting, interactive, etc. - so long as it gives consumers something significantly different than what they currently receive in analog. This would include something more than a single stream of standard-definition digital programming.

Many content producers are developing high-definition or value-added DTV programming, and it is important for all the industries and companies that stand to gain from the success of DTV to promote this new content to consumers.[227]

Powell Proposal

FCC Chairman Michael K. Powell and previous FCC Chairmen and Commissioners have noted that there are many different players in the broadcast, cable, satellite, programming and consumer electronics industry that play a vital role in the development of DTV in the U.S.[228] While some observers see progress towards that goal, efforts to achieve this result are hampered by what is termed a "chicken-and-egg" dilemma facing the widespread adoption of DTV.[229] In other words, broadcasters are concerned about the number of DTV sets that are manufactured by consumer electronics companies and are made available to consumers at retail outlets. Broadcasters are also concerned about the prospects of cable and DBS operators carrying broadcaster's digital channels for subscriber's enjoyment. The consumer electronics industry is concerned about federal mandates requiring manufacturers to install DTV tuners in sets because consumers may find the sets too expensive and unnecessary. MSOs, DBS operators and the consumer electronics industry are concerned about local and network television and cable programmers' efforts to provide compelling HDTV programming with mass appeal.

To provide a near-term boost to the DTV transition, FCC Chairman Powell presented a voluntary plan to key industry players.[230] The intent of the proposal was to provide an immediate spur to the transition by giving consumers a reason to invest in

---

[227] HDNet is a network devoted largely to sports programming, showing major league baseball games, NHL games, Olympic events and other sports ranging from Arena Football, gymnastics, auto racing, lacrosse and even Dallas Mavericks' cheerleader tryouts.

[228] *See* Statement by FCC Chairman Michael K. Powell: *DTV Plan Update – Progress for Consumers*, July 11, 2002, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-224218A1.doc (accessed July 17, 2002); See Statement by FCC Chairman William E. Kennard: *Industry Agreement Will Jump Start Digital Television*, February 23, 2000, http://www.fcc.gov/Speeches/Kennard/Statements/2000/stwek013.html (accessed July 17, 2002); *See "American Family Goes Digital,"* Remarks of FCC Commissioner Susan Ness Before the California Cable Television Association Western Show in Los Angeles, CA, December 16, 1999, http://www.fcc.gov/Speeches/Ness/spsn913.html (accessed July 17, 2002); See *"DTV and DARS: Let's Get On With It*," Speech by FCC Chairman Reed Hundt before the NAB State Leadership Conference in Washington, *D.C.*, February 24, 1997, http://www.fcc.gov/Speeches/Hundt/spreh706.html (accessed July 17, 2002).

[229] http://www.iconocast.com/issue/9001,1,0402,17,1.html

[230] *See Letter Regarding Digital Television Plan* by FCC Chairman Michael K. Powell to Senator Ernest F. Hollings, Chairman, Committee on Commerce, Science and Transportation, April 4, 2002, http://www.fcc.gov/commissioners/powell/hollings_dtv_letter-040402.pdf (accessed July 17, 2002). Chairman Powell did note in his letter to Chairman Hollings that "these goals sometimes get caught up in the policy debates over copy protection and cable compatibility for "plug and play" sets, and it is sometimes assumed that progress must wait until those broader issues are resolved. In my view, we can and should pursue these goals even as I've continue to work on the broader issues. I do not minimize the importance of copy protection and "plug and play" cable compatibility. These are issues that can and must be resolved. But I do not believe that we must defer all progress on the digital television transition until we do. The plan is purely voluntary but, as you can see, contemplates that each relevant industry will play a significant role. I intend to seek commitments along these lines in the near future."

digital technology today while work continues on resolving the longer-term issues associated with the transition. While the plan was not intended to be comprehensive or to undermine the importance of other DTV issues under discussion, it sought to advance two key goals: (1) increase the level of compelling digital content available to consumers; and (2) provide cable subscribers access to that content over their cable systems.

Specifically, Chairman Powell's proposal called for the following voluntary industry actions:

> 1. Top Four Broadcast Networks (ABC, CBS, Fox and NBC), HBO and Showtime
> Provide high-definition or other "value-added DTV programming" during at least 50% of their prime-time schedule, beginning with the 2002-2003 season.[231]
>
> 2. Broadcast Licensees
> By January 1, 2003, or as soon thereafter as they commence broadcasting, DTV affiliates of the top four networks in markets 1-100 will obtain and install the equipment necessary to pass through network DTV without degradation of signal quality (e.g., pass through HD programming, if that is what its network provides).[232]
>
> 3. Cable Operators
> By January 1, 2003, cable systems with 750 MHz or higher channel capacity will:
>
> A) Offer to carry, at no cost, the signals of up to five broadcast or other digital programming services that are providing value-added digital programming during at least 50% of their prime-time schedule.
>
> B) Provide cable subscribers the option of leasing or purchasing a single set-top box that allows for the display of high definition programming.[233]
>
> C) Market the digital television products the operator provides, including on their systems and in monthly bills, so that consumers know what programming is available and how they can receive it over the cable plant.

---

[231] As noted earlier, value-added DTV programming could be high-definition, innovative multicasting, interactive, etc.
[232] Stations broadcasting DTV programming will inform viewers of their digital content through on-air promotional announcements over their analog broadcast facilities.
[233] These devices will include digital connectors (e.g., 1394/5C and/or DWHDCP) at the request of the consumer.

4. Direct Broadcast Satellite Operators
By January 1, 2003, carry the signals of up to five digital programming services that are providing value-added digital programming during at least 50% of their prime-time schedule.

5. Consumer Electronic Equipment Manufacturers and Retailers
A) Commit to meeting the demand for cable set-top boxes that allow for the display of high definition programming.

B) Market broadcast, cable and satellite DTV options at point-of-sale.

C) Include over-the-air DTV tuners in new broadcast television receivers according to the following schedule:

- Sets 36" and above – 50% of units to have DTV tuners by January 1,2004; 100% by January 1,2005;
- Sets 25"-35" – 50% of units to have DTV tuners by January 1,2005; 100% by January 1,2006;
- Sets 23"-24" – 100% of units to have DTV tuners by December 31, 2006.

D) Include digital input(s) (e.g., 1394/5C and/or DWHDCP) on all new HD-capable television receivers and display devices by January 1, 2004.

The plan received widespread support. In July 2002, Chairman Powell noted that virtually every industry – cable, broadcast and satellite – had either fully embraced the plan, or made real commitments to advance the transition.[234] As a result of the committed efforts of these industries, many of the key elements of the DTV transition are beginning to fall into place.[235]

DTV Tuner Plan

In August 2002, the Commission adopted a *Second Report and Order and Second Memorandum Opinion and Order* that gives consumers access to digital programming by requiring over-the-air DTV tuners in nearly all new television sets by 2007.[236] By enacting a five-year rollout schedule that starts with larger, more expensive

[234] *See* Statement By FCC Chairman Michael K. Powell, *DTV Plan Update – Progress for Consumers*, July 11, 2002, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-224218A1.doc (accessed September 26, 2002).
[235] *Id*.
[236] See In the Matter of Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, MM Docket No. 00-39, Second Report and Order and Memorandum Opinion and Order, FCC 01-330 (2002).

television sets, the Commission hopes to minimize the costs for equipment manufacturers and consumers.

The Commission noted that DTV receivers are a necessary element of broadcast television service in the same way that analog television receivers have been since the inception of analog television service. Although analog receivers are still dominant today, that will change as the transition to DTV progresses. The Commission said that its jurisdiction is established by the 1962 All Channel Receiver Act ("ACRA"), which provides it with the authority to require that television sets be capable of adequately receiving all frequencies allocated by the Commission for television broadcasting. The authority provided under the ACRA applies to all devices used to receive broadcast television service, not just those used to receive analog signals.

The Commission said the roll-out schedule reflects and accounts for the following points: (1) inclusion of DTV reception capability in new television receivers requires the redesign of product lines; (2) prices are declining and will decline faster as economies of scale are achieved and production efficiencies are realized over time; and (3) prices of large television sets have been declining at a rate of $100 to $800 per year, so the additional cost of the DTV tuner may be partially or completely offset by the general price decline. The Commission said this plan will ensure that new television receivers include a DTV tuner on a schedule as close as economically feasible to the December 31, 2006 deadline.

Specifically, the Commission's order requires that all television receivers with screen sizes greater than 13 inches and all television receiving equipment, such as VCRs and DVD players/recorders, be required to include DTV reception capability after July 1, 2007, according to the following schedule:

1. Receivers with screen sizes 36 inches and above – 50% of a responsible party's units must include DTV tuners effective July 1, 2004; 100% of such units must include DTV tuners effective July 1, 2005.

2. Receivers with screen sizes 25 to 35 inches – 50% of a responsible party's units must include DTV tuners effective July 1, 2005; 100% of such units must include DTV tuners effective July 1, 2006.

3. Receivers with screen sizes 13 to 24 inches – 100% of all such units must include DTV tuners effective July 1, 2007.

4. TV Interface Devices – VCRs and DVD players/recorders, etc. that receive broadcast television signals – 100% of all such units must include DTV tuners effective July 1, 2007.

The Commission temporarily declined to adopt labeling requirements for television receivers that are not able to receive any over-the-air broadcast signals. It

stated that it is unclear when, or if, such products will become commercially available or how they will be marketed. The Commission will continue to monitor the state of the marketplace and take additional steps if necessary to protect consumers' interests.

Ancillary Services

Given the DTV transition and advancements in digital compression, broadcasters are struggling to figure out what to do with the extra bandwidth capacity. Some plan to use the additional capacity to offer consumers more television channels.[237] Others are delivering high definition programming.[238] Several plan to use the extra bandwidth capacity to offer ancillary, supplemental, and perhaps even interactive services. However, for the service to be fully interactive, a return channel is required.

The technical standards for DTV operation approved by the Commission provide broadcasters with a range of service opportunities. To strengthen DTV's chances for success, the Commission in 1997 decided to allow broadcasters to use their channels according to their best business judgment, as long as broadcasters continued to offer at least one stream of free programming to consumers.[239] Thus, broadcasters must provide a free digital video programming service that is at least comparable in resolution to today's service and aired during the same time periods as today's analog service.

Broadcasters are granted great flexibility in how they use their new spectrum, provided that uses do not interfere with the provision of over-the-air television programming. Broadcasters are still bound by the public interest standards that apply to broadcast television. DTV license holders must also pay the Federal Government a fee for ancillary and supplemental (subscription) DTV services. In requiring fees for proposed subscription services, Congress' goal is to ensure that broadcasters pay approximately what they might pay if the spectrum were auctioned.[240] Thus, the public receives some portion of the value of the spectrum assigned to broadcasters.

In October 2001, the Commission ruled that noncommercial educational ("NCE") broadcasters are required to use their entire DTV bitstream capacity primarily for nonprofit, noncommercial, educational broadcast services.[241] It also ruled that the statutory prohibition against the broadcast of advertisements on NCE television stations applies only to broadcast programming streams provided by NCE licensees, but does not apply to any ancillary or supplementary services presented on their excess DTV channels that do not constitute broadcasting. The Commission further ruled that NCE licensees must pay a fee of 5% of gross revenues generated by ancillary or supplementary services provided on their DTV service. The Commission said it would not establish a bright line test to define the term "primarily" but will instead define it as a

---

[237] The Interactive Television (iTV) Guide, Version 1.0, ING Barings Report, September 2000, p. 26.
[238] *Id*.
[239] In the Matter of Advanced Television Systems and Their Impact Upon Existing Television Broadcast Service, Fifth Report and Order, MM Docket No. 87-268 (1997).
[240] *See* 47 U.S.C. 336(e)(2)(B).
[241] In the Matter of Ancillary or Supplemental Use of Digital Television Capacity by Noncommercial Licensees, Report and Order, MM Docket No. 98-203 (2001).

"substantial majority" of a NCE station's entire digital capacity, measured on a weekly basis.[242]

The Commission said that allowing advertising on NCE broadcasters' ancillary or supplementary services that are non-broadcasting would permit NCE stations flexibility in providing such services as well as enhance their ability to raise revenue for their support and the transition to digital television. However, the Commission said that at the same time, observing the ban on advertising on any free-over-the air service will preserve NCE licensees' fundamental mission of providing a nonprofit, noncommercial, educational broadcast service. The Commission concluded that NCE licensees are not exempt from the statutory requirement to pay fees on revenues generated by the remunerative use of their excess digital capacity, even when those revenues are used to support their mission related activities.

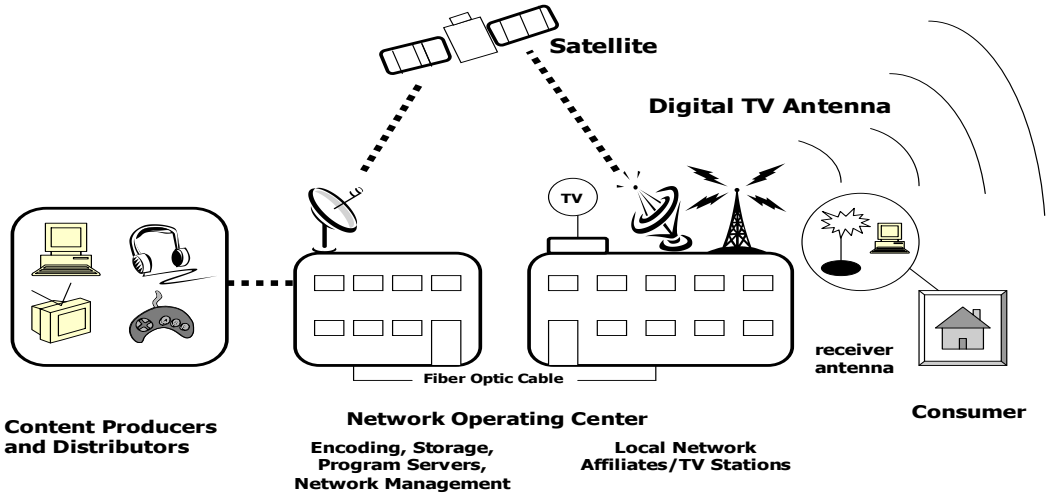
Broadcasters have included data in their television signals for years. Date and time stamps, closed-captioning information and second language audio programming are the kinds of data that can be embedded in the current analog television signal. However, broadcasters are developing new digital products and services to help make the most use of their channels by using the Commission's *Fifth Report and Order* as a guideline. One of these new digital services is "data broadcasting" or "datacasting."[243]

Exhibit 2 shows an example of one type of data broadcast network architecture and how it works.[244] A content producer or distributor typically delivers encoded data electronically or by means of physical media to the data broadcasting ingest center or network operations center ("NOC").

---

[242] It said the use of a weekly period would provide NCE stations with sufficient flexibility because stations typically schedule their programming on a weekly basis.
[243] *See* http://www.redherring.com/mag/issue85/mag-iblast-85.html (accessed July 16, 2002); http://www.wired.com/news/business/0,1367,34831,00.html (accessed July 16, 2002); http://www.current.org/tech/tech006nets.html (accessed July 16, 2002); http://www.broadbandweek.com/news/010122/010122_through_data.htm (accessed July 16, 2002).
[244] *See* http://www.hd-plus.com/iblast.html (accessed September 25, 2002).

Figure 2: Sample Diagram of One Type of Data Broadcast Network Architecture



Because the data is digitized it can represent text, audio, video, graphics, software applications or even control information. Once the data is received, the data broadcaster formats the data, adding error and data-loss protection. The data is then scheduled for "playout" over satellite and terrestrial communication facilities. Client usage statistics and network errors are analyzed in the NOC. The NOC can also encrypt material and authorize its reception by subscribers if necessary. Television stations that are a part of the data broadcasting network form the nodes in the network. Content and necessary broadcast playlists are received at the nodes via satellite or fiber optic Wide Area Networks ("WANs"), and are stored in the node server. Content is injected into the node's ATSC bit stream and transmitted over-the-air with the station's television signal.

The client[245] uses a receiving device comprised of a terrestrial antenna, a demodulator and an ATSC receiver to tune into encrypted data broadcasts from one or more nodes. Registered clients are able to decrypt this material and cache it, or display it if it is streamed. The client may also filter content based on user preferences selected and stored in a file.

Data broadcasting allows broadcasters to distribute data at phenomenal speeds using accessible opportunistic bandwidth. Broadcasters can take advantage of the tremendous throughput inherent in the channel because they have a full 6MHz DTV signal consisting of a packet stream with a speed of approximately 19.4 Mbps. Data broadcasting takes advantage of the variations in required video data rates to provide

[245] Clients are devices and software that request information.

an auxiliary service with a steady, average rate of data delivery over an established time interval.[246]

The data that is broadcast is embedded as digital data in existing television signals in the same way that teletext services use spare lines at the top of television picture frames. Data can be carried either by terrestrial broadcast, DBS or cable transmission. A receiver (e.g. satellite, UHF/VHF tuner) and a data broadcast decoder are required to receive the data. The advantage of data broadcasting is that data is transmitted instantly to anyone capable of receiving a television signal with the necessary receiver.

In homes and workplaces, consumers can use receivers plugged into PVRs or other STBs, PCs or other storage-type devices to capture the digital signal. Once captured, the receiver separates the data bits from the television programming bits to display the data on-screen or to save on a hard drive for later use.

Broadcasters are pursuing a wide range of data broadcasting opportunities in the consumer, small office/home office and business marketplace.[247] As with many new digital technologies, the challenge is to develop products and services with profitable business models. This is tremendously important to broadcasters, who are searching for ways to develop new revenue streams.

Digital Rights Management

Movie studios, television networks, computer-chip makers, software companies and consumer electronics manufacturers agree that DTV programs must be protected from unfettered distribution over the Internet by consumers.[248] Many people in the creative community want to protect against unauthorized distribution of their works.[249] As one media executive laments, "when viewers can download the entire season of a show from the Internet for free and without commercial advertising, what value does syndication have?"[250]

---

[246] *Id*.
[247] Capitol Broadcasting has built an operational datacasting facility it calls "TotalCast," which is broadcast via WRAL-TV/DT in Raleigh, NC. TotalCast includes video-on-demand (VOD) from WRAL-TV/DT news, a custom news "microsite" from WRAL.com, computer games, short films, software, and other local programming. Received content may be stored on an end user's computer hard disk, where it is available for nearly instant access. *See* http://www.digitaltelevision.com/2002/january/feature2.shtml (accessed July 16, 2002). iBlast, a datacasting network, launched a game service called iBlast Games at the 2002 E3 conference on May 17, 2002. According to company officials, the game service is capable of delivering up to 10 gigabytes of game content per day. iBlast Games will be available in selected cities nationwide in 2002. *See* iBlast press release, www.iblastgames.com (accessed September 26, 2002).
[248] Paige Albiniak, *Raising the Flag on Copy Protection*, Broadcasting and Cable, June 10, 2002, p. 25.
[249] Testimony of Richard D. Parsons, CEO, AOL Time Warner, before the House Committee on Energy and Commerce Subcommittee on Telecommunications and the Internet Hearing "*Ensuring Content Protection in the Digital Age*," April 25, 2002.
[250] *Id*.

In August 2002, the Commission issued an *NPRM* designed to facilitate the transition to DTV and to explore whether it can and should mandate the use of a copy protection mechanism for digital broadcast television, and what impact such regulation would have on consumers.[251] It noted that the current lack of digital broadcast copy protection may be a key impediment to the DTV transition's progress. Without a digital copy protection scheme that prevents the unauthorized copying and redistribution of digital media, content owners assert that they will not permit the digital broadcast of high quality programming. Without such programming, consumers may be reluctant to buy DTV receivers and equipment, thereby delaying the DTV transition.

Private industry negotiations have reached consensus on a technical "broadcast flag" standard (ATSC Standard A65/A) that would limit copying of some programming aired by broadcast-TV stations. However, there is no universal agreement on the use and implementation of the flag. There is also no industry agreement on how to enforce digital broadcast copy protection. The *NPRM* seeks comment on the jurisdictional basis for Commission action in this area and whether it should intercede in this matter.

If Commission-mandated digital broadcast copy protection rules are needed, the *NPRM* asks the following questions: (1) is the broadcast flag the appropriate technological model to be used; and (2) is a government mandate requiring broadcasters and content providers to embed the broadcast flag (or other content control mark) within digital broadcast programming necessary?

Regarding reception of the digital broadcast signal, the *NPRM* asks questions in several areas. For example, should the Commission mandate that consumer electronics devices recognize and give effect to the broadcast flag (or other content control mark)? What is the appropriate point in a consumer electronics device at which digital broadcast copy protection should begin? Would a digital broadcast copy protection system be effective in protecting digital broadcast content from improper redistribution? Would digital broadcast copy protection work for digital broadcast stations carried on cable or DBS systems, and if so, how? Should the Commission mandate the use of specific copy protection technologies (such as DTCP/5C or HDCP) in consumer electronics devices that are designed to respond to the broadcast flag? And, if so, how would a particular technology receive approval for use and who would be the appropriate entity to make that decision?

Consumers will be affected if the Commission adopts a rule mandating the adoption of a broadcast flag or other digital broadcast copy protection mechanism. This also raises several questions that must be considered. For example, will requirements to protect digital outputs interfere with the ability to send DTV content across secure digital networks? What is the impact of digital broadcast copy protection mechanisms on existing and future electronic equipment? Will digital broadcast copy protection have an effect on the development of new consumer technologies?

---

[251] *See In the Matter of Digital Broadcast Copy Protection*, Notice of Proposed Rulemaking, MB Docket No. 02-230 (2002).

Interactive Television

The Commission has not previously defined ITV. It has, however, characterized ITV as a service that supports subscriber-initiated choices or actions that are related to one or more video programming streams.[252] ITV is evolving rapidly and the services it provides may enable increased viewer control of the television viewing experience by permitting the integration of video and data services – including Internet content - and by allowing real-time interaction with other viewers.[253] In connection with its review of the AOL Time Warner merger, the Commission issued a *Notice of Inquiry* to consider whether industry-wide rules were needed to address any impediments to the development of ITV services and markets.[254] The NOI sought to gather a more complete record on the ITV industry, generally, and the deployment of ITV services by cable operators, in particular.

The Commission attempted to identify the major technical resources or "building blocks" necessary for the provision of ITV services (particularly high-speed ITV services) and, if it was determined that a general nondiscrimination principal should be adopted, how it should be applied to the provision of the building blocks.[255] The components identified by the Commission in the *ITV NOI* are as follows: a video pipeline associated with interactive content (*e.g.,* the MPEG video stream), a two-way connection (*e.g.*, via the Internet) and specialized customer premises equipment (*e.g*., the interactive television set-top box).[256] This narrow definition of what constitutes ITV was developed to address the concerns certain parties had with the merger between AOL and Time Warner. The scope of ITV services available to the public is much broader than what was contemplated by the Commission in the NOI.

ITV services are currently being offered by television broadcasters, cable programmers, cable operators, satellite carriers and third party interactive service providers, with the broadcasters and programmers concentrating on enhanced television and ITV-over-television applications and the cable and satellite operators developing video-on-demand and personal video recorder technologies. The ITV services, described in detail below, are often referred to as single screen applications where all of the activity is received and processed either through the television receiver or the set top box provided by the cable operator, satellite carrier, or the ITV service provider. Programs or applications that require a viewer to access a computer, while watching television, are known as two screen services and are not generally accepted as true ITV. However, two-screen applications are being deployed in the interim to provide simple interactivity (*e.g*., users are able to log on to the associated website to retrieve more information, or participate in polls and/or quizzes). Some examples of current ITV applications are provided below.

---

[252] Nondiscrimination in the Distribution of Interactive Television Services Over Cable, Notice of Inquiry, 16 FCC Rcd 1321 (2001) ("ITV NOI").
[253] *See Id.* at 1322.
[254] ITV NOI, supra.
[255] *ITV NOI*, 16 FCC Rcd at 1329.
[256] *ITV NOI*, 16 FCC Rcd at 1324-25.

Enhanced Television

Enhanced television services generally allow the viewer to obtain more information on certain programming, purchase products, permit the manipulation of the video image, or provide input on questions posed by the program distributor.[257] With this type of technology, the subscriber accesses a graphic interface, overlay, or a screen that wraps around the displayed video signal(s), providing supplementary information related to the video display or a related t-commerce transaction opportunity.[258]

While broadcast television stations were among the first delivery systems to offer enhanced television services to viewers, cable operators have recently entered the fray. AOL Time Warner, for example, has deployed technology allowing subscribers to change and manipulate camera angles when viewing sports programming. Oceanic Cable, AOL Time Warner's cable division in Hawaii, has recently launched this type of ITV service using software developed by NDS.[259] Interactive polling is another growth area in the ITV field, and another type of interactive service Oceanic Cable is now providing to its Hawaii cable television subscribers. The application presents banner strips on subscribers' television screens asking them to answer questions and taking votes during programs and advertisements. Subscribers reply using their remote controls with the results then compiled and presented to the audience.[260]

Internet Over Television

Internet over television gives a subscriber the ability to launch an Internet browser on the subscriber's television screen, and navigate between surf, chat, and email applications.[261] Depending on the system, a subscriber may have the ability to view a program or commercial using a remote control or wireless keypad device. The subscriber can click on a hyperlink that appears on the screen while the user is watching regular programming and be taken to the corresponding website containing the supplemental information through a process called "channel hyperlinking."[262]

Electronic Program Guides

Electronic Program Guides ("EPGs") are on-screen directories of programming delivered through various means, including cable plant, telephone lines, and over-the-

---

[257] Id.
[258] Id.
[259] *See* NDS Announcement: Hawaii To Experience Oceanic Time Warner's New "Sportsview." NDS Press Release, September 19, 2002.
[260] Oceanic Cable has rolled out this type of service using Navic's set top data services software. *See* Karen Brown, *Oceanic Unveils Interactive Duo*, Multichannel News, September 18, 2002.
[261] *See PowerTV press release regarding Internet over TV Application*, April 3, 2001, http://www.powertv.com/News/2001_news/04_03_01_news.html (accessed July 22, 2002).
[262] Interactive Television – Turning Couch Potatoes into Mouse Potatoes, Donaldson, Lufkin & Jenrette Report, December 1999, p. 1.

air broadcast signals.[263] Original-generation EPGs are not interactive, but rather continually scroll programming listings. These EPGs are generally delivered as discrete video programming channels. Newer, interactive EPGs, ("IPGs") however, allow users to sort and search programming, give program descriptions, provide reminders of upcoming programming, and take users to programming they select. Interactive EPGs can be transmitted via the Vertical Blanking Interval ("VBI")[264] of analog channels, or may be transmitted as stand-alone digital data streams. The distributors of EPGs are MVPDs such as cable and DBS operators.[265] The sellers of EPGs are EPG companies.[266] Gemstar,[267] the current market leader in the provision of EPGs, has contracted with AT&T for provision of EPGs on AT&T cable systems, and several other operators such as Comcast, Charter, and Intermedia. Some regard interactive EPGs as the most important interactive application because they act as electronic gateways to the variety of services offered by multichannel video programming distributors.[268]

Video-on-Demand

Video-on-Demand ("VOD") is analogous to the PVR in its function.[269] VOD permits subscribers to instantly access video programming of any kind for a small fee for each event ordered.[270] Subscribers are able to pause, fast-forward or rewind programming in the same manner as permitted by a traditional video recorder. VOD is an evolved form of pay-per-view where subscribers do not have to wait to view desired programming. VOD requires video servers[271] with hundreds of gigabytes of storage as

---

[263] *AOL Time Warner*, 16 FCC Rcd 6547 (2001).

[264] Newton's Telecom Dictionary (14th Ed. 1998) defines the VBI as: The interval between television frames in which the picture is blanked to enable the trace (which "paints" the screen) to return to the upper left hand corner of the screen, from where the trace starts, once again to paint a new screen. This time period is the equivalent of 21 scanning lines. The VBI is used to transmit data to organize the television picture, as well as other data. Line 21 of the VBI is reserved for distribution of closed captioning information. *See Closed Captioning and Video Description of Video Programming*, *Implementation of Section 305 of the Telecommunications Act of 1996, Video Programming Accessibility*, Report, MM Docket No. 95-176, 11 FCC Rcd 19214 (1996).

[265] Some set-top boxes and television sets will have EPGs technology built inside.

[266] In addition, some ITV providers may provide interactive EPGs as part of their ITV service. Other EPG companies, besides Gemstar, are WorldGate (who provides "TV Gateway" for WorldGate subscribers) and Liberate Tribune.

[267] On July 11, 2000, Gemstar and TV Guide, Inc. announced the completion of their merger, in which TV Guide, Inc. will become a wholly owned subsidiary of Gemstar. TV Guide, Inc*., Gemstar International Group Limited and TV Guide, Inc. Announce Completion of Their Merger* (press release) July 11, 2000.

[268] *See* Gene Feroglia, *Portal Shmortal—It's the IPG That Counts*, Multichannel News, August 27, 2001 ("What cable operators cannot lose sight of is the fact that the most crucial application available is the interactive program guide. . . .For the viewer, the IPG is the application that makes life easier by providing a tool to effectively navigate among programming options.")

[269] SeaChange International Inc., Concurrent Computer Corp., nCube Corp., Intertainer Inc., and DIVA are currently the principal VOD product and service vendors. (Note: DIVA filed for bankruptcy protection in May 2002.)

[270] James Chiddix, President of AOL Time Warner's Interactive Personal Video Division, has stated that "The one kind of interactive television that makes money today is video-on-demand." *See* Matt Stump, *Time Warner's Chiddix on State of VOD*, Multichannel News, November 5, 2001.

[271] A video server is a device that stores video information on hard disks or optical disk drives. See Newton's Telecom Dictionary (17th Ed. 2001) at p. 748.

well as a digital set top box in the subscriber's home.[272] Cable systems, and to some extent, local telephone companies have the necessary upstream and downstream architecture and bandwidth to offer VOD. The major issues facing the rollout of VOD by cable operators includes: (1) channel capacity; (2) set top box deployment[273]; (3) tiering and marketing decisions; (4) pricing decisions; and (5) content. In a key development for delivering VOD, Comcast has agreed to launch a video-on-demand system that is combined with Gemstar's EPG in a Motorola set top box.[274] This integration of technologies simplifies subscriber selection and ordering of VOD programming options.[275] Other variants of VOD include:

Subscription Video-on-Demand

Subscription Video-on-Demand ("SVOD") functions like VOD, but has a different marketing structure.[276] Rather than pay for each event viewed, the subscriber pays an additional monthly fee, on top of a premium service fee, to access certain programming on an at-will basis. For example, a subscriber would pay an additional $3.00 more per month for HBO which would allow him to access certain programming, such as "Sex and the City" or "The Sopranos," for instantaneous viewing. Charter Communications has recently launched an SVOD package in several of its systems where subscribers can access children's' programming provided by several cable programmers and PBS for a $9.00 flat fee.[277]

Near Video-on-Demand

As mentioned earlier in this chapter, NVOD is similar to VOD in that the subscriber selects the individual program for a fee, but the video is not delivered instantaneously. Rather, the program starts at certain time intervals, likely every ten minutes or so, and the user switches between video streams to simulate fast-forward, rewind, etc. The program is likely to be stored at the headend, while the program is stored on video servers for traditional VOD.

Other ITV services

There are other types of ITV services that are being developed by technology firms and deployed by either cable operators or satellite carriers. One burgeoning area

---

[272] A conditional access system is a necessary component of any video delivery system providing VOD. Conditional access is an electronic security system set up to prevent theft of service.
[273] A set top box with a hard drive can remove some network congestion caused by interactive applications, such as VOD.
[274] See Comcast's VOD System First to Link With Gemstar, Hollywood Reporter, October 4, 2001.
[275] Mark Hess, Comcast Vice President for Digital Services, has stated that the integration of Gemstar's EPG with SeaChange's VOD system "will help the company launch interactive TV services on the Motorola box." *See id.*
[276] SVOD initially launched in four markets: Columbia, S.C. (Time Warner), Cincinatti, OH (Time Warner), Cleveland, OH (Adelphia), and New York City (Cablevision). Matt Stump, *Approaches Differ, But Product Remains SVOD*, Multichannel News, November 5, 2001.
[277] Matt Stump, *Quietly, Cable VOD Efforts Head Toward Critical Mass*, Multichannel News, November 5, 2001.

is interactive gaming where, for example, individuals with high speed Internet access can engage in multiplayer games through certain websites. Also, there are several firms that have developed software permitting subscribers to place wagers on sporting events. However, the legality of this type of ITV service is questionable absent legislation permitting its deployment.

Personal Video Recorders

Since the 1970s, devices and services such as the VCR and PPV television have increased personalization of television viewing.[278] Instead of passively receiving whatever broadcasters choose to show the public, control over content and when it is viewed is shifting from the broadcaster to the viewer.[279] Increased penetration of digital video services and new home video technologies such as the PVR mean the trend towards personal television will be even more pervasive in the future.[280]

A PVR is a device connected to a television set, either embedded in an STB or as a stand-alone device, which uses a hard disk drive, software, and other technology to digitally record and access programming. PVR technology allows a consumer to pause, replay, rewind, fast-forward and otherwise time-shift television programs.[281] While PVRs cannot play prerecorded videocassettes or DVDs, they make it relatively simple to record pay-per-view signals or other content from digital platforms, such as DBS, and provide the user with the same level of control over the playback of a movie as home video provides.

The devices are "smart" in that they can select shows for a user based on a particular topic, categorization or prior viewing habits. Users simply select the shows they are interested in from the television viewing guide with the press of a button. PVRs enable the user to skip past commercials in recorded material with one simple click.

Compared to the launch of other consumer electronic devices such as the DVD player, consumer adoption of PVRs has been marginal but promising. However, the integration of PVR functionality with other devices, such as television sets or STBs, should rapidly increase deployment and consumer adoption.[282] Integrated products allow service operators to bundle their services, which may provide an attractive business model while undercutting retail sales of standalone PVR units.[283] Although the market for PVRs is still small at approximately $38 million in 2001, analysts project the market to reach about $35 million in 2002 with an anticipated growth rate of approximately 12.6% per year to $61 million in 2005.[284]

---

[278] Stuart Thomson and Aalia Walker, *Datafile*, Cable and Satellite Europe, September 1, 2001.
[279] *Id*.
[280] *Id*.
[281] TiVo Inc., SEC Form 10-K405, March 30, 2000 ("TiVo 10-K"); ReplayTV Inc., SEC Form S-1/A, May 1, 2000 ("ReplayTV S-1/a").
[282] *Id*.
[283] *Id*.
[284] Bear, Stearns & Co. Inc., Hard Lines Retailing: Consumer Electronics Report (2002) at p. 32.

Studies show that most consumers may not purchase a stand-alone PVR in the near future because the VCR satisfies most of their current recording needs.[285] Price and lack of product knowledge are also factors limiting sales of stand-alone PVRs. For example, the average cost of a PVR was approximately $304 in 2001 compared to $309 in 2000 and the initial $460 in 1999. These prices are quite high relative to the average price of a VCR, which was $72 in 2001 and $83 in 2000. A PVR combined with an NVOD subscription service may prove to be a better model for video programming distribution instead of pure VOD, which requires a considerable amount of bandwidth. A device which combines a PVR with a DVD recorder ("DVD-R") may also be an attractive consumer product because of its ability to make permanent copies of programs on a DVD from the PVR.[286]

Several companies offer PVRs, including ReplayTV Inc. and TiVo, Inc. Last year, ReplayTV announced that it would no longer sell PVRs directly to consumers, but would focus on licensing its technology to cable and other television-oriented companies.[287] In August 2001, Sonicblue acquired ReplayTV, and announced that it again would sell PVRs over the Internet and at select retail outlets.[288] TiVo, the market leader, has an installed customer base of more than 280,000. The second generation box, TiVo Series 2, currently sells for approximately $399.99 and operates with any television system: antenna, cable, digital cable, satellite and combination.[289] TiVo is offered on a subscription basis for approximately $10 a month.[290] About 20% of its reported 200,000 subscribers receive the service through DirecTV using an STB that combines DBS and PVR functions.[291] In addition, EchoStar offers STBs, the DISHPlayer and the DishPVR, with PVR capabilities.[292]

One television executive notes that consumer adoption of PVRs has not been as widespread as predicted.[293] Consumers may adopt the PVR, much like the VCR and

---

[285] *Id*., citing an eBrain Market Research Study from July 2001. (Note that all the figures used in this paragraph are from the Bear,Stearns & Co. Report).
[286] *Id*., at p. 32.
[287] *2000 Report*, 16 FCC Rcd at 6059-60.
[288] Natalie Weinstein, *Sonicblue Completes ReplayTV Acquisition*, CNET News.com, Aug. 2, 2001, at http://news.cnet.com/newx/0-1006-200-6762533.html; Khanh T.L. Tran, *TiVo, Sonicblue Still See the Bright Side*, Wall Street Journal, Aug. 31, 2001, at B3. Sonicblue also plans to provide Ethernet capabilities in order to offer a subscription service for niche programming. Michael Grotticelli, *Reviving ReplayTV,* Broadcasting & Cable, Sept. 10, 2001, at 32.
[289] Bear, Stearns Hard Lines Retailing: Consumer Electronics, p. 32.
[290] http://www.tivo.com; Walter S. Mossberg, *Personal Technology, SuperSet-Top Boxes Put Viewers in Charge, Change TV Habits*, Wall Street Journal, Feb. 22, 2001, at B1. *See also 1999 Report*, 15 FCC Rcd at 1035.
[291] *TiVo Reports Subscriber Increases, Lower Losses*, Satellite Business News Fax Update, May 30, 2001, at 2; http://www.directv.com.
[292] http://www.dishnetwork.com/content/products/receivers/index.shtml.
[293] Michael Freeman, *Execs Debate Issues at TCA: Product Placements, PVR Use Top Agenda*, Electronic Media, Vol: 21, No. 29, July 22, 2002 (citing remarks by Leslie Moonves, President, CBS Television).

every other new form of entertainment, but the PVR may not have quite the same effect as experts assume.[294]

Another broadcast executive compares potential revenue losses from skipped commercials and the disk storage of copyrighted programming to the current massive losses threatening the music industry.[295] He estimates that almost one million households (or less than 1% of total television viewers) currently use PVR devices on a regular basis.[296] He cautions that if cable and satellite operators continue plans to integrate PVR technology into their STBs, within five to ten years there might not be any commercial ads on television.[297] In his opinion consumers may be asked to pay for programming if the networks lose advertisers. He warns that PVRs could present a real threat to the television industry, translating into a future cost to American consumers of approximately $250 annually per household through cable subscriber fee increases or conversion to "pay for" services of advertiser-supported basic cable networks.[298]

A different network head, who admits to owning a PVR, suggests that PVR users might not be inclined to skip past commercials during sporting events because the commercials are sports-related and almost weave into the programming.[299] For instance, during televised golf tournaments, players often talk about equipment during the commercials.[300] The content of the commercials tends to be compatible with the format of the golf show.[301] Thus, golf enthusiasts might "stay tuned" during the commercial breaks to find out what brand of golf ball or golf club their favorite professional golfer endorses.

Overall, there is a growing concern that given the opportunity to skip through entire commercial and promotional pods during a network break, a large number of consumers will choose to skip. This concern may be valid, considering a recent study which concluded that people who watch recorded television shows on PVRs skip past commercials over 71% of the time (See Table 31).[302] The study noted that the skip rate for PVR users was more than four times that of viewers watching shows recorded on a

---

[294] *Id*.
[295] Michael Freeman, *Execs Debate Issues at TCA: Product Placements, PVR Use Top Agenda*, Electronic Media, Vol.: 21, No. 29, July 22, 2002 (citing remarks by Jamie Kellner, Chairman, Turner Broadcasting).
[296] *Id*.
[297] Comm. Daily, Vol. 22, No. 135, July 15, 2002 (citing remarks by Jamie Kellner, Chairman, Turner Broadcasting).
[298] *Id*.
[299] Lisa de Morales, *The TV Column*, The Washington Post, July 25, 2002 (citing remarks by Bob Wright, CEO, NBC).
[300] *Id*.
[301] *Id*.
[302] Marla Matzer Rose, *Study: PVR Users Skip 71% of Ads*, Hollywood Reporter, July 3, 2002, citing research study from CNW Marketing Research.

VCR.[303] The skip rate was also more than 65% higher with PVR users than with people who actively ignored commercials on live television.[304]

Table 31: Television Ads Not Watched (Prime Time)[305]

Summary -- Sort by "Fast Forward PVR…"

	Actively Ignored on Live TV*	Fast Forward Video Taped TV	Fast Forward PVR TV	Fast Forward Of Video Taped Cable TV	Fast Forward Of Video Taped Network TV	Fast Forward Of PVR Recorded Cable TV	Fast Forward Of PVR Recorded Network TV
Fast Food	44.4%	23.7%	94.6%	22.2%	25.4%	94.4%	94.7%
Credit Cards	62.8%	18.8%	93.6%	14.2%	23.1%	93.5%	93.7%
Upcoming Program	74.2%	21.4%	93.4%	15.8%	27.6%	92.4%	93.7%
Mortgage Financing	73.9%	19.6%	92.7%	19.4%	19.8%	91.1%	93.5%
Home Products	40.6%	17.2%	88.5%	13.3%	22.8%	80.4%	93.6%
Personal Improvement	68.2%	14.3%	85.6%	12.4%	16.9%	80.3%	91.2%
Pet Related	55.7%	16.2%	81.9%	12.8%	21.3%	80.2%	84.6%
Soft drinks	21.9%	8.7%	81.4%	6.1%	9.8%	80.7%	82.9%
Male Hygiene Products	63.8%	15.1%	78.2%	12.4%	19.7%	75.6%	82.1%
National Automotive	52.6%	18.4%	71.3%	15.3%	26.1%	65.7%	79.4%
Feminine Products	41.3%	13.7%	64.1%	8.7%	19.2%	50.3%	78.6%
Local Automotive	58.1%	14.6%	62.8%	10.4%	19.3%	57.5%	68.2%
Specialty Clothing	32.7%	15.6%	61.3%	13.7%	24.1%	55.2%	64.9%
National Dept Store	37.8%	16.9%	60.8%	12.5%	22.2%	58.3%	62.7%
Home Improvement	16.2%	17.9%	56.7%	10.2%	25.8%	41.2%	68.8%
Local Dept Store	21.6%	10.2%	55.1%	8.8%	13.4%	52.6%	61.3%
Movie Trailers	11.3%	15.9%	47.3%	11.9%	13.6%	29.7%	41.3%
Drug	31.7%	13.1%	46.9%	11.2%	15.7%	41.2%	49.7%
Beer	4.4%	5.1%	32.7%	4.9%	5.3%	20.1%	35.6%
Unweighted Avg.	42.8%	15.6%	71.0%	12.4%	19.5%	65.3%	74.8%
Samples	*8,654*	*1,148*	*976*				

Source: CNW Marketing Research (2002)

Overall, with PVR users, commercials on cable fared a bit better than on network television. However, in the top "turn-off" categories of fast food, credit cards, mortgage

---

[303] *Id*.

[304] The research characterizes "ignoring" live TV as getting a snack, starting a conversation or taking a bathroom break.

[305] Data table compiled by CNW Marketing Research and used with permission from Art Spinella of CNW. CNW Marketing Research is primarily known for its automotive research, and the study was done mainly to learn about viewer habits in the automotive category. While its methodology was not designed to be definitive for other categories, the results may offer a window into the still-new world of PVRs, a worrisome area for advertisers concerned about avoidance of commercials. Total sample size: all surveyed were over age 18; 8,146 people watched live TV; 1,159 used videotapes and 944 were PVR owners. The survey is part of a larger television interactive study with a total sample size in excess of 18,000.

financing and home products, the statistics were virtually the same as network-run commercials.[306]

While the broadcast and advertising industries are concerned about viewers skipping commercials, it is foreseeable that the PVRs personalization functionality may radically affect the advertising model.[307] The concept of primetime may become much less important, as programs are viewed other than when they are broadcast. Scheduling programs and the significance of ratings during specific time periods may change the rules for airtime pricing.[308]

PVR manufacturers acknowledge that advertisers are concerned about the commercial skipping features of the PVR. One manufacturer has announced a new initiative that demonstrates how advertisers can establish far deeper communication with consumers by using key functions of a PVR to transform the traditional 30-second commercial into "advertainment."[309] Using the new advertainment capabilities, advertisers will be able to provide an electronic tag for commercials that come into view of PVR subscribers. Simply clicking the PVR remote control while the commercials are on the television screen will transport the PVR subscriber to a "video showcase" area where the viewer can watch innovative advertiser-produced and branded entertainment. This strategy gives advertisers new abilities, including (1) telescoping 30-second commercials that viewers can watch; (2) branded video showcases stored on the PVR hard drive; (3) lead generation and request for information features; and (4) real-time audience measurement data.[310]

Conclusion

There are technological advancements and deployment concerns, economics issues, regulatory challenges and consumer adoption questions that broadcasters face as they compete in the media industry. However, MPEG compression and encoding technologies have increased the ability for broadcasters and other competitive video distributors to transmit video over video distribution systems and the Internet.

The transition from analog to digital television is underway. Ultimately, the DTV transition will shift into high gear when three factors come together: (1) a critical mass of high-definition or value-added digital content; (2) distribution of that content to consumers; and (3) DTV sets in consumer's hands. For some broadcasters, securing financing to pay for station equipment is difficult.[311] Many worry that some broadcasters will not meet the transition deadline.[312] Cable operators feel pressure to carry

---

[306] *Id*.
[307] Stuart Thomson and Aalia Walker, *Datafile*, Cable and Satellite Europe, September 1, 2001.
[308] *Id*.
[309] See New TiVo Advertainment Debuts as Part of Best Buy National 'Go Mobile' press release, May 16, 2002.
[310] *Id*.
[311] See Many Broadcasters Will Not Meet May 2002 Digital Television Deadline, GAO-020466, April 2002.
[312] *Id*.

broadcaster's digital signals. Consumers are evaluating the value proposition of DTV sets and programming, and are encouraged by the sharp picture and superior sound quality. Local and network television, cable programmers and other content producers are offering more DTV programming in their program schedules. Broadcasters, movie studios, television networks, computer-chip makers, software companies and consumer electronics manufacturers are concerned about digital rights management and copyright protection but cannot agree on a solution.

Broadcasters are developing plans to utilize portions of the excess capacity in the spectrum to offer ancillary, supplemental and interactive services. To date, however, the vast majority of television stations have not acted on these plans. This is likely due to the uncertain business models for such new services. If significant demand and profitable business models develop, these additional services may generate new revenue streams and help defray the costs of the station's digital build-out. It appears that the growth of the ITV industry continues to proceed at a cautious pace. Ancillary and interactive services are slowly gaining consumer acceptance and are slowly becoming available through cable operators and satellite carriers as well as broadcast television stations. The rollout of ITV services will accelerate as (1) content owners and video programming distributors form strategic alliances; (2) the cost of providing ITV services continues to decline; (3) the deployment of two-way capable STBs increases; and (4) the transition to a digital environment progresses. PVRs may increase consumer's programming options and alter behavior patterns. The Commission will continue to monitor this line of business and report, where appropriate, on new developments and issues that may arise in the future.

Overall, technological developments increase the opportunities, challenges and competition faced by broadcasters. These digital technologies may permit broadcasters to become multichannel, multi-revenue stream video programming providers. However, these developments per se do not change the apparent scenario for broadcast television in the near term – a continuing gradual decline in viewing shares. If new services are developed and successfully deployed by competitors, the potential exists for rapid erosion of broadcasting's share.

IX. Advertising Market Developments

Introduction

This chapter briefly considers and discusses changes in the advertising market both in terms of market structure and in terms of new advertising formats. The advertising market has experienced consolidation, both on the buy and sell-sides in recent years.

With regard to new advertising formats, the arrival of interactive capability may present new models and opportunities for advertisers. However, given the valuable consumer feedback and data retrieval capabilities of interactive formats, any potential added value also raises issues relating to the protection of children and consumer privacy. Thus, advertisers and broadcasters may have to balance their interests in targeting and monetizing eyeballs versus the viewer's interest in privacy.

Changes in Advertising Market Structure

Sell-Side Consolidation

Over the past ten years the major broadcast networks have either entered the business of cable network provision or expanded an already existing smaller presence. In 1990, ABC and NBC each had some cable network holdings. Disney's purchase of ABC increased the portfolio of cable networks associated with ABC, while NBC has added modestly to its cable holdings over the decade. Fox started two cable networks in the 1990's and also bought and sold the Family Channel. CBS had modest purchased cable holdings of its own at the time of its purchase by Viacom. In addition to expanding the group of cable networks under common ownership with CBS, Viacom also recently added a second broadcast network, UPN, to the mix. AOL Time Warner started out as a cable network owner and then added the WB, a broadcast network.[313]

Consolidated media companies who own television and radio stations, cable channels and print publications can offer advertisers a wide variety of package deals.[314] For example, in May 2001 Procter & Gamble Co. and Viacom Plus, the cross-media sales and marketing unit of Viacom, announced the creation of a cross-platform marketing partnership.[315] The agreement encompassed marketing initiatives for Proctor & Gamble brands across twelve Viacom television properties in the United States: CBS Television Network, MTV, MTV2, VH1, Nickelodeon/Nick at Nite, CMT, BET, UPN, TV Land, Paramount Television, King World and Comedy Central. Cross-platform marketing partnerships offer advertisers "one-stop shopping" to leverage and integrate

---

[313] See Chapter X, "*Cooperative Efforts with Broadcasters*" subsection for more detail on this issue.
[314] *Consolidation Good for Public, Advertisers, Karmazin Tells TVB*, Comm. Daily, Vol. 22, Issue 59, March 27, 2002, citing remarks by Mel Karmazin, President, Viacom.
[315] Proctor &Gamble and Viacom Plus Announce Major Marketing Partnership, PR Newswire, May 31, 2001.

brand messages across a media company's full range of advertising-based assets. According to industry estimates, cross-platform agreements will represent up to 40% of media buys in the future.[316]

There are many business reasons for media mergers and consolidations. Companies join forces to expand their packaging, content production and distribution platforms (such as AOL Time Warner); to be self-sufficient supplier-distributors (as with Viacom and CBS); to strategically change or reposition themselves (as when Westinghouse bought CBS and Vivendi bought Universal); or for a company's cash resources (as when Viacom bought Blockbuster).[317] Media owners suggest that consolidation can lead to lower cost structures and higher revenues as a result of more advertising and cross-promotional opportunities.[318]

Broadcast television executives at companies which own two stations in a market believe that their companies gain greater influence with advertisers.[319] For example, a station group which owns two television stations and one or two sports networks in a city such as New York, NY or Los Angeles, CA is in a position to have a powerful voice with advertisers.[320] Other benefits include cost-control, higher profit margins and better-quality news and entertainment for viewers.[321] If a company owns multiple stations in a market, the company can have a strong position in the syndication business, and the opportunity to grow its own syndication business or to have more leverage when dealing with third parties.[322]

Media executives also suggest that vertical integration in the media business is beneficial because a vertically integrated company has an opportunity to generate revenue not only as a program producer but also from advertising on its local television stations, domestic cable and international channels.[323] Successful shows make money, and a program's wide-spread appeal can be monetized in a vertically integrated organization.

Some media executives suggest that consolidation among advertising agencies contributes to smaller advertising revenues because of greater information flow among advertisers.[324] Before consolidation occurred in the advertising and marketing services

---

[316] *Id*.
[317] Diane Mermigas, *Not All Mergers Made in Heaven*, Electronic Media, Vol. 21, No. 25 June 24, 2002.
[318] WPSG-TV, KYW Newsradio, KYW-TV to Debut Headline Service on UPN57 This Fall; Local News, Weather and Traffic to be Updated Every 10 Minutes, PR Newswire, June 3, 2002.
[319] Sallie Hofmeister, *Q&A with Murdoch Empire's Chief Engineer*, Los Angeles Times, September 2, 2001, citing remarks by Peter Chernin, Chief Operating Officer, News Corp. News Corp. holds and 85% stake in Fox Entertainment Group Inc. which operates the Fox Television Stations unit (Fox Television).
[320] *Id*.
[321] Business Brief, Fox Entertainment Group Inc.: Pact is Set to Buy WPWR-TV in Chicago From Newsweb, The Wall Street Journal, June 28, 2002. See also Entravision Communications Corporation Reports First Quarter2002 Results, PR Newswire, May 9, 2002.
[322] Sallie Hofmeister, *Q&A with Murdoch Empire's Chief Engineer*, Los Angeles Times, September 2, 2001.
[323] Id.
[324] *Id*.

industry, broadcasters discreetly sold ad space to diverse and independent agencies.[325] Today, broadcasters sell ad space to agency networks with knowledge of similar sales arrangements, which tends to decrease ad prices.[326]

Buy-Side Consolidation

There has been a considerable amount of consolidation, merger and acquisition activity not only among advertising agency clients, but also within the advertising and marketing service industry. Over the last few years, there has been acceleration in the rate of account consolidation that has moved business to the top consolidated advertising agency networks and holding companies at an unprecedented rate.[327] These large companies, such as WPP Group, Interpublic Group of Cos. and Omnicom Group, participate, via their subsidiaries, in many other areas beyond traditional advertising such as public relations, promotional sales and event marketing.[328]

Advertising industry analysts suggest that ad agency clients will continue to consolidate their accounts at fewer ad agency networks for several reasons, including pricing leverage, elimination of redundant costs and inefficiencies and brand harmony.[329] The relationship and planning may still be down on the agency or subsidiary level but the purchase negotiation is typically done on a consolidated basis. Moreover, more accounts will be consolidated as merger and acquisition activity continues among clients. While there has always been pricing pressure by clients in search of price concessions when soliciting bids, the leverage a client has over an agency when that agency is its sole supplier creates an opportunity for the client to seek special price considerations. Clients note that it is expensive to have multiple agency relationships due to agency costs which include back office functions, legal support and additional staff. Frequently, it makes better business sense to consolidate an account due to cost redundancies. While price is still not likely the main criteria for an account move, it is becoming more and more of an incentive to readdress an agency relationship and shop around.

Media buyers appear to have a stronger position in the industry today than ever before. Consolidation on the buy-side has occurred for several reasons, including: 1) consolidation within advertising and marketing services companies; 2) acquisitions; and 3) account movement. The major agency networks and holding companies have realized that they can achieve greater leverage and service their clients better by having larger media buying organizations. Within the last few years, all of the major holding companies have pooled most of the media buying functions out of their agency networks and created a stand-alone entity. OMD was formed through the media buying business at DDB and BBDO at Omnicom. Mindshare is the media buying business of

---

[325] *Id*.
[326] *Id*.
[327] Bear, Stearns & Co. Inc., *Advertising & Marketing Services Report*, March 2002 at 6.
[328] It is important to note that these other areas are often not reflected in many industry statistics.
[329] Much of the discussion in this working paper regarding buy-side consolidation is taken from the Bear, Stearns Advertising & Marketing Services Report (2002).

both Ogilvy Mather and J. Walter Thompson at WPP Group, and Magna Global is the umbrella for all of the media business within Interpublic.

Agency networks and holding companies are aggressively combining their own internal media businesses and acquiring others to attain scale and to secure more business from clients. Scalability is particularly important when pursuing media business. Larger media advertising buyers may benefit from stronger relationships with the media and better media rates. Given the escalating costs of mass media in the late 1990s, even the slightest ad price discount is meaningful to a large client.

Securing a price discount, however, can be problematic for several reasons. As the agency networks acquire more subsidiaries, they face the challenge of realizing synergy within the new larger network.[330] To be successful, they must get their individual subsidiaries cooperating with each other to offer clients a fully integrated suite of advertising and marketing services, while making sure that the costs of servicing the client are fairly apportioned.[331] Another reason is that the potential exists for client conflicts.[332] While many clients will insist that a competitor is not represented by the same agency, some global clients may try to claim category exclusivity for the entire ad agency.[333] Clients may also want to keep business at several agencies for creative diversity.[334] Because of the need for creative flexibility and trend-driven ad campaigns, clients will often spread business to several places or review their agency contracts on a regular basis. Furthermore, using different agencies may enable each brand manager to pursue his or her own style and create different strategies for different product lines within a company.[335]

It would stand to reason that the more dollars a media buying company has within its network, the more leverage that company will have in negotiating pricing and placement of advertising dollars for their clients. A decade ago, there were three major television networks and 25 leading media buying entities. The balance of power was clearly with the sellers of advertising space. At issue is whether that pendulum has switched today, given that there are only a handful of top media buyers and a multitude of sellers, as cable and other national networks evolve.[336] One reason in favor of agency consolidation was that agency networks and holding companies, with their massive combined spending, were supposed to bring clients more clout in the upfront television buying market, which typically lasts no longer than a week.[337] However, it has been suggested by some sellers and buyers at midsize media agencies that the larger

---

[330] Richard Tomkins, *Commercial Break-up*, The Financial Times, July 15, 2002.
[331] *Id*.
[332] *Id*.
[333] Bear, Stearns Report at 11.
[334] *Id*.
[335] *Id*.
[336] According to industry analysts, the top ten companies control an estimated 39% of the revenues in the advertising industry. However, as a percentage of the entire marketing industry, this figure is more like 25%.
[337] Richard Linnett and Wayne Friedman, *Sellers: Mega-shops Slow in Upfront*, Advertising Age, June 24, 2002 at 3.

agency networks tend to be the slowest and bulkiest players in the market.[338] Because of their size in terms of dollars and number of clients, they have to balance competing needs, which hampers the negotiation process. While size does earn agency networks a certain amount of clout at the bargaining table, they might not be able to use their size to negotiate from a position of strength. By not moving quickly, they are not able to react because they have so many client accounts to service. As a result, they may cut hasty last-minute deals, mostly on terms favorable to media sellers, or risk being left out of the market.[339] Many believe that these shops are so large they cannot force networks to lower prices because they cannot afford to pull out of deals. They have so much money and so many clients at stake they are practically forced to compromise. As one top industry executive has noted, "an agency's ability to make a deal is commensurate with its ability to walk away."[340]

Current Trends and New Advertising Formats

Product Placement and Sponsor-Supplied Programming

If, as expected, integrated PVRs become popular, broadcasters must find additional revenue streams. As discussed in Chapter VIII of this paper, some in the broadcast industry are looking to DTV and ITV to provide new revenue opportunities. Regardless of the type of technological advancement, broadcasters must ensure that they provide ad buyers the greatest number of advertising and promotional options. Proactive advertising companies, for example, are already looking at future opportunities within sponsorship and product placement. Increasingly, marketers are shouldering production expenses in return for benefits or rewards that may include product placement, sponsorships, and in some cases, sweepstakes. On behalf of their advertising clients, media companies are even staging and paying for parties and corporate events, developing elaborate promotions and mailings and agreeing to do unusual product placements.[341]

Movie viewers may be used to seeing commercial goods placed in films, but product placement will appear on all the broadcast networks, as well as on some cable shows, during the 2002-2003 television season.[342] One reason television and cable networks are chasing such partnerships is to help offset rising production costs in a weak advertising environment. These networks are eager to capitalize on the fast-growing demand from marketers to push beyond the limits of traditional commercials.

In 2002, Johnson & Johnson and AOL Time Warner Inc.'s TNT cable network entered into an arrangement where Johnson & Johnson agreed to fund two movies for

---

[338] *Id*.
[339] *Id*.
[340] *Id*. (citing John Mandel, CEO, MediaCom).
[341] Matthew Rose and Suzanne Vranica, *Prolonged Ad Slump Puts Media in the Mood to Pander to Buyers*, Wall Street Journal, May 9, 2002.
[342] Frank Ahrens, The Spy Who Loved Nokia, and Other Next-Stage Ads: TV Plots Thicken With Real Brands, The Washington Post, September 28, 2002.

TNT.[343] TNT agreed to support the movie with a multi-million dollar promotional campaign, spreading it across various sister properties owned by AOL Time Warner. Johnson & Johnson agreed to pay for the production of the film in exchange for extensive sponsorship rights. It also received about half of each movie's television ad inventory to promote its own products. Such partnerships illustrate the recent trend toward high-profile consumer brand companies entering into financial arrangements which result in the anticipated outcome – credit from consumers for bringing audiences quality entertainment.[344]

Today, even on the cable networks, sponsor-supplied programming may not be as prominent as it was from 1942 to 1960, the so-called "Golden Age" of the broadcast networks.[345] At that time, marketers such as General Electric, Texaco, Kraft Foods, Proctor and Gamble, Colgate Palmolive and Philip Morris together with ad agencies such as BBDO, Foote, Cone & Belding, J. Walter Thompson Co. and Young & Rubicam were involved in producing shows for ABC, CBS and NBC. Decades later, that joint venture concept moved into the barter-syndication realm via advertisers like Colgate. On network cable, Bristol Myers – now Bristol Myers Squib – supplied the "Alive & Well" series to USA Network in the 1970s. Today, advertisers such as Proctor & Gamble still supply some programming for broadcasting. Proctor & Gamble's daytime programs "As the World Turns" and "Guiding Light" continue to run. During primetime, Proctor & Gamble has a partnership role with Paramount Television in the airing of "Dawson's Creek" and the syndicated "Star Trek: Deep Space Nine."

Programmers find that advertisers are interested in financing shows focused on outdoorsy and family-oriented genres, plus those emphasizing male and female interests. The male-oriented, outdoor-themed shows in particular afford product placement opportunities.[346] For instance, at the cable network ESPN, most of its outdoor and fishing programs are pre-sold to advertisers – meaning they are sponsor-supplied or pre-sponsored. Nearly all secure one-year commitments to see how the shows will perform in the ratings. When the shows arrive with a pre-sold title sponsor, ESPN gives the sponsor exclusivity in the client category. However, the presenting sponsors must purchase the majority of the commercial time within the program. Accounts in bartered programs must buy additional inventory elsewhere on the schedule.

Individual consumer product companies are not the only entities financing network or cable channel programming. Firms representing an entire product category are also sponsoring and financing category-themed programming in exchange for category exclusivity.[347] In exchange for advertisers accepting production expenses, they

---

[343] Suzanne Vranica, *Reisenberg is the Marrying Kind*, Wall Street Journal, May 3, 2002.
[344] Id.
[345] Jim Forkan, *On Some Cable Shows, the Sponsors Take Charge*, Multichannel News, June 4, 2001. (The discussion in this paragraph and the next two paragraphs is drawn from this article).
[346] According to an Outdoor Channel executive, the Outdoor Channel has aired a variety of sponsor-supplied programs including: Hunting with Penn's Woods (a game-call marketer), Hunting with Country (from camouflage designer Mossy Oak) and Primos' Truth About Hunting (from Primos Hunting Calls).
[347] Suzanne Vranica, *FX Faces Headaches with 'World Beer Games*,*'* Wall Street Journal, May 3, 2002.

receive commercial time, sponsorship rights and product placements during the actual show. Advertisers believe these efforts will help break through the "clutter" of network commercials. However, partnerships between advertisers and content producers can lead to constraints in the ability to sell time to advertisers not in the partnership – especially those whose products are in a similar category (*e.g.*, a program sponsored by one brewing company may not be able or willing to sell ads to another brewing company).[348]

Broadcaster's business models face mounting challenges as viewers continue to channel surf each time a scene ends, or opt to skip a commercial with the aid of a PVR.[349] Media and advertising companies are looking at future opportunities within sponsorship and product placement. However, there may be legal and regulatory issues that could potentially restrict or limit product placement options. Many network executives indicate they are open to sponsor-supplied programs and detailed product placement schemes as long as the network retains editorial control. Yet, why would an advertiser invest millions of dollars without expecting to have at least some control over how it is used?

Recurring questions include:

1. How can a network please two large account marketers, competing in the same category, when one marketer underwrites a successful show and has its product displayed within the show itself and also in the commercials?

2. How will viewers react to shows that are developed, produced and sponsored by advertisers whose (a) products are featured prominently in the show and (b) whose commercials are aired during the breaks?

3. How will the creative talent such as writers, directors, actors and producers react to editorial control being given to the advertisers?

4. Who will take responsibility for the content and quality of the show?

Ultimately, time will tell whether product placement and sponsorship significantly add to the broadcaster's bottom line.

Interactive Advertisements

For broadcasters and other providers of video programming with business models based on advertising, digital technology may provide new interactive advertising opportunities for media buyers and incremental revenue for ad sellers. The concept of ordering a product or service via electronic communication is not new; e-commerce,

---

[348] *Id*.
[349] See Brian Lowry, *Going Far Beyond Product Placement*, Los Angeles Times, July 10, 2002.

where lets consumers purchase goods and services via the Internet, has been a rapidly growing industry[350] since the mid-1990s.[351] In fact, a recent study predicts that global business-to-consumer e-commerce transaction revenues will grow from $88 billion in 2002 to $361 billion in 2007.[352] The PC is expected to remain as the dominant platform for e-commerce transactions over the next five years.[353] Transaction revenues from fixed Internet or PC-based e-commerce will grow from almost $80 billion in 2002 to $255 billion in 2007.[354] Analysts also note that television based e-commerce (t-commerce) has significant potential as an alternative for PC-based e-commerce. They forecast that it could account for almost 20% of total e-commerce revenues by 2007, while contributing to slowing growth in PC-based e-commerce.[355]

For some time now, viewers have also had the opportunity to tune into infomercials or shopping channels. The success of home shopping channels has been tied to appealing product mixes, user-friendly call-in ordering systems and solid customer service. If this approach is utilized with t-commerce, the potential payoff from selling a product or service directly to the TV viewer is intriguing not only to broadcasters, but also to ad agencies and large marketers.

Interactive service opportunities such as PPV and VOD, opened up by conditional access technologies, have the potential for giving broadcasters many options for attracting more revenue. By offering a number of unique formats for interactive ads, broadcasters benefit by assisting ad agencies in targeting specific groups of customers based on location or other criteria that are recorded in a conditional access system. Depending upon the model and the underlying strategy, interactive advertisements can offer broadcasters and advertisers: (1) the ability to directly target specialized market cross sections; (2) the chance to gather valuable consumer data based on surveys and user requests; and (3) the opportunity to offer interactive contests and quizzes as viewing incentives. Moreover, the ability to target individuals with a personalized message is particularly appealing for advertisers.

The prospect of interactive advertising is a fundamental shift from mass market advertising to a more focused and response-based process, and a reliable feedback mechanism to measure ad effectiveness.[356] Interactive advertising, along with t-commerce, represent a fundamental change in the way companies will advertise and market and the way consumers will see advertising in the future. Today, many major advertisers and ad agencies view interactive ads as an experimental platform and are

---

[350] eMarketer's Global Report notes that year 2004 projections of total worldwide e-commerce revenues range from $963 billion (ActivMedia Research) to $4 trillion (Forrester Research). IDC Research expects total e-commerce revenues of $2.8 trillion and Goldman Sachs & Co. expects revenues of $3.48 trillion
[351] Phillip Swann, *Is the Future Now?* Response TV, February 1, 2002.
[352] See *B2C E-Commerce: Key Messages and Forecasts Report* by Ovum Research, http://www.ovum.com/go/product/latestresearch/008308.htm, (accessed August 9, 2002).
[353] Id.
[354] *Id*.
[355] *Id*.
[356] Jeremy Thorp, *What Benefits Do Interactive and Enhanced TV Service Provide?*, Broadcast Engineering, Vol. 43, No. 3, March 1, 2001.

struggling to balance new interactive concepts with traditional brand-building functions. Moreover, the added element of transaction capability adds more challenges such as (1) providing a good product mix with an easy-to-use ordering system; (2) managing customer service; and (3) offering compelling graphical user interfaces.

Interactive Advertising Targeting Children Raises Concerns

Clearly, regulatory restrictions and consumer acceptance pose a tremendous challenge, when one considers the potential transaction-oriented focus of t-commerce and interactive advertising. Parents, community organizations, industry groups, politicians and regulators may have concerns about the captivating nature of interactive ads. There may be an interest in limiting or controlling access by children and teenagers, particularly if t-commerce functionality is offered. Both Congress and the Commission have noted that (1) television plays a significant role in the lives of children; (2) it has great potential to contribute to children's development, and (3) Congress has a substantial interest in promoting children's welfare.[357]

The Commission has placed obligations on broadcasters to protect the interests of children, given broadcaster's responsibility as trustees of the public airwaves. In 1974, the Commission instituted a wide ranging inquiry into children's programming and advertising practices, which led to publication of the *Children's Television Report and Policy Statement* ("*1974 Policy Statement"*).[358] The Commission concluded that children are more "trusting and vulnerable to commercial 'pitches' than adults" and that children "cannot distinguish conceptually between programming and advertising."[359]

In 1990, Congress enacted the Children's Television Act of 1990 ("CTA").[360] The objective of Congress in enacting the CTA was to increase the amount of educational and informational programming on television.[361] The CTA imposed two principal requirements. First, commercial television broadcast licensees and cable operators had to limit the amount of commercial matter that could be aired during children's programs to not more than 10.5 minutes per hour on weekends and not more than 12 minutes per hour on weekdays. Second, the Commission had to consider whether all television broadcast licensees had served "the educational and informational needs of children

---

[357] *In the Matter of Children's Television Obligations Of Digital Television Broadcasters*, Notice of Proposed Rulemaking, MM Docket No. 00-167 at 2 (2000). *See also* S. Rep. No. 227, 101st Cong., 1st Sess. 17 (1989) ("Senate Report").

[358] Children's Television Report and Policy Statement, 50 FCC 2d 1 (1974), affd., Action for Children's Television v. FCC, 564 F.2d 458 (D.C. Cir. 1977) ("1974 Policy Statement").

[359] *1974 Policy Statement*, 50 FCC 2d at 11. The Commission stated its expectation that the industry would eliminate "host selling" and product "tie-ins," use separation between programs and commercials during children's programming, and honor the industry's voluntary advertising guidelines for children's programs.

[360] Children's Television Act of 1990, Pub. L. No. 101-437, 104 Stat. 996-1000, *codified at* 47 U.S.C. §§ 303a, 303b, 394. The Senate Report on the CTA cited the Commission's 1984 decisions as precipitating factors in the enactment of the CTA. *See* Senate Report at 4-5.

[361] Senate Report at 1.

through the licensee's overall programming, including programming specifically designed to serve such needs."[362]

In October 2000, the Commission issued an *NPRM* seeking comment on how existing children's television obligations, developed with analog technology in mind, should be adapted to apply to DTV.[363] The *NPRM* noted that DTV offers a range of possible applications, including potential revenue generating video and data services, such as subscription television, interactive services, time-shifted video programming and new video/information services.[364]

At issue in the *NPRM* proceeding is how the Commission's children's programming advertising limits and policies will apply to DTV broadcasters. By converging Internet capabilities with broadcasting, DTV permits a new level of interactivity between broadcasters, advertisers and viewers. Clearly this capability offers great potential for enhancing the educational value of children's programs by, for example, permitting children to click on icons that appear on the screen during the program which take them to websites with more in-depth information about the topics covered in the program. However, the interactive capabilities of DTV also allow for the direct sale of goods and services over the television. This capability presents marketers with new opportunities to reach children, which raises concerns in light of the difficulty young children have in distinguishing commercials from programming and the particular vulnerability of children to advertising.

The Commission is considering children's advertising and programming policy issues regarding:

> (1) applicability to free over-the-air channels, or to all digital channels both free and pay,

---

[362] In August 1996, the Commission adopted its current educational programming rules enforcing the CTA. *See Report and Order, Policies and Rules Concerning Children's Television Programming*, MM Docket No. 93-48, 11 FCC Rcd 10660 (1996) ("*Children's Programming Report and Order*"). The Commission first adopted rules implementing the CTA's educational programming mandate in 1991. These rules included a very flexible definition of educational programming, did not establish quantitative guidelines regarding the amount of educational programming licensees were required to provide, and did not include measures designed to inform the public about educational programming. Within a few years after these initial rules took effect, questions began to be raised regarding the effectiveness of the new rules, and in particular about the content of the programs stations claimed were educational. The Commission's rules included several measures to improve public access to information about the availability of children's "core" programming. The Commission defined "core" programming as regularly scheduled, weekly programming of at least 30 minutes, aired between 7:00 a.m. and 10:00 p.m., that had the significant purpose of serving the educational and informational needs of children ages 16. The program had to be identified as core programming when aired and in information provided to program guide publishers.

[363] In the Matter of Children's Television Obligations Of Digital Television Broadcasters, Notice of Proposed Rulemaking, MM Docket No. 00-167 at 2-3 (2000).

[364] *Id*.

(2) prohibition of all direct links to commercial websites during children's programming,

(3) prohibition of the use of DTV interactivity capability in children's programs to sell products, and

(4) changing the definition of "commercial matter" to include some or all types of program interruptions that do not currently contribute toward the commercial limits.[365]

Privacy and Interactive Advertising

In addition to child protection issues, privacy issues concerning the aggregation, use and confidentiality of consumers viewing and purchasing information also pose challenges to the widespread acceptance of interactive ads. If these concerns become obstacles, interactive advertising formats will have to allow for parental control over the content viewed by different family members. They will also have to provide a guaranteed level of privacy and security, especially if these formats allow for consumers to purchase products or services.

Opinions vary as to the likelihood for success of interactive advertising and its underlying technological platform. Despite the economic, technical, regulatory and programming challenges inherent in deploying an ITV platform that can support interactive advertising, industry executives and analysts still believe that ITV has great long-term potential.[366] However, as audiences become more fragmented, some in the industry believe that ITV producers will have to create content for each audience base, making the sheer volume of content needed difficult in terms of cost and time to produce.[367] With respect to interactive advertising, others suggest that there will surely be faster, less expensive ways to produce advertisements and programming catered to ITV in the future. [368] To be successful, interactive advertising must be designed to work in a hybrid, integrated environment that incorporates the best of advertising with the best of broadcast television.[369]

Conclusion

There have been changes in the advertising market both in terms of market structure and in terms of new advertising formats. The advertising market has

---

[365] *Id*.
[366] Comm. Daily, Experts Say Interactive TV Profits Still Are Years Away, Vol. 21, Issue 41, March 1, 2001.
[367] Jeremy Thorp, *What Benefits Do Interactive and Enhanced TV Service Provide?*, Broadcast Engineering, Vol. 43, No. 3, March 1, 2001.
[368] *Id*.
[369] *Id*.

experienced consolidation, both on the buy and sell-sides in recent years. Media owners suggest that consolidation can lead to lower cost structures and higher revenues as a result of more advertising and cross-promotional opportunities. Broadcast television executives at companies which own two stations in a market believe that their companies gain greater influence with advertisers. Buyers of advertising have also faced consolidation activity in their industry. These consolidations have been the result of several factors, including consolidation within advertising and marketing services companies, acquisitions and account movement. Product placement and sponsor-supplied programming are not new concepts, but they may provide additional revenue for broadcasters. New advertising formats promise to present new models and opportunities for advertisers. However, given the valuable consumer feedback and data retrieval capabilities of interactive formats, any potential added value also raises issues relating to the protection of children and consumer privacy. The Commission is reviewing issues related to potential effects that DTV and interactivity may have on children's advertising and programming. Thus, advertisers and broadcasters may have to balance their interests in targeting and monetizing eyeballs versus the viewer's interest.

X. The Market for Broadcast and Non-Broadcast Video Programming

Introduction

This section provides a brief overview of the financial interest and syndication rules ("Fin-Syn"), which were repealed in the mid 1990s, and discusses the evolution of the programming market after the repeal of those rules. The section then discusses prime time programming trends and the role of independent production in the programming market. The section also briefly discusses some recent trends, including repurposing and summer programming. The section also reviews the status of programming in the cable arena—with a particular focus on sports and news programming. It is clear that since Working Paper 26, television programming has undergone monumental changes as producers have found increasing outlets to display programming, most notably over the cable platform.

Repeal of Syndication and Financial Interest Rules

Like the program distribution market, the program production market has also undergone significant changes since the release of Working Paper 26. Broadcast network program production in particular has experienced a significant shift over the last decade. From 1970 through the early 1990's, the broadcast networks were subject to Fin-Syn.[370] These rules prohibited any network from acquiring financial interest in television 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. Later, pursuant to Consent Decree entered into between the Department of Justice and each of the respective networks (NBC in 1978, and ABC & CBS in 1980), the amount of in-house program production activity was limited. Furthermore, under the Fin-Syn rule, the networks could not engage in the business of syndication for programming distributed over the network, but produced outside the network. For programs wholly produced by the networks, the Fin-Syn rule required that, if the program was to be syndicated, the networks were required to sell their syndication rights to others.

But since the release of Working Paper 26, all of these regulations have been eliminated. In January 1993, the Commission repealed significant portions of Fin-Syn.[371] Then in November 1993, in response to a joint motion filed by the three networks, the U.S. District Court for the Central District of California entered an order lifting the prohibitions imposed upon the three networks pursuant to the 1978 and 1980

---

[370] In the Matter of Amendment of Part 73 of the Commission's Rules and Regulations With Respect to Competition and Responsibility in Network Television Broadcasting, Report and Order, Docket No. 12782, ("Fin Syn"), 23 FCC 2d 382 (1970).

[371] In the Matter of Evaluation of the Syndication and Financial Interest Rules, MM Docket No. 90-162, Second Report and Order, 8 FCC Rcd 3282, recon. Granted in part, In the Matter of Evaluation of the Syndication and Financial Interest Rules, MM Docket No. 90-162, Memorandum Opinion and Order, 8 FCC Rcd 8270 (1993), aff'd sub nom. Capital Cities/ABC, Inc. v. Fcc, 29 F.3d 309 (7th Cir. 1994).

Consent Decrees.[372] In September 1995, the Commission eliminated the remaining Fin-Syn rules.[373]

Since these regulations were eliminated, the market for broadcast program production has evolved significantly. Many challenges and trends have emerged in the programming marketplace. Some of these were evident during 2001-2002 and continue in the 2002-2003 broadcast network season. They are briefly discussed below.

The Programming Marketplace

In the days before multimedia competition, the primary way networks increased advertising revenues was to increase audience shares. The networks could increase the total audience by (1) adding television households or (2) by increasing hours of viewing of existing viewers. The networks could also increase their audience shares by luring viewers away from other networks. In these cases, spending more money on development and production as a way to generate more popular programming was a rational strategy, as long as doing so resulted in equal or greater increases in advertising revenues.

Since the release of Working Paper 26, however, there have been several notable changes in the network program production market. The Fin-Syn rules were repealed, and production costs have skyrocketed. Because of (1) changes in demographics and work behavior, (2) audience fragmentation, and (3) the enormous clutter of video programming and sources, broadcast network program viewing per household is declining.

To adapt to these changes, the networks have developed programming strategies with an eye towards developing brand awareness to differentiate themselves from each other. Broadcast networks and their parent companies are also concentrating on controlling more of the programming they distribute.[374] When a network controls its product, it may realize several advantages. It can become involved early on in the show development process to attract the desired demographic and build the brand. It may also have the ability to negotiate better terms with the sister studio than with a third-party studio, with the corporate parent as the ultimate beneficiary. This could mean more leverage in negotiations with other production studios. Also, there may be the opportunity for the network to repurpose content on sister networks (cable and broadcast) and leverage it on-line at a lower incremental cost to the network.

The broadcast network business remains highly volatile due to the fact that every show that a network runs is not an overnight success with viewers. Before the repeal of

---

[372] United States v. National Broadcasting Company, 842 F. Supp. 402 (C.D. Cal. 1993).
[373] Review of the Syndication and Financial Interest Rules, Sections 73.659 – 73.663 of the Commission's Rules, MM Docket No. 95-39, Report and Order, 10 FCC Rcd 12165 (1995).
[374] Bear, Stearns & Co. Inc., Diversified Entertainment, May 2002 at 8 (parts of the discussion in this section are drawn from the Bear, Stearns Report).

the Fin-Syn rules, the major studios provided lots of programming. Even then, there were several joint ventures with independent producers seeking financing from a studio. With the repeal of the Fin-Syn rules, networks can own their own programming and pool together some the costs and risks associated with developing and producing shows. These factors contributed to various merger and network startup activity in the television industry.

From Pitch to Fall Line-Up

The process whereby an idea for a network series makes it into the fall line-up can be costly, tedious and stressful for producers, writers, directors, talent and network programmers and schedulers. The process starts with network executives reviewing a series of pitches, which come from sources such as aspiring affiliated or non-affiliated writers and producers, affiliated or non-affiliated studios that have writers and producers under contract, talent agencies and even the actors themselves. For example, in the drama category alone, a network programming department can hear between 250-300 pitches for an upcoming season. The network may then purchase roughly 50 scripts, paying anywhere from tens of thousands of dollars to an outright guarantee depending on the track record and prestige of the writer or creator. The network may then select and produce ten or so pilots. Networks conduct extensive scheduling meetings and test the pilots in front of network executives and randomly-selected or targeted audiences.[375] As a result, of the ten that are produced, maybe six or seven make it to the fall schedule. Out of this six or seven, perhaps only two may be selected for a second year of production.[376]

Programming Costs

The broadcast network business is very risky because good content tends to be expensive and the advertising base has not been large enough to support all the networks with an economic return for all. [377] Thus, the economics surrounding series network television production are extremely imperfect. The costs associated with producing dramatic and sitcom programming have changed since the repeal of the Fin-Syn rules. The estimated cost of producing one hour long drama episode is up from $1.1 – $1.5 million (during Fin-Syn) to $1.4 – $1.6 million (after Fin-Syn).[378] Episodes of programs such as NBC's "ER" can cost ten times that amount to produce.[379] For a half-hour sitcom episode, the estimated production cost is up from $400,000 – $900,000

---

[375] The general consensus among networks executives interviewed is that the number one consideration for scheduling is what show is going to work, not whether it is owned by the network, sister studio or parent company.
[376] Information based on interviews with broadcast network executives and company sources.
[377] Bear Stearns Diversified Entertainment Equity Research, Media, Diversified Entertainment, We Are Family, May 2002 at 9.
[378] Michael Freeman, *Special Report: The New Economics of TV*, Electronic Media, January 28, 2002.
[379] See Marcelino Ford-Livene, *The Digital Dilemma*, Federal Communications Law Journal, Vol. 51, No. 3, May 1999 at 606, fn. 4.

(during Fin-Syn) to $550,000 – $1.2 million (after Fin-Syn). [380] Programs such as NBC's "Friends" can cost much more than that per episode to produce each week. Also, "movies of the week" (MOWs) also pose production challenges because they can cost upwards of $3.5 million to produce. Rising costs and poor ratings have led to most of the networks discontinuing the production of MOWs.[381]

The high cost of programming can stem from the high cost of talent, which does not help the economics of the network or the studio.[382] Yet, from the studio's perspective, if a show in which it has an ownership interest is successful for 100 episodes, that show can be syndicated or licensed in a foreign market.[383] Recent trends indicate, however, that many syndication and foreign market opportunities are diminishing rapidly.

Prime Time Programming Trends

The amount of prime time hours produced by the networks has increased since the early 1990s. During the 1993-1994 broadcast season, the Big Four networks produced 18%–34% of their primetime hours.[384] However, for the 2002-2003 season, the Big Four networks will produce 49%–67% of their primetime hours.[385]

A large proportion of the shows aired by the networks are produced by sister studios. For example, of the 94 weekly hours of prime-time programming planned for the 2002-2003 broadcast season, only 21.5 hours of that programming (approximately 23%) is produced by a studio not affiliated with any one of the major broadcast networks.[386] On average, 57% of the programming aired by the major networks is affiliated with that network. Fox aired the most affiliated programming during primetime, airing nearly 58% of its primetime hours with programming from Fox studios.

For the 2002-2003 season, a large portion of shows produced are aired on sister networks.[387] With the exception of AOL Time Warner studio, networks carry a high proportion of sister studio shows, leaving few studio shows to air on non-affiliated networks.[388] NBC studios air 100% of their shows on the NBC network, while Disney studios air 88% of their shows on the ABC network. Compared to the 2001-2002 season, each studio's percentage is roughly the same.

---

[380] *Id*.
[381] Information based on interviews with broadcast network executives and company sources.

[383] *Id*.
[384] Figures from Bear, Stearns, "Primetime Hours Produced by Network—1993-1994, 1997-1998, 2002-2003 Broadcast Seasons—Percent" (2002)
[385] *Id*. (Note that for 2002-2003 season, CBS and UPN are combined).
[386] Data from company insiders, presentations and Bear, Stearns & Co. Inc. (2002) (Note that the number of shows represents the beginning of the 2002-2003 broadcast season. Each studio received full credit for its participation in a co-production. Pre-scheduled mid-season replacements were given full credit. CBS and UPN are combined).
[387] *Id*.
[388] *Id*.

A large percentage of pilots ordered by sister networks are picked up.[389] For the 2002-2003 season, AOL Time Warner studios ordered and picked up the highest number of total pilots with a total of 11. It also had the highest percentage of its pilots picked up with 40%, while NBC studios had the lowest with 20%.

In addition, almost every studio had a higher percentage of pilots picked up by an affiliated network versus pilots originally ordered by that network for the 2002-2003. For example, 96% of Disney studios' pilots were ordered by ABC, and 100% of these pilots were picked up by ABC. Although the Fox broadcast network originally ordered only 59% of Fox studios total pilot production, it picked up 88% of Fox studios' final output.[390] There may be several reasons for this, such as (1) the network is picking up pilots it did not originally order to help out sister studios, or (2) they may have underestimated their need for new pilots, and their sister studios helped them out. In either case, the networks and their sister studios appear to be leveraging vertical integration. The one exception was AOL Time Warner studio, where 59% of AOL Time Warner studios' pilots were ordered by The WB, but 55% of those ordered pilots were picked up by The WB.[391]

Independent Production

Case Study #1: Tollin/Robbins

The number of independent production companies has declined due to the high costs associated with financing the development and sustained production of network television programming. Yet, some independent and non-affiliated production companies continue to operate. In the independent production arena, smaller companies have found that they need to secure financing from a strategic partner or larger entity and diversify their business in order to compete. For example, Tollin/Robbins Productions is involved in all forms of entertainment – reality series, comedy and drama series, motion pictures and talent management.[392] It has nine series in production for the 2002-2003 season, including four destined for The WB's primetime schedule (See Figure 3).

---

[389] *Id*.
[390] *Id*.
[391] Id.
[392] Michael Freeman, For Whom Production Tolls: Small Tollin/Robbins Outfit Becoming a Giant Killer, Electronic Media, August 12, 2002.

Figure 3: Tollin/Robbins Roster (2002-2003 Season)

Series	Network	Season	Co-Production Partner
All That	Nickelodeon	9	Nickelodeon Productions
Arli$$	HBO	7	-
Birds of Prey	WB	1	Warner Bros. Television
The Back Sash	WB	Midseason	Warner Bros. Television
Cousin Skeeter	Nickelodeon	6	Nickelodeon Productions
The Nick Cannon Show	Nickelodeon	2	-
Slamball	TNN	1	Telepictures Productions
Smallville	WB	2	Warner Bros. Television
What I Like About You	WB	1	Warner Bros. Television

Source: Electronic Media (2002)

To better handle the exposure to financial risk on the deficit financing of television series programming, Tollin/Robbins was purchased by Clear Channel Communications. With Clear Channel as a parent company, it now has access to deep pockets and the promotional synergies of numerous radio stations, billboards and television stations.[393]

Production Companies Face Challenges

Ironically, success can prove to be problematic for production companies. Even if a production company is able to get one or more series picked up by a network, it has to keep them on the air. Trends suggest that in order to remain in business, a production company must not only develop network television programming that gets picked up by a network, but it must also minimize its exposure to downside risks by securing financing from a third party or major studio.[394] Otherwise, if a production company cannot keep its show on the air, the potential upside from possible syndication or foreign licensing revenues is lost. It is almost certain that it may never recover from the production deficits. The burdens associated with keeping several deficit-financed shows on the air, maintaining strong network ties and relinquishing significant ownership stakes has led high-profile independent production entities such as Sony's Columbia Tristar Television Studio and the Artists Television Group to either close or exit the new network television series production business.[395] In Columbia TriStar's case, the studio spent more than $75 million on long-term talent-holding deals over a two year period, which left it typically carrying significant deficits while its network co-production partners were largely off the hook.[396]

Case Study #2: Television Production Deals

While the trend is for more programming to be supplied by a sister studio, not all of a network's programs are supplied by the sister studio. Growing in their place are

[393] *Id*.
[394] *Id*.
[395] Michael Freeman, *Special Report: The New Economics of TV*, Electronic Media, January 28, 2002.
[396] *Id*.

situations where producers enter into production deals directly with the broadcast networks.[397]

Some networks have opted for "work-made-for-hire" deals with production companies that are staffed by members of the screen actor and writer's guilds.[398] These independent contractor-type production companies usually have an infrastructure in place and maintain autonomy.[399] They can also create a streamlined process in dealing with writers, producers, directors and actors.

Broadcast networks desire to air the best programs that work and bring in a large audience share while containing front-end costs.[400] Production deal negotiations take into account the track record and leverage of the producer along with the network's desire to broadcast a winning show while keeping costs down. Thus, networks are eager to work with successful writing and non-writing producers, directors and others who have solid track records. Most of the networks, however, try to offer high-profile producers lower front-end salaries in exchange for greater financial rewards on the back-end cable network and domestic or international syndication sales of prime-time television series.[401] Because of (1) the increase in the number of distribution outlets (*e.g.*, cable channels), (2) the decrease in available syndication fees, and (3) the collapse of the foreign market, there are no guarantees that an agreement to accept more of an interest in the backend will be lucrative.

Some non-affiliated production companies, such as Tollin/Robbins Productions, HBO Independent Productions (HIP) and Regency Television, are guaranteed a level of discretionary financing to do most of the legwork in corralling big-name talent for television series.[402] In the case of Tollin/Robbins, which has a production deal with Warner Bros. Television, this has paved the way for Tollin/Robbins' talent management division to deliver Nickelodeon teen star Amanda Bynes for The WB's fall 2002 comedy "What I Like About You."[403]

Repurposing and Summer Programming

Broadcast networks have engaged in the practice offering their cable network counterparts shared exhibition on certain prime-time dramas and sitcoms in order to

---

[397] Michael Freeman, *TV in Transition: Invasion of the Pod Deals*, Electronic Media, August 19, 2002.
[398] A network may opt for a "work made for hire" arrangement if the contractor has expertise in a particular category and it makes sense to use their services. However, the network may force the contractor to partner with an affiliated or non-affiliated production company as a condition of the deal.
[399] Freeman, TV in Transition: Invasion of the Pod Deals.
[400] *Id*.
[401] *Id*.
[402] *Id*.
[403] *Id*.

aggregate viewers to make up for declining ratings.[404] The ultimate goal of this practice, called "repurposing," is to provide a solution to escalating programming costs.[405]

Given (1) the recent rise in the popularity of some cable programming, and (2) the desire to schedule more original scripted programming in the summer, some made-for-cable scripted programming is now being licensed to broadcast networks for a second shared broadcast window. In 2002, for example, "Monk" (produced by Disney's Touchstone) which aires on the USA Network, is now being licensed to ABC for a second shared broadcast.[406]

If this practice continues, the trend towards the sharing of the licensing costs could serve as another business model for the broadcast networks to program more of their summer schedules with original scripted programming. However, it remains to be seen whether scripted series will have the same upside in the ratings as non-scripted, reality-based programming.

ABC Entertainment and the ABC Television Entertainment Group also broke ground with traditional cable network players in striking a two-year development deal with HIP.[407] Under the terms of the deal, HIP develops and produces series programming funded by ABC and for broadcast on the network.[408]

The summertime ratings success of cable programming has forced the networks to develop new strategies for attracting summer audiences. Before the rise in cable's summer audience share, the broadcast networks were primarily concerned with getting as much mileage as possible out of each original series, given the high production cost of each program.[409] That meant reruns, and with its lower ad rates, summer was the natural destination.[410] However, in response to cable's summertime success, broadcast networks have turned to developing and producing reality shows, some scripted series and specials-turned-series for broadcast during the summer months. This creates an incremental cost to the network because, but for the success of cable, the networks would air reruns and not finance programming to be aired during the summer. Even with its lower ad rates, the summer season has become an important battleground. If nothing else, its symbolic importance to cable looms large. If the cable networks can beat the broadcast networks in summer, similar success in fall and spring may not be

---

[404] Freeman, Special Report: The New Economics of TV.
[405] *Id*.
[406] Michael Freeman, *Rethinking Repurposing*, Electronic Media, August 12, 2002.
[407] *Id*.
[408] *Id*.
[409] Editorial: *Networks Need to Get Serious About Summer*, Electronic Media, July 22, 2002.
[410] *Id*.

far behind.[411] This might lead to a situation in the not too distant future where the broadcast networks and the cable networks are competing 52 weeks a year with some category of original programming.[412]

Sports Programming

The current trend in sports programming is that the number of games covered is increasing, but costly to produce. Where very few televised sports result in a profit for a network, they remain effective platforms for promoting unrelated television programs and broadcast networks are paying billions of dollars for the right to broadcast these games. The expensive broadcast rights are resulting, however, in the migration of more sports programming to cable television. For example, the National Basketball Association ("NBA") entered into a six-year, $4.6 billion deal with Disney and AOL Time Warner.[413] This deal shifts 90% of NBA games to basic cable and relies as heavily on subscriber fees and other media platforms as it does on advertising for economic support. This trend may continue, since broadcast and even cable networks no longer singularly can command the hefty advertising premiums needed to offset record high multiyear license fees, particularly in the wake of declining viewer ratings.

When pursuing sport's rights, it appears that there may be a benefit of owning multiple networks to share programming costs and aggregating audience to garner advertising dollars. Perhaps the only way to generate revenue is to amortize the license costs over a broader range of media outlets, including cable, broadcast TV and radio, print and the Internet.

ABC, CBS, NBC and Fox each spend more than $1 billion annually on sports rights, compared with an estimated $750 million on series and entertainment programs and $400 million on news. Additionally, the networks have to pay huge costs to produce sports programming, while little or none of this expense is absorbed by the network affiliates. This model may change, and affiliates may be forced to bear some of the cost to provide sports programming to viewers. However, since the networks have lost more than an estimated $1 billion on sports telecasts in 2001, they may opt for more "time buy" sales of advertiser-sponsored soccer, motorcycling and other sports.[414]

---

[411] "The Sopranos" hit a record-shattering high note for HBO on Sunday, September 15, 2002, as the pay-cable series' long-deferred fourth-season premiere dominated the ratings. Estimates from Nielsen Media Research indicate that 13.4 million people were watching one of HBO's channels while "The Sopranos" aired – the pay channel's biggest audience ever, eclipsing the show's 2001 premiere by 2 million viewers. That audience would have placed "Sopranos" sixth among all prime-time programs during the previous week – a stunning figure given that HBO is received by roughly a third of the U.S. television viewing households. The program easily won its time period, beating all the broadcast networks (some of which had not yet launched their new seasons). *See* Brian Lowry, *Bada Bing!*, Los Angeles Times, September 18, 2002.
[412] Michael Freeman, *Summer Strategy Becomes Necessity*, Electronic Media, July 29, 2002.
[413] Diane Mermigas, *NBA Passes Over to Disney and AOL,* Electronic Media, January 28, 2002 (much of the discussion of dollar amounts mentioned in this sports programming section are drawn from this article).
[414] *Id*.

Cable Programming

The substantial increases in MVPD channel capacity over the last decade, due to cable system upgrades, the advent of DBS, and the application of digital compression technology, have supported a concomitant increase in the number of cable networks available, both national and regional. This section examines trends in cable programming.

Cable networks fall into two broad categories and several subcategories. Some cable channels provide general interest fare and "look like" broadcast networks, while the majority target niche audiences (although some "niches" are fairly large). The difference between "general interest" and "niche" is a bit blurry at the boundary. As the number of broadcast networks has increased, they have found it more and more profitable to target certain demographic groups with their programming. In the cable context, general interest channels include such networks as TNT, USA, and Lifetime. Lifetime, of course, targets the female audience. Some might call that a "niche," but it is broader than the "young women" demographic at which many programs on the WB broadcast network are aimed. General interest networks tend attract the largest audiences among cable networks and for that reason are most able to support original scripted programming.

There are several popular "niches" for cable programming. Among them are sports, news, children's programming, and music. Along with the niche concept, to understand cable programming it is also useful to consider the concept of branding. Cable programmers work not only to forge and promote an identity for a single channel, but, once a successful brand has been created, leverage it into new companion networks. Coordinated efforts go beyond the cable network sphere. Increasingly, broadcast and cable networks, often under common ownership, coordinate some of their programming activities. The remainder of this subsection examines cable program network development in light of these categories and concepts.

General Interest Programming

There are, of course, some cable networks that provide general interest programming not unlike that of the broadcast networks. For example, USA Network, Lifetime, and TNT fall into this category. And pay networks such as HBO also provide some series programming and made for cable movies in addition to the theatrical films that remain a large share of their total schedules. In order to examine the question of network ownership and control of programming from a cable perspective, then, the most fruitful approach appears to be to examine some of these networks. The following brief sketch is based on discussions with staff at the four networks mentioned above.

General interest cable networks still rely on off-network or other previously exhibited programming for a substantial portion of their primetime schedules, and thus

much less original programming than broadcast television. Lifetime's all-day schedule includes more than 50 percent original programming, with a disproportionate share in prime time. Of the original programming close to half is owned by Lifetime. Data on USA Network's primetime schedule indicate noticeably lower levels of original and network-owned programming. TNT's original programming is a small share of the total schedule, but it is concentrated in prime time. On the premium network side, HBO's all day schedule includes 23 percent of scheduled hours devoted to original programming.

Niche Programming

Many cable programming networks target niche audiences, such as news, sports, and music. In general, the news channels produce all of their own programming, although they may acquire some footage from outside suppliers. Even though the sports networks produce their own coverage of sporting events, these networks generally spend a significant amount to acquire the rights to air sporting events. The music channels mostly began with music videos as their staple programming. The channels generally do not own the videos, but they are usually acquired without payment, since the music producers value the publicity of network exposure. The music channels continue to exhibit videos but have also moved into longer form programming as well (some of which is original programming), but much of that is not scripted series. Examples include reality programming such as "The Osbornes" on MTV and documentaries/biographies such as "Behind the Music" on VH1.

Sports

The provision of sports programming warrants special attention because of its widespread appeal and strategic significance for video program distributors. Regional sports programming in particular has been, and continues to be, an important segment of programming for all video program providers.[415] According to a 2000 survey, between 40 and 58 percent of cable subscribers would be less likely to subscribe to cable service if it lacked local sports.[416] Cable overbuilders have frequently noted that access to sports programming is so essential to the success of a cable system that many operators will pay exorbitant prices and agree to entertain other less attractive business arrangements just to obtain it.[417]

It is clear that the advent of cable and DBS has vastly increased the total amount of sports programming available and has brought coverage of plenty of sports programming that was not and would not be transmitted via broadcast television. Some have argued that this has been accompanied by "migration" of some sports programming from broadcast to cable television and other pay media. A 1994 Commission inquiry concluded that there was little evidence of migration of sports

[415] Of the 80 regional cable channels identified in 2001, 29, or 36 percent, were sports channels. *See* 2001 Video Competition Report, App. D, Tbl. D-3.
[416] *See* 2000 Video Competition Report, 17 FCC Rcd at 1354-1356.
[417]Ameritech Comments in the 1997 Video Competition Report; 1998 Video Competition Report, 13 FCC Rcd at 24298-99 and 24380-81.

programming from broadcast to cable.[418] This report does not purport to update that inquiry. It is worth noting, however, the distinction between the following two situations. Some sports programming that was on broadcast television and has moved to cable would, in fact, still be on broadcast television if cable did not carry it. Other sports programming that has moved from broadcast to cable television may have done so due to declining broadcast audience levels and would not, in fact, have remained available on broadcast even if it were not carried on cable. Conceptually, one might not want to count as "migration" programming that is dropped from broadcast television due to declining audience ratings. It is possible that some local coverage of baseball games is in this category.

Increasingly, cable operators have acquired interests in sports programming networks and sports franchises, and more and more key programming is controlled by a few of the largest cable MSOs.[419] The most widely distributed sports programming network, ESPN, is owned by Disney. EPSN reaches 81 million television households through a variety of delivery technologies. Although ESPN dominates national sports programming, regional sports distribution is dominated by Fox Sports Net, which owned 69 percent (20 of 29) of all regional sports networks as of June 2001. Fox Sports Net, jointly owned by News Corp. and Cablevision, reaches 77 million television households.[420] Both News Corp. and Disney also have interests in sports teams and sports venues making them vertically integrated at all levels of the sports industry. Fox/Liberty also has an ownership interest in Cablevision's other sports businesses and networks, including the Madison Square Garden Network, the Madison Square Garden arena complex, and the New York Knicks National Basketball Association ("NBA") and Rangers National Hockey League ("NHL") teams.[421] Comcast Corporation ("Comcast") holds a 66% interest in a partnership named Comcast-Spectacor, which owns the Philadelphia Flyers NHL team, the Philadelphia 76ers NBA team, and the CoreStates Spectrum and CoreStates Center sports arenas.[422] Comcast Spectacor has also entered into a joint venture agreement with the Philadelphia Phillies Major League Baseball ("MLB") team to create SportsNet.[423]

News

At the time of the release of Working Paper 26, local news programming was one significant programming advantage held by broadcasters over cable. Cable systems

---

[418] In the Matter of Implementation of Section 26 of the Cable Television Consumer Protection and Competition Act of 1992, Inquiry into Sports Programming Migration, Final Report, 9 FCC Rcd 3440 (1994).

[419] Bell Atlantic Comments in the 1997 Video Competition Report

[420] NCTA, *Regional Cable Networks*, Cable Developments 2002, May 2002, at 171-194.

[421] Liberty Media Press Release, Cablevision's Rainbow Media and Fox/Liberty Complete Transaction to Create Sports Partnership, Dec. 18, 1997, at 1

[422]See Memorandum Opinion and Order In the Matter of DirecTV, Inc. Complainant, v. Comcast Corporation, Comcast-Spectacor, L.P., Comcast SportsNet, Defendants, DA 98-2151 (rel. Oct. 27, 1998) at ¶ 7.

[423] See Memorandum Opinion and Order In the Matter of DirecTV, Inc. Complainant, v. Comcast Corporation, Comcast-Spectacor, L.P., Comcast SportsNet, Defendants, DA 98-2151 (rel. Oct. 27, 1998) at ¶ 7.

have carried local news services since at least 1986, when Cablevision first launched its local news network “News 12 Long Island,” and provision of local news is increasing. Most regional news networks cover a single city or other limited geographic market, or subsections of that market. Networks provide such localized information as local and regional news, public affairs programming, local and regional government assembly sessions, school closings, and coverage of high school sports.[424] News networks are increasingly moving into smaller markets and market subsets. Cablevision Systems Corp., for example, has three “hyperlocal" news channels in the New York designated market area ("DMA").[425] Such networks are viable because of the lower cost of digital production (compared with analog news production). Furthermore, regional and local news programming networks can offer lower advertising rates than local broadcast stations in these smaller markets attracting advertising dollars as easily as their larger, more national competitors. As of July 2002, as many as 22.3 million cable subscribers had access to local or regional news programming.[426]

Despite their local nature, twenty-four hour local news services compete for ratings with national news services like CNN and broadcast news.[427] Again, digital production allows these local news networks to be cost competitive in large and small markets alike.[428] A regional news channel in a major market can cost between $15 and $20 million a year to operate, and cable operator license fees and advertising revenues have recently begun to cover more of the channels' operating costs.[429] New England News (a regional news channel), for example, receives 60 percent of its revenues from subscriber fees from cable operators, charging nearly as much as CNN.[430]

While some analysts believe that regional news programming has not yet reached "critical mass," many predict that regional news programs could become a significant competitive force in the video programming marketplace. [431] As of June 2001, 36 percent of the 80 regional programming networks counted (29 networks), were regional news networks. Unlike sports programming, regional and local news networks have a more diverse ownership. Some regional news networks are vertically integrated with cable MSOs, but many are not.[432]

---

[424] Deborah D. McAdams, Cable News Nets Go Small, Broadcasting & Cable, Sept. 27, 1999, at 48.
[425] The use of digital production technology has enabled the provision of “hyper-local news.” Marianne Paskowski, *Dolan's 'Hyperlocalism*', Multichannel News, Oct. 5, 1998, at 52.
[426] NCTA, Cable Developments 2002, at 171-194
[427] Variety, *News Derby Upset by Dark Horse*, John Dempsy and Gary Levin, Sept. 22-28, 1997, at 71.
[428] Deborah D. McAdams, Cable News Nets Go Small, Broadcasting & Cable, Sept. 27, 1999, at 44.
[429] Variety, *News Derby Upset by Dark Horse*, John Dempsy and Gary Levin, Sept. 22-28, 1997, at 71.
[430] Variety, *News Derby Upset by Dark Horse*, John Dempsy and Gary Levin, Sept. 22-28, 1997, at 71.
[431] Variety, News Derby Upset by Dark Horse, John Dempsy and Gary Levin, Sept. 22-28, 1997, at 71.
[432] Cablevision, the seventh largest MSO, owns news networks, including MSG Metro Traffic and Weather in New York and the News 12 group of regional news services in Connecticut, New Jersey, and Westchester County and Long Island, New York. *See also* 2001 Video Competition Report, 17 FCC Rcd at 1354.

Children's Programming

Children's programming networks are among the most popular of all cable networks. In the second quarter of 2001, children-oriented programming networks ranked among the top three networks in terms of full-day ratings averages, and children's programs ranked among the most highly rated of all cable network programs. Children's networks are an instrumental element to any cable operator lineup, with Nickelodeon and the Carton Network reaching more than 80 million households.

Branding

In order to differentiate themselves from one another and from the broadcast networks, cable networks are by and large distinctly branded. Most have accomplished this through specialized, or niche programming, as described above. General audience networks brand themselves as well in order to distinguish themselves from one another and from the general audience broadcast networks. Many have done this by introducing an increasing amount of original programming and marquee events. Carriage by cable operators depends on a well-established brand and distinct value to subscribers. Below is a discussion of some of the strategies cable networks have used to uniquely position themselves with respect to cable operators.

Original vs. Acquired

Cable networks continue to consider the proper balance of original programming and repurposed programming. Repurposed programming is less risky because its relative popularity has been proven during its initial run, but original programming helps the network better establish brand identity. Broadcast and cable origination programmers alike, however, find it difficult to create, develop, and see to completion, original production programming.

There is significant risk in developing an original concept and producing it in a way that will appeal to viewers. Program producers often find it difficult to recoup their initial investments in program development. Since original production programming is deficit financed, the programming must be developed first before it can begin to generate a return on investment. In the past, broadcasters have relied on syndication for a substantial portion of the return on investment. Specifically, the foreign market has been the most lucrative market for syndication sales, but this is rapidly changing. Whereas in the past, there was a tremendous foreign market for American productions, this is becoming less so. Foreign producers are rapidly entering the market and there is less of a need for American programming. This could have substantial impact on the domestic market for program production causing a greater reluctance to sink large investments in original programming. Although this is more applicable to broadcast programming, it is also true for cable network programming, as cable networks begin to provide more and more original programming in order to establish brand identity.

As Table 32 shows, basic cable networks and premium networks alike are spending more of their programming dollars on original programming. Table 32 also shows that cable networks will continue to spend more money on original programming than on acquired programming.

Quality vs. Economy

Working Paper 26 noted that increased expenditures on programming would likely become a less effective profit-maximizing strategy for cable networks, and that the new strategy might be to offer lower quality programming to contain costs. Today, networks must strike a delicate balance between expensive programming and cost effective programming. Networks continue to struggle to find the most effective strategy to please audiences, cable operators, and to some degree, advertisers as well. Networks must find the most accurate mix of quality and price that will appeal to cable operators. Networks have learned that more expensive programming does not necessarily generate larger audiences. Nevertheless, some networks opt to spend a great deal of money on a few marquee programs to help establish brand name recognition for the network, while disbursing the balance of programming dollars on less expensive, more broad appeal programming. Brand name recognition promotes overall efficiency for the networks; if viewers can come to expect a certain amount quality of programming from a particular network, then the network will not have to expend as much to promote the balance of its lesser quality or lesser cost programming to attract viewers or advertisers.

Brand Extensions

A recent trend in cable origination programming is brand extension. Brand extension helps cable networks, and ultimately operators, create significant additional value from new networks by extending the brand of existing networks. As such, many cable operators have decided to carry derivative or "multiplex" programming of the established cable networks.[433] The Commission first reported this trend in the 1998 MVPD Competition Report, when it noted that there was a general trend by existing programming service providers, regardless of whether they were vertically integrated with MSOs, to create derivative programming services or brand extensions of their programming offerings.[434] For example, The Discovery Channel, affiliated with Liberty Media and Cox Communications, has launched several new "Discovery" networks, including Animal Planet, Discovery Civilization, Discovery En Espanol, Discovery Health, Discover Home & Leisure, Discovery Kids, Discovery Science, Discovery Wings, and Discovery Travel and Living.[435] Similarly, HBO, affiliated with AOL Time Warner, has launched several new "HBO" networks including HBO Plus, HBO

[433] Multiplexing is use of programming related to an original network.
[434] Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming, CS Docket No. 98-102, Fifth Annual Report ("1998 Report"), 13 FCC Rcd 24284, 24376-7, 24380 (1998).
[435] 1998 Video Competition Report, 13 FCC Rcd at 24429-24453; 2001 Video Competition Report, 17 FCC Rcd at 1344-1364.

Signature, HBO Comedy, HBO Family and HBO Zone.[436] Viacom, a major program provider that is not affiliated with any MVPD, has also utilized derivative programming and brand extension approaches. Viacom's MTV has launched such MTV derivatives as MTV2, MTV "S', and MTV "X ". Another non-vertically integrated program provider, Lifetime Television has launched a new "Lifetime" network called the Lifetime Movie Network, which airs made-for-television movies and theatrical films targeted to women.[437]

Cooperative Efforts with Broadcasters

In spite of competition in such areas as news and sports programming, many broadcasters and cable networks are joining forces to provide programming. In some cases, the ventures are jointly produced programming, blending brand-name recognition and viewing flexibility. For example, NBC News is carried on both broadcast and cable through the NBC broadcast network and by CNBC and MSNBC cable networks. Similarly, ABC's Sports is a joint effort of ABC broadcast network and ESPN cable network. Other joint efforts include NBC's efforts with cable network CourtTV to present several jointly produced news magazine segments. In other cases, the venture is one of immediate repurposing, either from broadcast to cable within a week's time (e.g. name shows), or vice versa (e.g., Monk). Most recently, ABC entered into a "first look" programming deal with HBO Independent Producers to jointly create new programming for the broadcast television audience. Under the deal, HBO will develop and produce series programming for broadcast on ABC, while ABC will finance the production, possible in partnership with HBO.

There has been significant consolidation on the network side of the business. In addition to affecting advertising sales and cross-promotion opportunities, this process has allowed the networks' to spread their programming and scheduling expertise over a wider range of product and thus use that expertise more efficiently. Viacom has assembled the largest network group, encompassing broadcast networks CBS and UPN in addition to following cabvle networks: BET, Country Music Television, MTV, CH1, Nickelodeon, TV Land, The National Network, Showtime/The Movie Channel, and 50 percent of Comedy Central. [438] Disney holdings include ABC, the Disney Channel, Toon Disney, the Family Channel, 80 percent of ESPN and its progeny, 50 percent of Lifetime, 37.5 percent of Arts and Entertainment and the History Channel, and 39.5 percent of E! Entertainment Network. GE's portfolio includes NBC, CNBC, 50 percent of MSNBC, and 25 percent each of Arts and Entertainment, American Movie Classics, Bravo, and the History Channel. AOL Time Warner owns two thirds of the WB broadcast network, along with CNN, Headline News.the Cartoon Network, TNT, TBS Superstation, three quarters of HBO/Cinemax, 58 percent of Court TV and 37.3 percent of Comedy Central. Fox owns the Fox broadcast network as well as national cable

[436] 2001 Video Competition Report, 17 FCC Rcd at 1345.
[437] 2001 Video Competition Report, 17 FCC Rcd at 1350.
[438] Ownership information in this paragraph are taken from Bear Stearns Broadcast/Entertainment Research, "Ratings Race," Week 37 01/02 (6/3/02-6/9/02).

networks Fox News Channel, and FX, along with more than a dozen regional sports networks.

Comparative Expenditures

This subsection provides estimates of the expenditures on programming of cable networks, broadcast networks, and broadcast stations. For the purposes of this discussion, it is assumed that cable systems do not spend money on program production directly. Estimates for basic and pay cable networks are available from PKA, while estimates for broadcasting networks and stations must be constructed from available data. The figures appear in Table 32.

Working Paper 26 contains a discussion of revenues and programming expenditures of broadcast and cable networks. It develops an estimate that broadcast networks spend .65 of their gross revenues on programming.[439] Applying that figure to year 2000 four-network gross advertising revenues yields an estimate of $10.3 billion, or $2.6 billion per network. A contemporaneous trade press estimate indicates that the big four each spend around $2.15 billion on programming, for a total of $8.6 billion.[440] It appears reasonable to assume, then, that each of the big four networks spends $2.2-2.6 billion per year on programming. Table 4 provides a1990 network advertising revenue figure of $9.963 billion, so using the estimating procedure of this paragraph, 1990 network programming expenditures were $6.5 billion. [441]

Table 32 indicates that basic cable network programming expenditures in 2000 were equal to 40.8 percent of network revenues, a noticeably lower fraction than assumed in the broadcast network case. The figure for pay networks is 51 percent. A lower ratio for cable than broadcast networks is plausible, given that there are many dozens of cable networks and only four broadcast networks in the figures reported herein. The ratio of basic plus premium cable, to total broadcast programming expenditures, was 30.7 percent in 1995 and 48.6 percent in 2000.

---

[439] WP 26 at 150. The estimate is based on the following chain of reasoning. FCC data for 1980 indicate that networks' net advertising revenues were .806 of gross advertising revenues, and a 1991 trade press estimate stated that networks spend 75-80 percent of their budget on programming. Assuming budgets are based on 100 percent of net revenues, network programming expenses would be between .605 and .685 of gross revenues. On that basis, WP 26 used a factor of .65.

[440] Mermigas, Diane "NBC passes over to Disney and AOL," Electronic Media, Jan. 28, 2002.

[441] WP 26 estimated that three network programming expenditures in 1995 would be $7.9 billion, based on estimated gross advertising revenues of $12.2 billion. In fact, four-network advertising revenues for 1995 turned out to be $11.6 billion. The implied level of programming expenditures (for four networks) is thus $7.5 billion. Clearly, the predictions were over-optimistic

Table 32: Programming Expenditures ($mil)

	1990	1995	2000	2001	2010
BROADCAST[1]					
Total Broadcast Revenues	25,607	30,704	41,694	n/a	n/a
Total Broadcast Programming Expenditures	11,216	13,386	17,114	n/a	n/a
Networks	6,476	7,540	10,327	n/a	n/a
Stations	4,740	5,846	6,787	n/a	n/a
Expenditures/Revenues (%)	43.8%	43.6%	41.0%	n/a	n/a
BASIC CABLE NETWORKS					
Total Basic/Expanded Basic Network Revenue	2,976	6,562	15,857	17,867	40,690
Total Basic/Expanded Basic Programming Expenditures	1,437	2,933	6,471	7,206	15,496
Original Programming Expenditures (incl. News)	593	1,356	3,548	3,973	9,883
Original % of Total	41.3%	46.2%	54.8%	55.1%	63.8%
Programming Acquisition Expenditures (incl. Sports)	844	1,577	2,923	3,233	5,613
Acquired % of Total	58.7%	53.8%	45.2%	44.9%	36.2%
Expenditures/Revenues (%)	48.3%	44.7%	40.8%	40.3%	38.1%
PREMIUM CABLE NETWORKS					
Total Premium Network Revenue	n/a	2,319	3,609	3,979	5,626
Total Premium Network Programming Expenditures	n/a	1,175	1,846	2,062	2,982
Original Programming Spending	n/a	365	604	701	1,193
Original % of Total	n/a	31.1%	32.7%	34.0%	40.3%
Theatrical Movie Licensing	n/a	810	1,242	1,361	1,789
Movie Licensing % Total	n/a	68.9%	67.3%	66.0%	60.0%
Expenditures/Revenues (%)	n/a	50.7%	51.1%	51.8%	53.0%

Sources: Broadcast data: Staff estimate based on data in Table 4 and NAB Television Financial Report, 1995 and 2001 editions. Basic cable data: Kagan World Media, Economics of Basic Cable Networks 2002, Dec. 2001, at 23-28. Premium cable data: Kagan World Media, The State of DBS 2002, Sept. 2001, at 273-274; Kagan World Media, Pay TV Newsletter, July 2002.
Notes:
[1]Syndication is not accounted for.

The Table 32 estimates for television station expenditures on programming, both purchased and original (including local news, etc.), are based on the NAB Television Financial Reports. They are rough estimates and are subject to the caveats mentioned above regarding the Television Financial Report data.[442] The categories in the report that include programming expenses are programming, production, and news. In 2000 (2001 Television Financial Report at 2-3), those categories accounted for .291 of net

[442] See note 49, supra, for a discussion of the manner in which average ratios are constructed in the Television Financial Reports. Note also that some Fox and NBC affiliates that had previously participated did not take part in the 2000 survey.

revenues on average. Moreover, agency commissions were .14 of gross advertising revenues, national and regional representative commissions were .064 of the relevant national and regional advertising revenues, and national and regional advertising revenues were .4 of total gross advertising revenues. The report also lists three other revenue categories: "Tradeouts and Barter," "Network Compensation," and "Other Broadcast-related Revenues." In 2000, these accounted for .077 of net revenues. These figures allow calculation of a conversion factor from gross advertising revenues to net revenues (from advertising and other sources) of .904.[443] The Television Financial Report indicates that programming expenditures are .291 of net revenues, so they are .291*.904=.263 of gross advertising revenues for 2000.[444] The earliest year for which the data from Television Financial Report permit a similar calculation is 1994, and the procedure outlined in this paragraph yields a programming expenditures factor of .303 of gross advertising revenues. [445]

Table 4 contains data on television station gross advertising revenues (national plus local spot) for 1990 and 2000. The figures are $15.644 billion in 1990 and $25.806 billion in 2000. Applying the relevant factors yields the table 38 estimates of $4.7 billion for 1990 and $6.8 billion for 2000 programming expenditures by television stations.

It is now possible to compare cable and broadcast programming expenditures. The 2000 total for basic plus premium cable is $8.3 billion, compared to $10.3 billion for broadcast networks and $6.8 billion for broadcast stations. In terms of total resources devoted to program acquisition, broadcast networks alone outspend cable networks. Mroeover, on a per-network basis, broadcast networks spend far more than cable networks on programming. Although 1990 data on pay cable network expenditures are not available, table 38 suggests that broadcast networks far outstripped cable networks in 1990, since basic and premium cable1995 total programming expenditures of $4.1 billion are smaller than broadcast networks' 1990 programming expenditures of $6.5 billion.

---

[443] To derive net advertising revenues from gross advertising revenues, it is necessary to subtract out all commissions. Agency commissions are .14 and representatives' commissions are .064, but they apply to only .4 of all gross revenues. Hence, one must subtract (.14 + .064*.4) =.166 to get from gross to net advertising revenues. Net revenues are equal to net advertising revenues plus other revenues, and other revenues are equal to .077* net revenues. Hence, net revenues= .834*gross ad revenues + .077* net revenues and net revenues = .904*gross ad revenues.

[444] Programming expenditures are taken as the some of the program, production, and news categories in the TVFB.

[445] See 1995 TVFB at 2-3. The programming/net revenue ratio is .333. Agency commissions were .144 of gross ad revenues, national and regional advertising was .44 of the total and representatives' commissions were .058 of that total. Hence, net advertising revenues were .144+(.058*.44)=.170. Thus net advertising revenues are .83 of gross advertising revenues. The other revenue categories account for .087 of net revenues. Therefore, total net revenue =.83* gross advertising revenue plus .087* net revenue, and net revenue =.909*gross advertising revenue. Thus programming expenditures are .333*.909 =.303 of gross ad revenues.

Conclusion

The repeal of the Fin/Syn rules allowed networks to take ownership of studios and shows and resulted in considerable consolidation, with all the broadcast networks now sharing the same parent with at least one full-service television production studio.[446] While not every television studio owns a network, every network but NBC has a full-service sister studio. Networks have also outsourced production efforts to independent contractors as a way to curb deficit financing of programming. The repeal of Fin/Syn has also led to the networks increasingly taking equity stakes in third-party studio productions, thus ensuring their participation in possible upside from syndication sales, while potentially lowering their costs and potential risk.[447] Plenty of data are available regarding broadcast network ownership of programming, but only limited information was available regarding cable ownership. It suggests a lower level of network ownership of programming for general interest cable networks compared to broadcast networks.

In the cable sphere, expanded channel capacity has increased the number of cable channels available. Some are of the general interest variety, but most cater to niche interests, such as news, sports, music, or children. Expenditures on programming by both cable networks and broadcasters (networks and stations) has risen over the past decade. Broadcasters continue to spend more than cable, particularly if the comparison is made on a per-network basis.

---

[446] Bear, Stearns Diversified Entertainment Equity Research, Media, Diversified Entertainment, We Are Family, May 2002, p. 10.
[447] Id.

XI. Conclusions

The year 2001 was a difficult year in many respects, including for video advertising revenues. However, just as the television industry recovered from the last revenue drop in 1991, indications are that it will recover from this one as well. A review of longer term trends suggest that, as it entered the new millennium, the television industry was in fairly good financial shape and continues to provide a high level of service to viewers and a valuable platform for advertisers to reach the public with their messages.

The television industry faces competitive and technological challenges, some of them the same ones that were facing them ten years ago. Non-broadcast channels delivered by cable (and now DBS) continue to eat into broadcast audience shares. On the other hand, television broadcast programming (primetime in particular) continues to attract audiences far larger on a per network basis than cable. The small per network audiences for cable are one important reason why broadcasters have been able to increase their advertising revenues over the past decade in the face of viewing share declines. Although the advertising dollars did not shift proportionately from broadcast to cable, the broadcasting share of video advertising revenues continued to drop. It appears that cable advertising has become a better substitute than before for broadcast advertising, so it is likely that, in the future, cable audience share gains will be more strongly reflected in advertising revenue share gains. On the other hand, in retrospect, some of the predictions of Working Paper 26 appear to have been too pessimistic.

Television Stations

The number of television stations has grown by over 12 percent since 1990, and none have gone dark. Gross advertising revenues per station, in both nominal and real terms, were higher in 2000 than in 1990. Additionally, the latest industry-wide performance data available (for the year 2000) indicate that the television station sector is at least as profitable in 2000 as it was in 1990. Cash flow figures are particularly robust, and this is true across all market sizes. The limited data available suggest that the bulk of locally-produced programming is news and that, as a percentage of total expenditures, per station spending on news has risen on average for all market sizes. On the other hand, anecdotal evidence suggests that some stations have cut back on their news programming over the past decade.

Television networking remains a very efficient method of program distribution, and it appears that the formation of new broadcast networks during the past decade (a development not anticipated in Working Paper 26) has strengthened the position of many formerly independent stations. Well over 200 stations are affiliated with the new networks WB, UPN, and Paxton. Although hard evidence is not yet available, it is likely that the relaxation of the television duopoly rule (recommended in Working Paper 26) has strengthened the position of some of the formerly weaker stations. On the other side of the competitive ledger, cable systems are becoming stronger competitors in the

local advertising market, as cable system clustering and the increasing sophistication of cable interconnects make local cable a more efficient advertising buy.

Television Networks

In the aggregate, television networking is a barely profitable business. Most observers believe that currently the seven commercial broadcast networks are losing money (with substantial profits for NBC outweighed by losses by others). On the other hand, 20 years ago, networking also was a marginally profitable business. Although the impetus for forming the UPN and WB networks may well have been the desire of studios to ensure some distribution capacity for their program output, the reality is that the number of television networks has risen not fallen, and that, as mentioned above, previously independent stations were quite willing to affiliate.

Regulatory changes have substantially affected the television network environment. The biggest influence was the repeal of the Commission's former syndication and financial interest rules (along with the termination of related consent decrees that the big three networks had signed with the Justice Department). The relaxation of the Commission's dual network rule also was of some importance. Once it became possible for television networks to own primetime programming without restriction, it apparently became attractive for the movie studios, who were the primary producers of television programming, to affiliate with a network. Network ownership can provide assured distribution for some of the sister studio's product. Thus, Viacom and Warner formed the UPN and WB networks, respectively. Disney purchased ABC and Viacom acquired CBS.

In addition to network-studio combinations, another important structural development has been the combination of broadcast and cable networks in the same company. This makes it possible for network companies to spread their expertise in program selection, promotion, and advertising sales over a larger range of outputs (i.e., networks) and possibly realize some economies of scope in network operation. The aggregation of broadcast and cable networks into a single company also apparently allows efficient sharing of the costs of the rights to some major sports and also has affected the manner in which advertising is bought and sold. This aggregation also can facilitate (although it is not a prerequisite for) "repurposing" of broadcast programming. The idea is to re-use a broadcast program (whether it be a newscast, a drama, or a comedy) on an appropriate cable channel and thereby increase the revenue it generates.

Notwithstanding all of the difficulties that broadcast networks face, from declining advertising revenue shares to rising costs of program production, their output is a major portion of the programming schedule of over 1,000 commercial television stations, and, overall, those stations enjoy rather high margins. Hence, one should not place too much emphasis on the meager aggregate profits of television networks. It is likely that,

as time goes on, the networks will find ways for their affiliates to contribute more to programming costs.

Rival Delivery Systems

The television broadcasting industry faces challenges both from current multichannel video programming distributors and from technological developments as well. The data suggest that cable and DBS are and will continue to be major video distribution rivals to broadcast television. Both have grown substantially in subscribership over the past decade, particularly the rapid expansion of DBS since its 1994 launch. The rate of growth of cable subscribership has flattened and, within the next ten years, the same is likely to occur with DBS. A simple extrapolation of subscriber penetration trends suggests that cable plus DBS penetration of television households will peak at somewhere between 80 and 85 percent, with other platforms accounting for a small additional share of households.

The advent of DBS, cable investment in increased capacity, and the application of digital compression technology means that MVPD subscribers now have access to a far larger menu of programming choices than they did in 1990. The growing share of cable subscribers choosing the digital tier suggests that they are taking advantage of the expanded range of programming on offer. This, of course, is one of the primary explanations for the increase in cable viewing shares. Moreover, although the rate of increase in MVPD subscribership is slowing, the trends toward increased viewing hours of cable programming and decreased viewing hours of broadcast programming continue in cable and DBS households.

Viewers also are spending more money on prerecorded media. The development of the DVD, with its higher picture and sound quality compared to videocassettes, has fueled this expansion. Sales and rentals of cassettes also remain robust.

Technological Change

Broadcast television has always been an industry with a single revenue stream (advertising) which has put it at some disadvantage to MVPDs, with their dual revenue streams (advertising and subscription fees). Technological developments have the potential both to threaten the advertising base of broadcast television and to provide new revenue stream opportunities.

Although the current penetration of PVRs is quite low, this device poses a potential threat to the advertising revenue base of television. The PVR functions as a kind of combination search engine and digital recorder. It enables viewers to “time shift” their favorite programs (reducing the value of time-sensitive advertisements actually viewed) and to skip commercials entirely. It appears that the industry is taking the

“threat” of PVRs seriously and taking or contemplating various measures to respond. One possibility is to make the advertisements more interesting or entertaining, so people will want to watch. Another possibility is increasing use of product placements within the actual programming, thus making the advertising message harder to avoid. One unresolved factor in this regard is the limit of viewer tolerance for product displays of this nature.

Perhaps the single biggest technological development in broadcast television since Working Paper 26 has been the beginning of the transition to DTV. Well over 500 stations are transmitting in digital mode now. The remaining commercial stations were subject to a May, 1, 2002 deadline to commence transmissions and most have received short-term waivers. DTV offers broadcasters a substantial increase in transmission capacity, which they can use to provide HDTV, multiple streams of standard quality programming, data broadcasting, or some combination of these services. Broadcasters are permitted to offer services for a fee on their DTV channels, so there is a possibility for the elusive second revenue stream. Beginning DTV transmissions requires a fairly significant up-front investment in facilities, but the precise range of services that will be provided over time is not yet obvious.

An increasing amount of HDTV programming is being transmitted and, when the cost of DTV reception equipment declines further, the mass of US consumers will benefit. On the other hand, it is fair to say that business models for other DTV services have yet to emerge. Among the business issues yet to be resolved is the carriage of fee-based DTV services by cable and DBS providers. Because the Commission’s broadcast signal carriage rules do not require carriage of ancillary and supplementary services, carriage would have to come as the result of a commercial agreement between the broadcaster and the cable or DBS operator. Among the issues that would likely be subject to negotiation is the split of revenues that the broadcaster’s service would earn.

Many of the services under discussion for DTV can be placed under the heading of “Interactive Television,” or ITV. ITV is a term for which a clear consensus definition has not yet emerged. The one common thread in the ITV discussion is subscriber/viewer interaction. Somehow the subscriber or viewer exercises control over or reacts to what she sees on the screen. The interaction could be to choose among streams of information or programming delivered in real time; to choose to access supplementary material that has been previously transmitted and stored on a hard drive at the viewer’s premises; or it could be to use some sort of return channel to request the transmission of particular content, to make a purchase or conduct another type of transaction. Digital transmission is not a prerequisite for ITV, although it is fair to say that the bulk of ITV applications rely on digital transmissions.

In view of the fact that neither the broadcast industry nor any of its competitors has yet demonstrated a compelling ITV business model, it is necessary to be cautious in commenting on the possible long-run impact of ITV. A few observations can be made, however. First, ITV has the potential to target advertisements precisely, and

even individually, to viewers. This could ultimately make advertising more valuable and ensure that viewers who could skip advertisements do not do so. Targeting techniques raise issues of viewer privacy and proper treatment of child viewers.

Second, broadcasters rely on MVPD delivery platforms to reach most households. They will need to make commercial arrangements with the MVPD for carriage of their ITV content and, at least in the case of cable, probably need a commercial arrangement for the return path, if a return path is needed. In the case of off-air broadcast transmissions, the return path would likely be a dialup telephone connection, a cable modem, or DSL. In the case of DBS, the situation is less clear, but the telephone return path currently appears more likely than a satellite-based return path.

The third observation applies to all of the technological developments discussed, and that is that none of them appear to benefit broadcasting differentially compared to other video delivery platforms. Hence, while these developments are likely to benefit consumers, their impact on the relative position of broadcast television is more questionable. To the extent that new technology moves broadcasting from a one-revenue stream world to a multiple-revenue stream world, it will put broadcasting on a more similar footing to MVPDs than before.

Programming

The last decade has seen a substantial increase in the number of programming networks available, including an expansion in the number of broadcast networks. While the broadcast networks continue to cater to the mass audience, there is a greater tendency to target their programming to particular demographic groups. On the cable side, although some networks (including some of the most popular ones) continue to provide general interest programming, the growth has primarily been in niche services, providing, e.g., children's, sports, news, music, nature, or lifestyle programming.

Program costs have risen substantially in recent years, probably due to the expansion in demand, continuing a trend identified in Working Paper 26. The decline in foreign demand for syndicated US programming has reduced one source of revenue from which to recover production costs. Broadcast networks have adopted a variety of approaches as a response to rising costs. None is applicable across all situations and none is the definitive answer to the cost challenge. Network responses include the following. With regard to high-cost sports programming, at least one network has reduced its total exposure, while others have signed deals that spread sports rights over broadcast and cable networks. Responses to the increasing cost of scripted programming include repurposing (re-using programming by running it on a cable channel almost simultaneously to the broadcast run) and some increased use of unscripted news magazine or reality programming. To the extent that reality programming is introduced during the summer as a response to new cable

programming, it would actually represent a cost increase over the re-runs previously shown at this time of year.

On the program production side, the rising upfront costs of broadcast network entertainment programming appear to have perpetuated a structure in which most programming is produced by or in association with a large scale company that can spread the production risk over a large range of programs. The repeal of the syndication and financial interest rules has meant that most of these large scale companies are integrated network-studio firms. Currently the major broadcast networks own anywhere from one half to two thirds of their primetime programming, but there is some anecdotal evidence that the pendulum may be swinging back in the other direction. It is also important to note a trend in which some top level producers or writers are signing exclusive or “first-look” deals with studios, a situation that positions them somewhere in between “independent” and “in-house.”

On the cable side, most cable general entertainment networks go through a process of evolution in which they begin with almost exclusively programming drawn from the broadcast networks or films and move eventually to a greater level of original programming, including some that is produced in-house. Only fragmentary information is available on cable network ownership of its programming.

The Final Analysis

Broadcast television is certainly a survivor, even a vigorous survivor. It still provides the most popular and widely viewed video programming. It is swimming in a sea of competition and it is fair to say that the currents of cable and DBS rivalry will only strengthen. Working Paper 26 made some predictions about the future of broadcasting and recommended some policy changes. In retrospect, some of those predictions were too pessimistic, so this paper is more circumspect. Although broadcast television’s competitive position is likely to erode further, the fact that it is still delivering on a per-network basis audiences roughly five times the size of the largest cable networks, suggests that any further decline is likely to be gradual. The future of broadcasting will depend on its ability to continue to provide valuable programming on a cost-effective basis and to respond to the challenges and grasp the opportunities that new technology has to offer.

Working Papers Series
Office of Plans and Policy
Federal Communications Commission

Broadcast Television: Survivor in a Sea of Competition, by Jonathan Levy, Deputy Chief Economist Marcelino Ford-Livene, Office of Plans and Policy and Anne Levine, Media Bureau; Working Paper #37, September 2002; pp. 139

The Potential Relevance to the United States of the European Union's Newly Adopted Regulatory Framework for Telecommunications, by J. Scott Marcus, Office of Plans and Policy; Working Paper #36, July 2002; pp. 32

Horizontal Concentration in the Cable Television Industry: An Experimental Analysis, by Mark M. Bykowsky, William W. Sharkey; Office of Plans and Policy, and Anthony M. Kwasnica; Pennsylvania State University, Smeal College of Business Administration; Working Paper #35, June 2002; (Revised July 2002); pp. 115

A Competitively Neutral Approach to Network Interconnection, by Jay M. Atkinson, Christopher C. Barnekov; Economists in the Competitive Pricing Division, Common Carrier Bureau; Working Paper #34, December 6, 2000; pp. 36

Bill and Keep at the Central Office As the Efficient Interconnection Regime, by Patrick DeGraba, Deputy Chief Economist; Working Paper #33, December 2000. pp. 43

The Digital Handshake: Connecting Internet Backbones, Michael Kende, Director of Internet Policy Analysis; Working Paper #32, September 2000. pp. 50

The FCC and the Unregulation of the Internet, by Jason Oxman, Counsel for Advanced Communications; Working Paper #31, July 1999. pp. 29

Internet Over Cable: Defining the Future In Terms of the Past, by Barbara Esbin, Associate Bureau Chief, Cable Service Bureau; Working Paper #30, August 1998. pp. 130

Digital Tornado: The Internet and Telecommunications Policy, by Kevin Werbach; Working Paper #29, March 1997. pp. 98

Putting It All Together: The Cost Structure of Personal Communications Services, by David P. Reed; Working Paper #28, November 1992. NTIS PB93 114882 pp. 86

Changing Channels: Voluntary Reallocation of UHF Television Spectrum, by Evan R. Kwerel and John R. Williams; Working Paper #27, November 1992. NTIS PB93 114874 pp. 146

Broadcast Television in a Multichannel Marketplace, by Florence Setzer and Jonathan Levy; Working Paper #26, June 1991. NTIS #PB91 201749; $23.00; pp. 180

What Makes the Dominant Firm Dominant?, by John Haring and Kathy Levitz; Working Paper #25, April 1989. NTIS PB89 190425; pp. 29

Through the Looking Glass: Integrated Broadband Networks, Regulatory Policy, and Institutional Change, by Robert Pepper; Working Paper #24, November 1988. NTIS #PB89 136923; pp. 106

Loosening the Ties that Bind: Regulating the Interstate Telecommunications Market for the 1990's, by Kathleen B. Levitz; Working Paper #23, February 1987. NTIS #PB87 220265; pp. 52