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VIA ELECTRONIC FILING

October 22, 2007

Marlene H. Dortch
Federal Communications Commission
Office of the Secretary
455 12th Street SW
Washington DC 20554

Re: Ex Parte Submission
2006 Quadrennial Regulatory Review – Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996; 2002 Biennial Regulatory Review – Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996; Cross-Ownership of Broadcast Stations and Newspapers; Rules and Policies Concerning Multiple Ownership of Radio Broadcast Stations in Local Markets; Definition of Radio Markets, MB Docket Nos. 06-121, 02-277, MM Docket Nos. 01-235, 01-317, 00-244

Dear Ms. Dortch:

Pursuant to the Public Notice released on July 31, 2007, which sought comment on certain research studies commissioned by the Federal Communications Commission for use in the above-captioned proceeding,[1] Comcast hereby submits for filing in this docket the attached paper by Thomas W. Hazlett entitled "Vertical Integration in Cable: The FCC Evidence."

Sincerely,

/S/ James R. Coltharp
James R. Coltharp

[1] Public Notice, *FCC Seeks Comment on Research Studies on Media Ownership*, DA 07-3470, MB Docket No. 06-121 (rel. July 31, 2007); *see also* Public Notice, *Media Bureau Extends Filing Deadlines for Comments on Media Ownership Studies*, DA 07-4097, MB Docket No. 06-121 (rel. Sept. 28, 2007).

Vertical Integration in Cable Television: The FCC Evidence

Thomas W. Hazlett[1]

Oct. 19, 2007

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[1] Professor of Law & Economics, George Mason University, and former Chief Economist of the Federal Communications Commission (FCC), 1991-92. The paper has been commissioned by Comcast. The author thanks Jeff Dorfman, Arthur Havenner, Diego Aycinena, Michael Parente and Dorina Tila for their valuable contributions. All analysis and the conclusions expressed are solely those of the author.

I. INTRODUCTION

The Federal Communications Commission recently contracted for ten "Media Ownership Studies" as part of its effort to craft regulatory policies.[2] No. 9 in the series, authored by University of Chicago Professor of Economics Austan Goolsbee, analyzes vertical integration in broadcast television and cable television.[3] This paper comments on the analysis in that study devoted to cable television.

Goolsbee (2007) notes that cable TV program networks have been growing rapidly in recent years, with the total number of national satellite-distributed channels increasing by "359 in the ten years from 1996 to 2005," and "independent networks [making] up 311 of that 359, vertically integrated networks only 48."[4] These large strides for unaffiliated cable TV program networks are causally related to the aggressive expansion of cable TV channel capacity undertaken over the past decade by cable TV operators, as Goolsbee (2007) notes. These capacious new conduits have largely been used to transport independent network programming to subscribers, causing vertical integration between operators and programmers to decline substantially in recent years.

The paper also argues, and provides evidence, that among the most popular and profitable cable TV channels, ownership by a cable operator is irrelevant to carriage decisions. All of the top program networks achieve universal, or near-universal, nationwide coverage of U.S. households via cable and satellite systems. Among less established cable TV networks, the paper also shows – via summary statistics – that cable TV networks owned in whole or in part by cable TV operators succeed in gaining carriage on systems owned by *other* cable systems about as much or even more often than on cable systems owned by their parent company. This suggests that cable systems seek appealing channel line-ups to gain potential subscribers no matter what the source (or ownership) of programming.

The analysis then engages in a search for the existence of anti-competitive vertical foreclosure, seeking evidence to determine if cable operators inefficiently favor their own program networks. The results of this exercise are wholly unconvincing. First, the study undertaken omits the industry trends noted above, excluding such dynamics from the economic model constructed and then undertaking no effort to square results that, as interpreted in the paper, may clearly conflict with such industry evidence. Second, the economic tests conducted would not, even if producing strong empirical results, explain whether consumers on-net benefit from vertical integration. Third, the conducted tests, properly interpreted, produce no evidence of anticompetitive foreclosure. A test to discern the efficiency of vertical integration mis-measures network performance, and fails to assess productive gains available from cable operator ownership. The empirical model designed to reveal the propensity of operators to favor their own programming

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[2] The papers are available on the FCC's website: http://www.fcc.gov/ownership/studies.html.

[3] Austan Goolsbee, *Vertical Integration and the Market for Broadcast and Cable Television Programming* (April 2007); http://fjallfoss.fcc.gov/edocs_public/attachmatch/DA-07-3470A10.pdf (revised Sept. 5, 2007) ["Goolsbee (2007)"].

[4] Ibid. p. 21.

produces parameter estimates plausibly consistent with anti-competitive behavior for eight of twelve cable program networks considered. But taking the estimates at face value implies that, given the cable-satellite rivalry already seen in the market, cable operators are as likely to *discriminate against their own program networks* as in favor of them.

Even if self-carriage favoritism were found, as it has been in other studies, the evidence would be necessary but insufficient to suggest that anticompetitive foreclosure is being pursued. Economic theory offers multiple reasons why cable operators should appear more likely to carry program networks they own. One reason is selection bias: a cable operator that is considering vertical integration into programming will be likely to select networks to create or acquire that it plans to use on its own network. This explanation incorporates an efficiency gain from integration, assuming lower transactions costs (contracting, selling, and pricing more efficiently with internal transfers rather than across firms). Anti-competitive foreclosure is offered as an alternative. But carriage favoritism alone does not discern between the rival theories.[5]

Goolsbee (2007) does not establish evidence of favoritism let alone anticompetitive foreclosure. Other empirical approaches have proven more persuasive. For instance, in Tasneem Chipty's 2001 paper, evidence of MSO[6] favoritism (for owned channels) was found, with the result that subscribers gained access to a greater number of cable networks and quality-adjusted prices fell. Consumer welfare increased with integration, in the presence of "foreclosure."[7] This was largely consistent with a 1997 study by George Ford and John D. Jackson that found that vertical integration reduced costs.[8] A recent paper that surveyed empirical research on vertical integration in cable and other sectors of the economy concluded that "[t]he majority of these papers (but not all) found that vertical integration results in lower prices."[9] "Overall," writes Luke Froeb, an economist with the Federal Trade Commission and Vanderbilt University, it is "difficult to find evidence that vertical controls reduce welfare."[10]

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[5] "It was not possible to conclude from this study whether the foreclosure patterns we observe are efficiency or anti-competitively motivated, or how measures of consumer welfare are affected." Dong Chen and David Waterman, *Vertical Foreclosure in the U.S. Cable Television Market: An Empirical Study of Program Network Carriage and Positioning* (Oct. 2005), p 19; http://ssrn.com/abstract=843544. A 1997 study by David Waterman and Andrew Weiss likewise found that cable operators were more likely to offer channels that they owned a share of, but similarly were unable to distinguish either cause or effect. David Waterman and Andrew A. Weiss, Vertical Integration in Cable Television (1997).

[6] MSO is the acronym for multiple system owners, also known as cable TV operators.

[7] Tasneem Chipty, *Vertical Integration, Market Foreclosure, and Consumer Welfare in the Cable Television Industry*, 91 AMERICAN ECONOMIC REVIEW 428 (Jun. 2001).

[8] George S. Ford and John D. Jackson, *Horizontal Concentration and Vertical Integration in the Cable Television Industry*, 12 REVIEW OF INDUSTRIAL ORGANIZATION 501 (Aug. 1997)

[9] Martin Gaynor, *Is Vertical Integration Anti-competitive? Definitely Maybe (But That's Not Final)*, 25 JOURNAL OF HEALTH ECONOMICS (Jan. 2006), p.176.

[10] Luke Froeb, Economics & Antitrust: Enforcement R&D, Presentation to EARIE, Berlin, Germany (Sept. 2, 2005); http://www.ftc.gov/speeches/froeb/earie.pdf. Note that Froeb was speaking generally, not just of cable TV markets.

A recent study by Ayako Suzuki[11] differentiates anticompetitive foreclosure ("ACF") from efficiency in vertically integrated cable TV markets, finding strong evidence of efficiency. The paper uses a natural experiment, the acquisition of Turner Broadcasting System by Time Warner in 1995, to good effect. The merger allowed Suzuki to examine markets served by the cable systems owned by Time Warner both before and then a few years after it became vertically integrated by buying CNN, Headline News, Turner Network Television, WTBS, Turner Movie Classics, and the Cartoon Channel. Compared to changes taking place in other markets, the areas served by Time Warner systems improved with respect to price and quality, with consumers appearing to benefit from vertical integration.

II. VERTICAL INTEGRATION

A. Firm Boundaries

Vertical integration occurs when a producer extends its operations over complementary inputs. Instead of a company acquiring such assets from independent sellers, it produces them internally. How a supplier draws the boundaries to delineate the scope of business activity defines *The Nature of the Firm* – as Ronald Coase's seminal treatment of the subject was entitled.[12]

At a general level, vertical integration is ubiquitous and efficiency-enhancing. Firms do not attempt to minimize the number of inputs that they own. Rather, they optimize to reduce costs, mixing complementary assets within the firm. Even the smallest restaurant or grocery store owns a considerable proportion of the resources it employs in providing retail services. And, as Steven Cheung has pointed out, the lines between what is internal and what is external to the firm become blurred by the use of contracts: when the restaurant pays the cook an hourly wage or a weekly salary, are the hours worked internal to the firm? While the firm does not own the cook, it does claim rights to the labor produced by the cook. To that extent, the restaurant vertically integrates into cooking even as it contracts for labor inputs supplied by non-owners.

It is important to start at this basic level. Where vertical integration is seen, ipso facto, as evidence of anti-competitive conduct, general perspective has been lost. In his initial formulation, Coase followed the intuition that companies produce internally when it is efficient to do so. When inputs can be less expensively provided by outside suppliers, the firm will naturally seek to use the "price system" to purchase these products rather than supplying them internally. Efficiencies of vertical integration are seized in the quest for competitive superiority.

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[11] Ayako Suzuki, *Vertical Integration in the U.S. Cable Industry*, The Institute of Social and Economic Research, Osaka University (Nov. 2006).

[12] R. H. Coase, *The Nature of the Firm*, 4 ECONOMICA 386 (1937).See also Steven Cheung *The Contractual Nature of the Firm*, 26 JOURNAL OF LAW & ECONOMICS 1 (1983)

Efficiencies can even be realized in situations where internal costs of production *equal* external supply costs by reducing transactions costs, including those emanating from double marginalization (effectively eliminating the exercise of market power by a supplier) or the cost of contracting. The imperfection of contracts in aligning economic incentives may permit producers of complementary inputs to opportunistically hold-up their fellow suppliers in the production chain, appropriating rents. Vertical integration is seen to remedy this problem, encouraging productive investments.[13]

Alternatively, a firm may integrate to foreclose rivals, increasing profits via anti-competitive behavior. The strategy relies on creating barriers to entry (in either the upstream or downstream market) by increasing the scale and scope of new competitors. In certain circumstances, this restricts output and raises quality-adjusted prices paid by consumers. While early ACF theories were not well-formulated, [14] more recent analysis has offered profit-maximizing rationales.[15]

B. Efficiency v. Anti-Competitive Foreclosure in Cable TV

Some studies find that cable operators are more likely to carry networks they own than those they do not. The 2005 paper by Dong Chen and David Waterman, for example, found that the Outdoor Life Network (OLN) was about 20 percent more likely to be a carried when the parent company of the system was Comcast – also the owner of OLN. On the other hand, the competing Outdoor Channel was about 30 percent less likely to be carried by a Comcast-owned system. Three other tests between competing networks, one owned by an MSO and one not, produced mixed results, but the study's authors concluded that the overall pattern suggested that cable operators preferred to carry the networks they owned over close substitutes they did not.

Such findings do not distinguish between efficient integration and anti-competitive foreclosure. Firms that create or purchase inputs would be expected to employ these internal assets over external purchases, given transactional efficiencies available. In cable TV, for instance, program networks routinely charge cable operators license fees on a per-subscriber, per-month basis. These charges result in each additional subscriber costing more to the operator. Such marginal costs can be eliminated, however, by owning the channel. Effectively, the ownership of the asset constitutes an upfront purchase of unlimited network use. This facilitates an efficient pricing scheme of a public good such as a cable TV channel, where the 'first copy' is very expensive but additional 'copies' (or views) are available at zero price.

More generally, permitting cable operators to vertically integrate allows the firm greater scope to seek profitable business strategies. One important use of vertical

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[13] See Oliver E. Williamson, The Economic Institutions of Capitalism (1987).

[14] See Robert Bork, The Antitrust Paradox (1978).

[15] See, e.g., Joseph Farrell and Phil Weiser, *Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet* Age, 17 HARVARD JOURNAL OF LAW & TECHNOLOGY 85 (2003).

integration in cable TV occurred early in the industry's emergence, when cable operators had incentives to produce program networks to stimulate demand for their subscriptions. The first widely distributed cable TV program channel was Home Box Office (HBO), developed by Charles Dolan – cable TV industry entrepreneur and owner of Cablevision of Long Island – in 1972. While many other early cable TV channels, including ESPN (1979) and CNN (1980), were launched by independent firms, an important set of programming services, including C-SPAN (1979), BET (1980), American Movie Classics (1984), and Discovery (1985)[16], were financed with MSO equity capital.

When cable TV systems invest in program networks they simultaneously invest in complementary assets, seeking to connect a virtuous circle. Better content improves the value of distribution conduits, just as improved transport facilities make cable programming more valuable. Hence, if cable operators see profits available from creating new programming, they enjoy incentives to build additional capacity (adding channel slots to cable infrastructure) in order to realize those returns. Given economies of scale and scope in capacity upgrades, an operator expanding its distribution network for some of its own programming can simultaneously add capacity to deliver much more.

The dynamic effect of vertical integration, then, helps expand opportunities for the transport of cable programming generally. Examining the margin on which cable operators favor their own programming misses this essential margin. The real question for both independent program networks and for consumers is not whether, all else equal, cable operators favor their own networks in carriage decisions, but whether opportunities for new content (from MSO and non-MSO sources) to reach customers are robust.

In fact, were regulations to limit vertical integration decrease incentives for cable operators to invest in infrastructure, the result could be perverse: reduced opportunities for independent programmers to reach cable TV audiences. That is why it is essential to examine how markets accommodate demands for diverse and innovative programming rather than focusing narrowly on marginal incentives for self-carriage.

III. TRENDS IN CABLE TELEVISION PROGRAMMING MARKETS

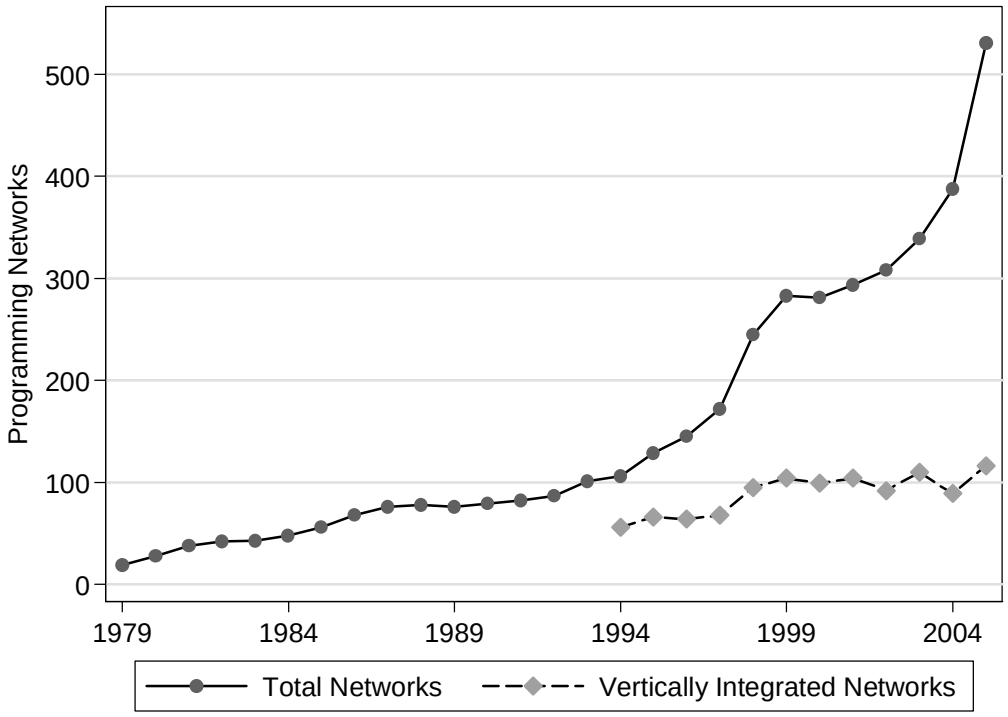
Cable TV operators have invested substantially in expanding the capacity of cable TV systems in recent years, and the overwhelming proportion of the new capacity has been allocated by system operators to unaffiliated cable TV networks. Whatever the advantages of integration, the prevailing economic incentives have pushed cable systems to increasingly carry, and pay, non-cable program owners. This is direct evidence of increasing opportunity for competitive networks.

A. Explosive Growth in Non-MSO Cable Program Networks

[16] Waterman and Weiss (1997), pp. 24-32.

As seen in Figure 1, the overall number of cable TV networks has expanded from 106 in 1994 to 531 in 2005. During this time, cable-owned networks increased from 56 to 116. In other words, non-cable networks were about 33% fewer than cable-owned channels in 1994; by 2005, they were about 400% greater. It is unlikely that, were cable operators using vertical integration to foreclose independent rivals from accessing consumers (viewers and subscribers), unaffiliated programmers would launch hundreds of new channels during this period.

FIG. 1. CABLE TV PROGRAM NETWORKS AVAILABLE IN U.S., 1979-2005[17]



B. Channel Capacity and Carriage on U.S. Cable TV Systems

The rapid growth in cable TV networks, displayed in Fig. 1, has been critically dependent on new cable TV system capacity. The introduction of nationwide satellite TV systems in 1994 (DirecTV) and 1996 (EchoStar) provided new competitive platforms. In response to this rivalry, investors poured money into cable TV upgrades, spending

[17] Total Networks are defined as "satellite-delivered national programming networks." Vertically-Integrated Networks are owned or partially owned by at least one cable operator. *Sources*: Total Networks data for 1979-1993 from *Cable Television Developments*, National Cable Television Association, various issues. Data for 1994-2004 from Federal Communications Commission, *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Eleventh Annual Report*, MB Docket No. 04-227 (Rel. Feb. 4, 2005). Data for 2005 from Federal Communications Commission, *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Twelfth Annual Report*, CS Docket No. 05-255 (Rel. Mar. 3, 2006), p. 73.

approximately $76.5 billion from 1999 through 2004.[18] This highly significant increase served to create massive new capacity for video programmers to fill. While the average channel capacity of U.S. cable TV systems is not well reported in FCC documents, data for the average number of basic cable networks carried summarizes the trend.

TABLE 1. AVERAGE CABLE SYSTEM CAPACITY, 1993-2005[19]

Date	Mean No. Basic Analog Channels	Mean No. Digital Channels	Average System Operating Capacity (Mhz)
8/31/1993	38.5	0.0	
7/14/1994	39.6		
1/1/1995	40.2		
7/1/1995	44.0		
7/1/1996	47.0		
7/1/1997	49.4		
7/1/1998	50.1	39.7	
7/1/1999	51.1		534
7/1/2000	54.8		623
7/1/2001	59.4		652
7/1/2002	62.7		694
1/1/2003	67.5	136.4	
1/1/2004	70.3	150.1	734
1/1/2005	70.5		736

As seen in Table 1, the average U.S. cable TV system in 1998-99 offered about 50 analog channels and another forty digital channels. By 2004-5, channels carried by the typical cable TV system increased, in aggregate, more than one hundred percent, to about 220 total average channels. This strong expansion in the services offered to U.S. households facilitated far greater access to end users for content owners and program networks. The new carriage "slots" were generally filled with non-MSO-owned program networks.

[18] Cable's Private Investment: Infrastructure Expenditures, website of the National Cable & Telecommunications; http://www.ncta.com/ContentView.aspx?contentId=56 (visited Sept. 28, 2007).

[19] *Sources*: August 1993 to January 1995 analog channels and capacity data from Federal Communications Commission, *Report on Cable Industry Prices*, MB Docket No. 96-499 (Rel. Jan. 2, 1997) ("1995 Survey"). July 1995 to January 2005 analog channels and capacity data from Federal Communications Commission, *Report on Cable Industry Prices* , MB Docket No. 06-179 (Rel. Dec. 27, 2006 ("2005 Survey"). Data for average number of digital channels are from 1995 through 2005 FCC Cable Surveys. Digital Channels Data for 1993 assumed to be 0. *Notes*: In 1998, Total Digital Channels assumed equal to number of channels on most highly subscribed digital tier since the average number of digital tiers offered = 1. 1993 - 2000 data on analog channels, 2000 - 2001 data on capacity, and 1999 - 2001 data on digital channels are represented by the average for non-competitive operators composite figures were not reported). All other figures are subscriber-weighted averages. Number of analog channels includes only analog channels on the basic and expanded basic tiers.

Again, any evidence of favoritism exhibited by cable TV operators towards their own programming must be evaluated in the light of these market outcomes. Even where favoritism may exist, and cannot be explained by production or transaction cost efficiencies, dynamic efficiencies may well result. These occur where operators, partly in response to economic incentives offered by the lack of regulation, undertake to expand channel capacity. As seen currently, the dominant share of the capacity created by cable operators is allocated to unaffiliated program networks. Hence, the net effect of the incentives in place is to facilitate entry by non-MSO basic cable channels.

C. Terms of Trade Increasingly Favorable to Cable Networks

As the ownership of cable channels shifts away from cable TV operators, it is also noteworthy that the cash flows (gross profits) enjoyed by programmers are dramatically increasing. Hence the economic opportunity available to non-MSO program networks is not only increasing in terms of the chance to reach audiences, but in terms of financial returns.

Program network cash flows are rising both absolutely and as a proportion of total cable industry revenues. In 1992, total license fees paid to program networks by operators amounted to $1.9 billion ($35 per subscriber); in 2005, the total had increased to $15.6 billion ($238 per subscriber).[20] Profits were shifting in favor of programmers, even as industry concentration (at the operator level) was rising. The top four cable MSOs accounted for 46% of multi-channel video program distribution (MVPD) sales in 1992, while in 2005 they accounted for 63%.[21]

Yet, as seen in Fig. 2, the proportion of industry cash flows accruing to program networks rose from about 12% in 1992 to over 50% in 2005. This dramatic shift surely was a driving factor in inducing new entry into programming, and (as seen) almost all of that entry was provided by non-MSOs. Nothing in this picture suggests a net foreclosure effect; indeed, it underscores how economic incentives are encouraging an explosion in new programming from independent sources.

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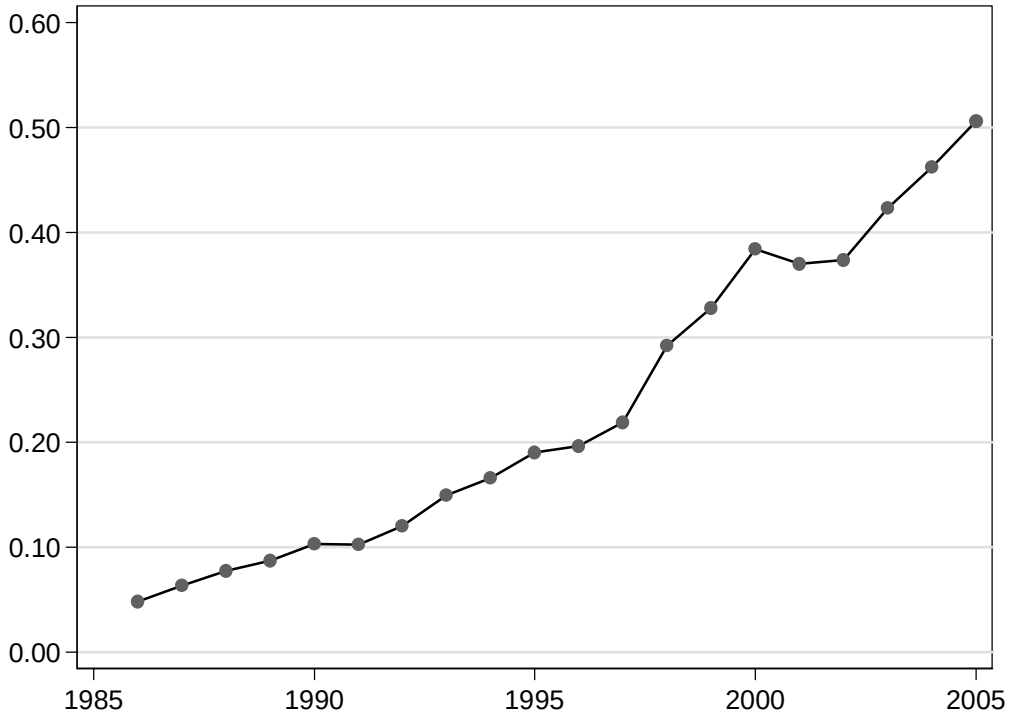
[20] *The Economics of Basic Cable Networks 2005, 11th Edition*, Kagan Media, LLC ["Kagan (2005)"].

[21] Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Twelfth Annual Report*, MB Docket No. 05-255, (Rel. Mar. 3, 2006), para. 9.

FIG. 2. RATIO OF CABLE PROGRAM NETWORK CASH FLOWS TO ESTIMATED CABLE INDUSTRY VIDEO CASH FLOWS, 1986-2005[22]



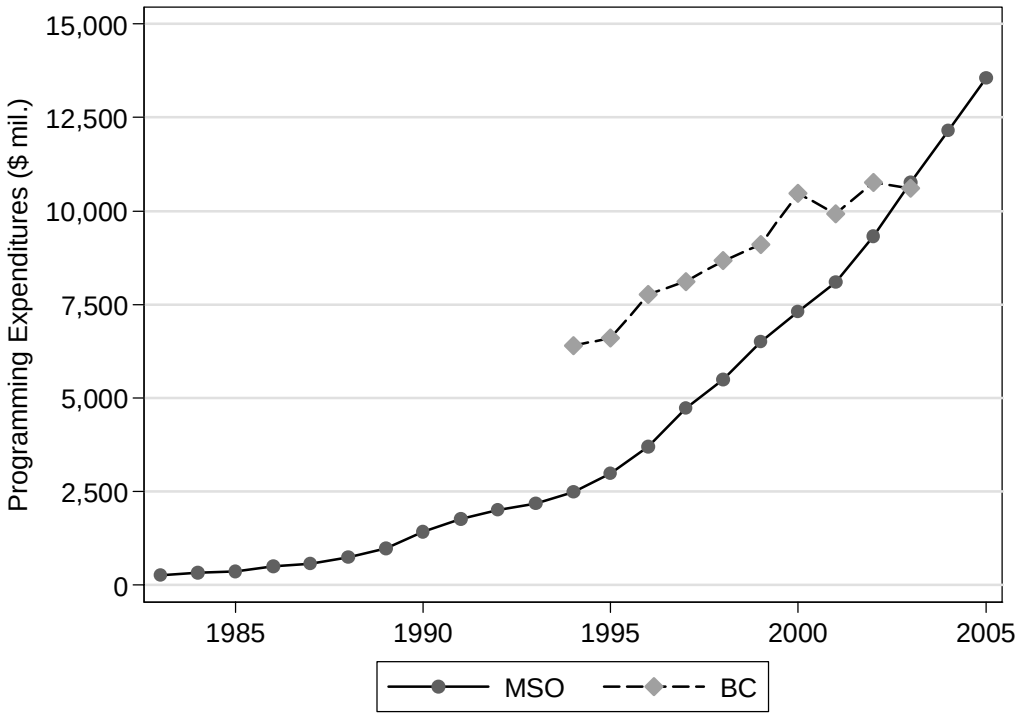
D. Consumer Gains Evidenced from Improved Programming

There is clear evidence that the economic gains experienced by cable TV program networks have resulted in substantial consumer gains. Viewers are increasingly watching the programming offered by cable TV networks, substituting away from broadcast television. This is not surprising, perhaps, in that cable TV networks are spending generously – both absolutely and relative to broadcast networks -- on producing and acquiring popular shows. This is seen in Fig. 3.

The trend in cable TV network spending is upwards over time. The data for broadcast TV program costs are not available for all years, but have been collected here for 1994-2003. It is seen that the growth in cable spending during those years clearly outstrips those in the rival TV industry. Indeed, while broadcast TV networks spent about three times as much on programming as cable TV networks in 1994, by 2003 cable program expenditures exceeded those for broadcasting.

[22] *Sources*: 1991 – 2005 Cable Network Cash Flows from Kagan (2005). 1986 – 1990 Cable Network Cash Flows from Economics of Basic Cable Networks 2000, Kagan Research, LLC. Cable Industry Video Revenues from FCC Video Competition Reports. *Note*: Cable operator cash flows assumed to be equal to 40% of revenues.

FIG. 3. CABLE & BROADCAST TV NETWORK PROGRAMMING EXPENSES, 1983-2005[23]



This comparison goes to the question of vertical foreclosure. Anti-competitive foreclosure would predictably reduce payments for programming, relative to what they would otherwise be. Here it is observed, however, that cable systems are hosting (and through cable operators' license fees, financing) cable network expenditures that are not only rising rapidly and increasing from the historical trend, but rising far faster than the rival television delivery platform, broadcasting. This trend is inconsistent with foreclosure in cable.

Cable TV network programming expenditures are undertaken to create content that appeals to subscribers. The positive trend in viewer ratings for basic cable, seen in Table 2, is a direct outcome of the more liberal spending on inputs seen in Fig. 3. While 1993 audiences for basic cable TV networks were barely one-third as large as commercial broadcast TV audiences, they substantially surpassed them by 2003.

[23] *Sources*: Broadcast programming expenditures from Economics of TV Programming & Syndication, 9th Annual Edition, Kagan Media, LLC (2005), p. 55. Cable data from Kagan (2005).

TABLE 2. TELEVISION ALL-DAY VIEWING SHARES, TV HOUSEHOLDS
(CALENDAR-YEAR AVERAGE 1983-2003)

	83	85	87	89	91	93	95	97	99	01	03
ABC/CBS/NBC	70	66	63	57	54	52	46	42	37	33	31
Independents	18	19	19	20	20	20	22	20	20	18	18
Ad-supported broadcast total	89	84	82	78	74	73	67	62	57	52	48
Cable networks	7	11	14	18	24	26	32	37	44	50	57
Pay services	5	6	6	6	6	6	6	7	7	6	6
Public stations	3	3	4	3	3	4	3	3	3	3	3

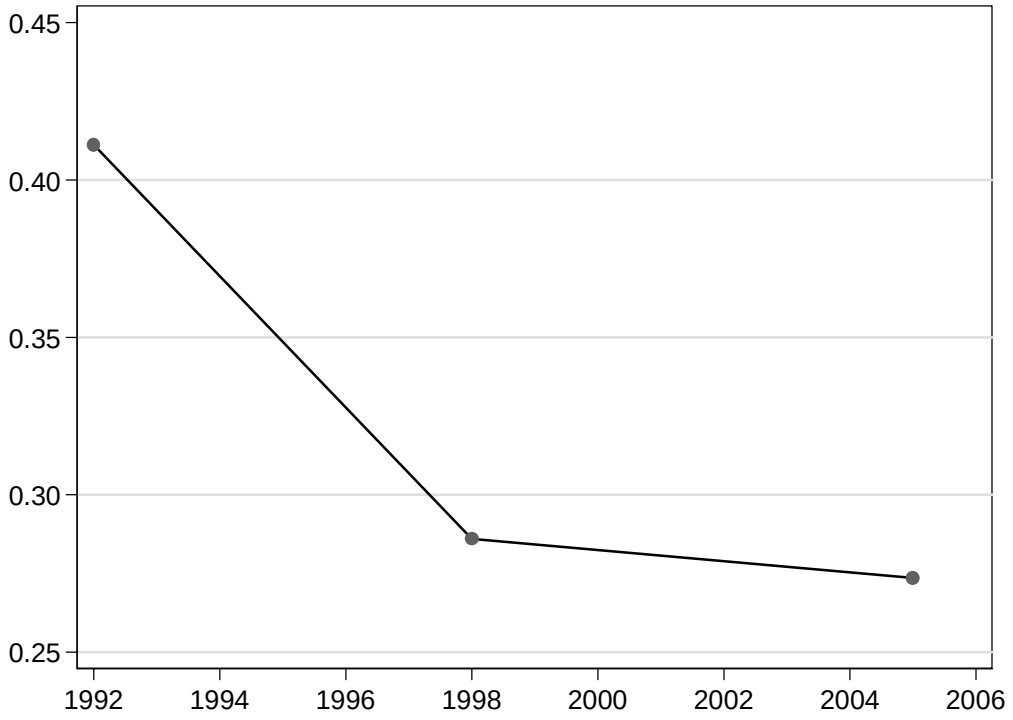
Source: Kagan (2005) analysis of Cabletelevision Advertising Bureau compilation of Nielsen Media Research data. *Notes*: Shares are rounded and in some cases add to more than 100% due to multi-set homes. Effective Q3 1999, categories changed as follows: Disney moved from pay to cable network and non-cable homes no longer included non-wired forms of delivery such as DBS nd SMATV. Historical superstation shares split equally between cable networks and independent stations. FOX, UPN, and WB affiliates included in independent total.

Again, these data offer important information about the current regime which permits the integration of cable TV operations and programming. First, they reveal that cable TV program networks are reaching far larger audiences over time, offering further testimony as to the economic health of program networks. Second, they show that consumers are gaining – as tabulated via their channel selector votes – from market trends in creating and distributing cable TV programming. Third, they offer a comparison to the alternative pathway transporting video programs via television broadcasting. Consumers are abandoning that alternative in favor of cable TV programming. This is inconsistent with the thesis that cable TV operators are using vertical foreclosure to reduce the value of the networks they carry.

E. Vertical Integration Is a Small and Declining Factor in Cable

Perhaps the most interesting aspect of the vertical integration question in cable television, however, revolves around the very small share of program networks owned by cable TV operators. If anti-competitive foreclosure is a profitable strategy, why are operators so reluctant to vertically integrate?

FIG. 4. MSO OWNERSHIP SHARES OF TOP 20 CABLE NETWORKS, WEIGHTED BY CASH FLOWS (1992, 1999, 2005)[24]



In 2005, just 27% of the twenty most profitable cable TV program networks were owned by cable TV operators, weighted by (a) equity shares of ownership, and (b) cash flows of the cable program networks.[25] This represents a substantial decline in the level of vertical integration exhibited in earlier years. In 1992, for example, cable operators owned 41% of the top twenty program networks, similarly weighted. See Fig. 4. Currently, the three most profitable networks (Nickelodeon, ESPN, and MTV) have no MSO ownership; seven of the ten most profitable networks have no MSO ownership (eight out of ten, adjusting for the 50% MSO ownership of Fox Sports and Discovery). It should be noted that even this ratio is largely due to MSO holdings in networks 11-20; in the top ten, MSOs account for just 19% of cash flows.

[24] *Sources*: Kagan, Basic Cable TV Networks 1993; Federal Communications Commission, Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming, Sixth Annual Report (Jan. 14, 2000); Kagan (2005).

[25] To clarify the weightings, suppose there are just two cable TV networks, one of which is 50% owned by a group of MSOs, the other having no MSO ownership. If the MSO-affiliated network accounts for 60% of total cash flows (between the two cable program networks), the weighted-average MSO, ownership share = (0.5)*(0.6) = 0.3, or thirty percent. It should be noted that these top twenty network accounted for 110% of all cable TV network cash flows (meaning that the networks smaller than the top twenty generated negative cash flows in aggregate).

Most pointedly, the largest U.S. cable operator, Comcast, engages in only a modest amount of program ownership. While serving about 28% of U.S. MVPD (cable plus satellite) subscribers,[26] Comcast owned just two percent of U.S. cable TV channels

TABLE 3. OWNERSHIP SHARES OF TOP TWENTY CABLE NETS BY CASH FLOW (2005)

Network	*Owner*	*Share*	*Cash Flow ($ Mil)*	*MSO Share*
Nickelodeon	Viacom	100%	900.3	0%
ESPN	Disney	80%	858.9	0%
	Hearst	20%		
MTV	Viacom	100%	692.3	0%
TNT	**TW**	100%	642.6	100%
DSNY	Disney	100%	441.1	0%
USA	GE	100%	416.9	0%
DSC	**Cox**	25%	377.8	50%
	Hendricks	2%		
	Liberty	49%		
	Newhouse	25%		
Fox Sports	Fox	50%	373.6	50%
	Cablevision	50%		
CNBC	GE	100%	360.1	0%
Fox News	News Corp.	100%	350.6	0%
TLC	**Cox**	25%	338.3	50%
	Hendricks	2%		
	Liberty	49%		
	Newhouse	25%		
LIFE	Disney	50%	332.9	0%
	Hearst	50%		
CNN+HN	**TW**	100%	325.2	100%
TBS	**TW**	100%	290.0	100%
BET	Viacom	100%	285.2	0%
HGTV	Scripps	100%	193.9	0%
AMC	**Cablevision**	100%	184.8	100%
TOON	**TW**	100%	184.3	100%
VH1	Viacom	100%	184.3	0%
A&E	Disney	38%	182.8	0%
	GE	25%		
	Hearst	38%		
% OF TOP 20 TOTAL				27%

Source: Kagan (2005). *Note*: Cable MSOs in **boldface**.

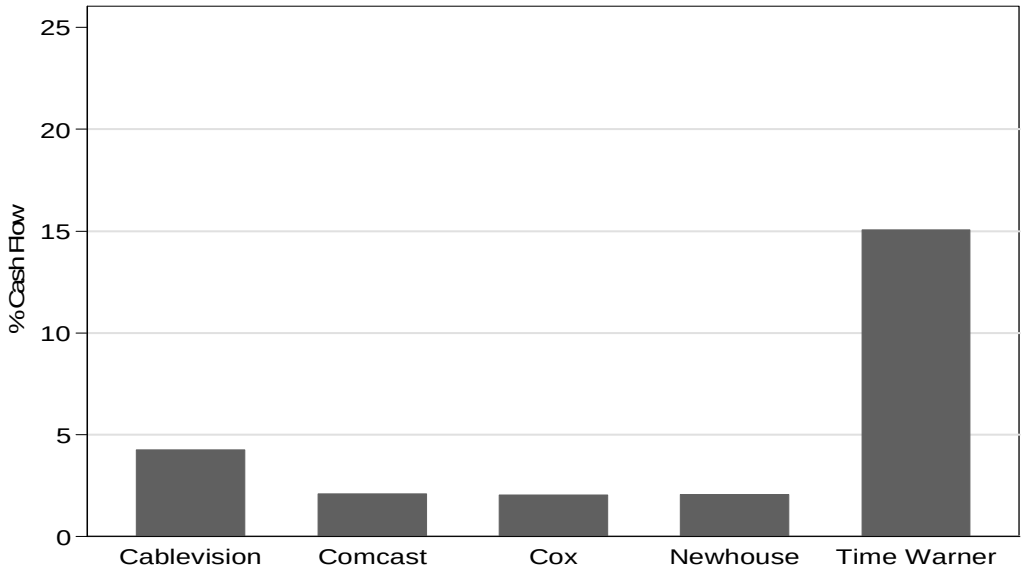
weighted by cash flows in 2005. See Fig. 5. This calculation is weighted by (a) Comcast's share of equity in the networks it (partly or wholly) owns; and (b) the cash flow of all cable TV networks as estimated for 2005.[27] Comcast owned no share – 0.0%

[26] This is the "attributed" market share, which includes share ownership of all operations.
[27] Kagan (2005).

-- of the twenty most profitable U.S. cable TV networks in 2005. See Table 3. Were anticompetitive foreclosure a viable strategy, the largest MSO would have the most intense interest, all else equal, to pursue it. In fact, the largest U.S. MSO owns relatively modest cable programming shares. With about half the subscribers of Comcast, Time Warner owns *seven times* the programming shares.[28] With fewer than *one-fifth* as many subscribers as Comcast, Cablevision (and its Rainbow subsidiary) owns twice the program network assets of Comcast.[29]

Not only is it informative that the largest MSO owns relatively little equity in the top program networks, it is revealing to examine how other MSOs have come to vertically integrate proportionally more. Time Warner, a firm with extensive broadcasting and video production assets, is by far the leading MSO with respect to vertical integration. This is likely due to portfolio effects and the firm's competency in video content creation, something Time Warner shares with rivals Viacom, News Corp. and Disney.[30]

FIG. 5. PERCENT OF TOTAL CABLE PROGRAM NETWORK CASH FLOWS ACCOUNTED FOR BY MSO-OWNED NETWORKS



Source: Kagan (2005).

[28] In 2005, Comcast served 22.9% of U.S. MVPD subscribers (without counting additional subscribers "attributed" to Comcast under FCC rules), while Time Warner served 11.69%. See Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Twelfth Annual Report*, MB Docket No. 05-255, FCC 06-311 (Mar. 3, 2006), B3, 118; http://fjallfoss.fcc.gov/edocs_public/attachmatch/FCC-06-11A1.pdf ["FCC (2006)"]. The total Comcast 2005 cash flow share of program networks was $225 million while Time Warner accounted for $1.6 billion.

[29] Total Cablevision 2005 program network cash flow equaled $457 million (including Rainbow Media).

[30] Yahoo!Finance lists Viacom, Disney, and News Corp. as Time Warner competitors, omitting Comcast. See http://finance.yahoo.com/q/co?s=TWX (visited Sept. 23, 2007).

Of further note is the process by which Time Warner vertically integrated, acquiring the Turner Broadcasting System in two discrete transactions. In 1987, TBS faced a financial crisis due to large debt obligations incurred to purchase programming. MSOs Time Warner and TCI effectively rescued the independent cable TV program network owner by extending capital financing. The MSOs ended up with 42%[31] of the company via the "bail out."[32] Then, in 1995-96, Time Warner purchased the remaining equity shares of TBS in a deal ultimately yielding TBS founder Ted Turner $9 billion in capital value.[33]

These facts suggest that the ownership of cable TV networks may provide incentives for independent program networks, by funding innovators seeking industry exit. Downstream distributors often have the strongest incentives to finance complementary upstream inputs, particularly when the industry is emerging and outside investors are uncertain as to its financial future. The dynamic impacts, while apparent, are excluded from studies which focus only on carriage choices between MSO-owned and other networks at a point in time. An event that dramatically increases MSO ownership, then, can be mistakenly interpreted as suggestive of foreclosure when it is actually increasing returns for programming entrants.

Also informative is the pattern by which some cable TV networks have risen within the marketplace, while others have fallen. In 1992, ESPN and CNN were the two most profitable networks (ranked by cash flows), and neither was majority-owned by a cable MSO. Over the years, ESPN continued to become more profitable; in 2005, it was ranked No. 2 in program network cash flows – behind Nickelodeon, owned by Viacom, a non-MSO (indeed, a firm which sold its cable TV systems in 1995). CNN, meanwhile, had fallen from No. 2 to No. 13, despite having been acquired by a large cable MSO, Time Warner. A similar decline was exhibited in the earnings of TBS, going from No. 3 to No. 14 between 1992 and 2005, despite Time Warner's acquisition in the interim.

What is perhaps most striking about CNN's decline is that Fox News Channel (FNC), CNBC, and MSNBC were largely responsible for the downward mobility. While CNN enjoyed the advantages of MSO ownership, it was effectively out-competed by news channel entrants owned by non-MSOs. Two of these independent rivals, FNC and CNBC, passed CNN in profitability. CNBC rose from 19th in 1992 to 9th in 2005, while FNC, which did not exist in 1992, was 10th in 2005. That such program network rivals could be launched and gain carriage sufficient to financially outperform networks owned by incumbent MSOs suggests an absence of foreclosure.

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[31] Waterman & Weiss (1997), p. 24.

[32] Alec Klein, Stealing Time (2003), p. 239.

[33] Ronald Grover, *AOL Time Warner is Squandering a Key Asset – Ted Turner*, BUSINESS WEEK (May 12, 2000); http://www.businessweek.com/bwdaily/dnflash/may2000/nf00512e.htm.

IV. ECONOMIC ANALYSIS IN GOOLSBEE (2007)

Goolsbee (2007) offers this conclusion: the "facts… may be consistent with the view that the efficiency gains associated with vertical integration today are relatively small and that competition has taken away the ability of cable systems to take as much strategic advantage of vertical integration as they may have once done."

While the tone implies that a market failure may have existed,[34] the study never states a case for regulation. Indeed, the conclusion that "efficiency gains… are relatively small" is consistent with a finding that vertical integration is either irrelevant or pro-consumer. Similarly, in asserting that "competition has taken away… strategic advantage," the study suggests that the time for a potential policy intervention has passed.

To be fair to Prof. Goolsbee, his research reaches no hard conclusions. On the other hand, the FCC has commissioned such research in order to inform regulatory decisions. This then is the appropriate forum in which to evaluate the Goolsbee paper, and the economic analysis it provides, as a basis for, first, identifying possibly anti-competitive foreclosure in cable markets and, second, imposing regulations to mitigate whatever problem is identified. As a starting point the Commission should understand that, neither in its analytical assessment of cable markets nor in its policy conclusions, does the Goolsbee paper present a case that the net benefits of new rules governing vertical integration would favor consumers.

A. A Narrow Approach to Vertical Integration

Goolsbee (2007) studies the question of anti-competitive conduct without directly addressing the question of whether consumers are better off due to vertical integration. Indeed, the analysis assumes that most of what influences the flow of video programming to consumers is exogenous to the key question it investigates: whether, given the existing system and a number of cable TV networks as carriage choices, cable operators tend to carry their own program networks as opposed to the networks owned by others. This is part of the economic analysis of vertical integration in cable TV markets, but it is dominated by other concerns. The more important questions for consumers involve how markets create new video programming and expand platforms for delivering this programming to customers.

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[34] This conclusion is also implied by the paper's call for additional research to produce more exact metrics for regulatory limits on vertical integration: After reviewing regression results indicating a relationship between satellite TV penetration (in the local market) and cable TV carriage choices, Prof. Goolsbee identifies possible ranges (in terms of DBS penetration) where cable operators' carriage choices are thought to be more or less competitive, and writes: "This kind of calculation is obviously meant only to be suggestive. But applied with better data to more narrowly defined markets, this type of approach might be able to provide an empirical basis for the threshold-type exemptions often used by the FCC and other regulatory agencies where certain markets or firms are exempted from regulation when they have been deemed to be 'competitive.'" Goolsbee (2007), p 30.

Prof. Goolsbee's paper does note that vertical integration is decreasing over time. "Tables 8A and 8B show that of the top 15 networks as measured by the size of their prime time audience, the share of vertically integrated networks has been falling over time, from eight in 1997 to four in 2005." [35] Simultaneously, a huge increase occurs in the quantity of programming being carried to audiences by cable TV operators: "The number of networks increased by 359 in the ten years from 1996 to 2005." Moreover, the overwhelming proportion of these new networks is not owned by MSOs. "Independent networks made up 311 of that 359, vertically integrated networks only 48. The share of networks identified by the FCC as being vertically integrated has basically been cut in half over this period—from almost 40% in 1996 to just over 20% in 2005."[36]

These facts are not integrated into the empirical analysis, however. Rather, the paper sets them aside so as to pursue a rather specific research topic:

> [I]t is… worth trying to understand why vertically integrated systems tend to be more likely to carry their own channels than independent cable systems and whether this can be attributed to market power.[37]

This is hardly the only margin influencing marketplace outcomes. As shown in previous sections, the trends in the multi-channel video sector are highly positive for consumers, who find more (and more diverse) program networks available, and who purchase and watch more networks, over time. The Goolsbee econometric analysis employs an implicit assumption that these broad market developments are unlinked to cable TV operator carriage choices. In this light, the comments made early in the paper are particularly relevant:

> [Cable and satellite TV program] networks have increased in importance and quantity over time and now account for the majority of television watched in the country. The last FCC competition report indicates there were more than 530 such networks in 2005 (FCC, 2006). ...
>
> Some of these issues of vertical integration were more problematic when cable systems had low channel capacity and the system owner's choice of networks was extremely binding. With the advent of satellite and of digital cable, though, the channel capacity has increased significantly (as has the number of available networks) so the marginal channel not getting on the air is a much more niche network than in earlier years. [38]

These developments are well documented and uncontroversial. It is also analytically possible, and often appropriate, to explore specific economic margins that abstract from such aspects of the marketplace. But it is essential, when crafting policy objectives and particular regulations, to then include such high-level dynamics. These

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[35] Goolsbee (2007), p. 21.
[36] Ibid, p. 21.
[37] Ibid, p. 21.
[38] Ibid, p. 17-18.

fundamental trends are central to efficiency and consumer welfare, and changing the regime governing the sector can clearly have large consequences in altering them.

As stated by Prof. Goolsbee: "There are many public concerns that a vertically integrated media company might make life difficult for independent cable network operators and try to promote their own networks, instead."[39] Yes, that is one set of concerns. But a related set of concerns should also be addressed, namely that regulations could be imposed that would disrupt capital investments in additional capacity – investments that do not "make life difficult for independent cable network operators," but instead make it easier. With the recent creation of over 350 independently-owned cable TV program networks, protecting efficient incentives for the creation of additional programming opportunities constitutes, almost certainly, the most basic concern.

The paper makes this initial claim: "Successive waves of deregulation and media mergers, however, have generated a tremendous amount of vertical integration in the television industry."[40] Later, however, the paper notes: "The data suggest that vertical integration has been getting less prevalent over time."[41] In fact, the latter comment best summarizes cable television, where there has been a sharp decline in the proportional ownership of cable networks by cable operators over the past decade (see Section III). Hence, the following high-level observations can be gleaned:

1. If it exists, the problem associated with vertical integration involves artificial barriers to entry placed in the way of efficient content innovators.

2. Vertical integration is declining in cable TV.

3. Cable program network growth is skyrocketing.

4. Cable program networks are ever more popular, now out-drawing broadcast TV rivals.

5. Virtually all the new growth in cable programming is from non-MSO sources.

Whatever the data econometrically examined in Goolsbee (2007) yield, policy conclusions must be nested within an analysis that includes this larger picture.

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[39] Ibid., Abstract.
[40] Ibid, p. 2.
[41] Ibid, p. 2. The disparity in the text may stem from the fact that the first comment related to both broadcasting and cable, although the passage quoted did not invoke this distinction.

B. Empirical Evidence

Goolsbee (2007) conducts two sets of formal econometric tests using recent data from cable TV markets. The first inquiry seeks to determine whether MSO-owned cable TV program networks out-perform cable TV networks owned by other firms. This is undertaken to discover whether there are efficiencies (as per evidence of out-performance) associated with vertical integration. The second investigation focuses on cable operator carriage decisions, searching for information about the degree of favoritism exhibited for networks owned by the operator. The paper claims to find no evidence of efficiency, and possible evidence of anti-competitive foreclosure, given that self-carriage bias both appears and then appears to lessen in markets with more intense retail competition. Both empirical pursuits are seriously flawed, however, and evince no evidence supporting the conclusion that anticompetitive foreclosure is deterring consumer welfare.

i. *The Efficiency Inquiry*

The approach in Goolsbee (2007) is straightforward: cable TV program networks are examined to see if those owned by cable TV systems exhibit higher subscriber growth, revenues, and program expenditures than independent networks. Finding no systematic statistical relationship, the paper concludes that there is no evidence that economic efficiency is causing or resulting from vertical integration.

But the interpretation of the test is incorrect in two respects. First, the lack of observed results from vertical integration could be interpreted, just as easily, as indicating that there is no evidence of an anti-competitive outcome. For instance, the Chen-Waterman paper is cited in Goolsbee (2007) for its showing that cable operators may favor their own programming on basic tiers, relegating rival cable program networks to digital tiers. Such discrimination would presumably result in non-integrated program networks exhibiting relatively poor growth in subscribers, license fees, and advertising revenues. That the lack of affiliation produces no statistically significant correlation suggests that this does not obtain. More generally, the evidence reveals neither efficiency nor anticompetitive discrimination.

Second, the cable network indices that this test examines are at least two levels removed from the actual efficiencies that we seek to understand. The first level is corporate: vertical integration is designed – when adopted by firms – to advance the economic returns of the combined entity, not just the program network. Hence, some cable TV networks could be vertically integrated with cable operators to achieve important efficiencies that result in increased revenues or subscribers not for the network but for the MSO. Indeed, the MSO might invest in certain networks that feature low earnings, at least for some period, if they expand system subscribership (say, by expanding content menu diversity) or promise to prove more popular in future periods (when some of the gains will be realized by the MSO as well as the network).

Consider the first basic cable TV network, C-SPAN, founded in 1979 by a consortium of MSOs.[42] While funded by cable TV operators, it is non-profit, selling no ads and realizing only modest license fees (from operators) to cover costs.[43] In the empirical framework in Goolsbee (2007), the low (zero) returns constitute evidence of a lack of efficiency.[44] In fact, the integration was designed to be a mechanism for creating valuable content in order to expand the universe of cable subscriptions, increasing revenues flowing to operators.

The second and higher level of analysis of the efficiency question involves consumer effects. Examining the performance of individual networks based on whether or not they are MSO-owned does not directly yield information about the facts we are ultimately interested in: do rules permitting vertical integration enhance consumer welfare? For instance, suppose that the Time Warner "bail out" and then purchase of TBS saved CNN, WTBS, TNT and other TBS networks from their reported alternative financial fate: acquisition by Rupert Murdoch's News Corp. Without TBS ownership, of course, News Corp then developed its own programming alternatives, including (in 1996) FNC. In the end, cable and satellite subscribers saw a markedly increased breadth of choice in news programming. This positive outcome for consumers was, in all likelihood, materially advanced by Time Warner's acquisition of CNN.

Yet, in the Goolsbee analysis, CNN's relative growth decline, post-acquisition, while in large part due to Fox News (and CNBC and MSNBC) rivalry, is attributed to vertical integration. The paper, on the basis of this and other data patterns, concludes that no efficiencies are in evidence from MSO program network ownership. By focusing on simple performance metrics for individual channels, the benefits of vertical integration for the competitive process are overlooked.

A superior framework for determining the impact of vertical integration was constructed in Suzuki (2006). There, the prices and services available in markets served by Time Warner cable TV systems before and after the 1995 merger with Turner were examined. The evidence was that consumers paid lower prices and enjoyed access to more TV program networks post-merger, compared to subscribers in other (non-Time Warner) franchise areas. This revealed the likely effect of vertical integration in advancing consumer welfare, even as networks such as CNN exhibited declining fortunes relative to other, faster-growing networks.[45]

ii. *The Carriage Favoritism Inquiry*

Goolsbee (2007) then conducts a statistical analysis that attempts to predict whether a particular cable TV network (12 different channels are chosen for the exercise)

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[42] Waterman and Weiss (1997), p. 25.

[43] C-SPAN http://www.c-span.org/about/company/index.asp?code=COMPANY (visited Sept. 26, 2007).

[44] And if Prof. Goolsbee had been able to run a model analogous to the empirical inquiry used for broadcast TV programming, it would evidence anti-competitive foreclosure, as the MSO-owned channel was given carriage despite exhibiting low (zero) profits for cable TV operator-owners.

[45] See also Ford & Jackson (1997), and Chipty (2001). See discussion above.

will gain carriage on a particular cable TV system, given various characteristics of the market, the cable system, and whether or not the cable operator (or its parent company) owns the cable TV network in question.

The general pattern is found, namely that cable operators tend to favor the program networks they own. An additional explanatory variable attempts to differentiate, however, between the efficiency and anticompetitive foreclosure alternatives: DBS penetration.[46] If satellite TV subscribership in the local market is associated with a reduction in favoritism (i.e., a decrease in the probability the cable operator will carry its own programming, all else equal), then the empirical implication drawn by Prof. Goolsbee is that enhanced competition – as proxied by the satellite penetration rate[47] -- is constraining MSO carriage choices. The economic implication drawn by the paper is that the "evidence suggests, perhaps, an explanation rooted in competitive pressures rather than efficiencies."[48]

Before turning to the estimated results, the raw data deserve comment. Goolsbee (2007) first examines five of the most popular cable TV networks owned, in whole or in part, by MSOs: AMC, CNN, TBS, TNT, and Discovery.[49] He notes that these program channels cannot be used in the statistical analysis due to lack of variation in cable system carriage: they have essentially ubiquitous coverage on all systems. See Table 4, taken from Prof. Goolsbee's Table 11. "Clearly there is little scope for strategic behavior when every system has enough capacity to carry all the major channels."[50]

That would appear to constitute evidence, however, of the fact that cable operators have created the capacity to host a multitude of popular networks, and then carry all popular networks, not just those they own. Moreover, the stated reason for excluding the evidence is that there is little self-carriage favoritism worth searching for when we already know that non-owners carry these networks just as owners do. But this transmits valuable information about the lack of foreclosure.

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[46] The actual variable is an interactive term, with a dummy for MSO ownership (of the cable network whose carriage is being evaluated) times the DBS penetration in the DMA (designated market area, also known as a local television market, of which there are 210 nationally).

[47] Penetration rate = subscribers/total homes in the DMA in which the cable TV system is located. What is called DBS penetration in Goolsbee (2007) is actually ADS (alternative delivery system) penetration, which includes DBS, "large dish" satellite TV, multipoint multi-channel distribution systems, and satellite master antennae operators.

[48] Goolsbee (2007), p. 29.

[49] Goolsbee (2007), p. 27. The statement is followed by a parenthetical aside, "although the work of Chen and Waterman, 2006 does show that there may still be interesting decisions regarding what networks get carried on the digital versus the analog tier." Ibid. The reference does not plausibly explain the situation with respect to these cable TV channels, because the problem with moving from the analog to the digital tier is reduced coverage (analog tiers reaching all subscribers while digital tiers reaching considerably fewer). The first five cable networks listed in Table 5 (Table 11 in Goolsbee (2007)), the object of this discussion, achieve virtually universal coverage – overcoming whatever discrimination Goolsbee (2007) or Chen-Waterman (2006) purport to find.

[50] Ibid.

TABLE 4. CARRIAGE RATES FOR INTEGRATED NETWORKS BY SYSTEM TYPE

	System Owns Network	*System Does Not Own Network*
Type I		
AMC	98.7%	98.4%
CNN	99.9%	99.8%
Discovery	100%	99.8%
TBS	100%	97.2%
TNT	100%	99.5%
Type II		
Boomerang	43.4%	13.2%
BBC America	89.3%	38.2%
CNN International	17.7%	5.1%
FitTV	24.5%	45.9%
FUSE	57.6%	60.8%
G4	83.7%	93.9%
PBS Kids	2.1%	8.8%
Science Channel	4.1%	15.6%
Style	5.4%	6.1%
Travel Channel	97.4%	79.7%
TV One	7.2%	9.0%
WE	97.2%	71.2%

Source: Goolsbee (2007), Table 11.

Similarly, the study omits from the statistical analysis, and then excludes from its economic conclusions, the information yielded by the large number of widely distributed cable TV program networks featuring no MSO ownership. Using industry data from 2005, there were ten networks that were at least as profitable (in terms of annual cash flow) as AMC (the least profitable MSO-affiliated network excluded due to its ubiquitous carriage).[51] These would appear to be extremely useful data; alone, they suggest that strategic behavior by MSOs to exclude rivals' programming is, again, not in evidence.

Note, that the MSO and non-MSO networks explicitly rejected for inclusion in the econometric investigation of anticompetitive foreclosure constitute the overwhelming share of cable program network revenues and profits. In 2005, the five MSO-affiliated program networks accounted for 17% of total network cash flows, while the 10 non-MSO program networks accounted for another 45%. If strategic moves by MSOs could block entry by rivals, the incentives should be strongest just here. For these reasons, tossing this evidence aside seriously biases the test conducted towards foreclosure and away from efficiency.

[51] These are: *Nickelodeon, ESPN, MTV, Disney, USA,Lifetime, CNBC, Fox News, BET, HGTV,* and *WE*.

Having dropped the most popular and economically important networks from consideration, the paper then examines twelve cable TV program networks that are "wholly or partially vertically integrated basic cable TV networks… [with] carriage rates between 5% and 90%..."[52] This results in the analysis of the twelve networks identified in Table 4 as "Type II." In contrast to the economic importance of Type I networks and comparable networks not owned by MSO, which together account for about 62% of industry profits, the Type II networks accounted for just 1.3% of cash flows in 2005.

What is instantly noteworthy among this group is that seven of the twelve exhibit higher carriage rates among cable TV systems that do not own them than among those which do. This is remarkable, in that the transactional advantages of ownership would seem to be pronounced among networks that are new and growing, with carriage obtained early on via cable TV systems owned by the parent company, to the extent that such carriage would occur at all. But this information is, again, overlooked in favor of the estimation of a marginal favoritism metric.

That analysis focuses on how the probability of carriage changes when (a) the cable TV network is owned in part or wholly by the cable system's parent company, as indicated by the estimated coefficient on *Vertical Integration* ["*VI*"]; (b) satellite TV penetration changes when the cable TV network is owned in part or in whole by the cable system's parent, indicated by the coefficient on the interactive term *Vertical Integration * DBS Penetration* ["*VI*DP*"]. A probit regression (predicting the probability the cable channel is carried on a particular cable TV system, given various factors adjusted for by the independent variables[53]) is run for each of the twelve Type II cable networks listed in Table 4.[54]

There are several problems with this model. First, *DBS penetration* does not measure the existence of competition; rather, it measures the subscribership of satellite television in the local television market in which each observed cable system exists. The actual competitive satellite video offering – the substitute product which is modeled as the constraint on cable TV system carriage decisions in the Goolsbee model – does not change from market to market. What varies, and what the Goolsbee equations likely measure, is the change in DBS subscribers by DMA, a variation driven by the build-out of cable TV systems in the DMA. As a 2005 GAO report found, DBS penetration averages 15% among households where subscribers also have access to cable TV (i.e., they live in homes already passed by cable), but achieves 65% penetration where there is

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[52] Goolsbee (2007), p. 27.

[53] The independent variables are: a dummy variable equal to one when the cable network is owned by the cable system; an interactive variable equal to the ownership dummy (= 1 when the cable operator owns the program network) times satellite TV penetration in the local TV market (DMA); the satellite TV penetration (DMA); fiber's share of system plant miles; a dummy equal to one if the system is analog only; a dummy equal to one if the system is two-way; population density; population growth rate; percent of residents of Hispanic origin in local area; percent of residents under 18 years of age; percent of residents over 65 years of age; percent of residents who are black; population per household; natural log of income; percent of local residents who are homeowners.

[54] The model appears in each of the reported results tables in Goolsbee (2007), Table 12A-12K.

no cable available.[55] The variation in DMA cable saturation (homes passed/total homes), does not represent variation in competition in the areas served by cable. The elasticity of demand facing cable operators does not change as DBS penetration varies, as DBS prices and products are uniformly offered across markets.

Second, while neither *DBS penetration* nor *VI*DP* proxy "competition," other factors which presumably impact carriage decisions by cable TV operators are excluded. Most obviously, channel capacity is extremely important theoretically; cable systems allocate scarce channel slots to different programming choices, and – as Prof. Goolsbee notes – expanded channel capacity accommodates more programming from all ownership sources. Yet Goolsbee (2007) argues that including channel capacity loses too many observations (due to missing data)[56] and that results are, in any event, unchanged. When we run the same model but include cable system channel capacity,[57] however, results change substantially (see below). Tt would also be useful to include an explanatory variable for "cable homes passed" per local DMA, in that this could help distinguish the effect of DBS penetration from the effect of cable build-out.

Two key results are obtained in Goolsbee (2007), summarized here in Table 5.[58] The first is that, in eight of twelve estimated equations, the *Vertical Integration* dummy coefficient is positive and statistically significant at the 95% confidence level. The second is that the estimated coefficient on the interactive term, *Vertical Integration * DBS penetration*, is negative and statistically significant in the same eight equations. Prof. Goolsbee takes this evidence to suggest that integrated cable TV firms do, as seen in other studies, favor their own programming over that owned by other firms. Moreover, this favoritism diminishes in markets where the cable operator faces more competition from DBS, as measured by the estimated coefficient on *Vertical Integration * DBS penetration*. This, concludes Prof. Goolsbee, excludes efficiency as an explanation of self-carriage favoritism, leaving anti-competitive foreclosure. In short, Prof. Goolsbee finds that cable operators are more likely to carry their own program networks, and are most likely to do it where they can "get away with it" due to a lack of competition.

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[55] GAO, *Direct Broadcast Satellite Subscribership Has Grown Rapidly, but Varies Across Different Types of Markets*, GAO-05-257 (Apr. 2005), p. 9; http://www.gao.gov/new.items/d05257.pdf. About 9% of U.S. households were found not to have access to cable television. Ibid.

[56] "Adding channel capacity did not change the results but is missing from a large number of the system level observations and thus dramatically reduced the sample." Goolsbee (2007), p. 28.

[57] Channel capacity is defined for analog tiers. The source is Warren Publishing, Television and Cable Factbook 2007.

[58] The results for the FUSE regression are not reported, in that "the probit showed a significant positive coefficient on vertical integration and a significant negative on the interaction with DBS but something in the data lead the standard errors to be absurdly small and the coefficients absurdly large." Goolsbee (2007), p. 29.

TABLE 5. KEY COEFFICIENT ESTIMATES IN GOOLSBEE (2007)

	Vertical Integration	*VI * DBS*	*"Neutral" DBS Penetration*	*MSO Owner*
BBC America	2.733**	-0.066*	41.3%	Newhouse
Boomerang	1.407**	-0.039*	36.0%	Time Warner
CNN Int'l	2.279**	-0.066**	34.6%	Time Warner
Fit TV	1.414**	-0.074*	19.1%	Newhouse
G4	0.151	-0.121+	7.2%	Comcast
PBS Kids	2.043**	-0.156**	13.2%	Comcast
Science	3.533**	0.194**	18.2%	Comcast
Style	-0.035	-0.009	0%	Newhouse
Travel	0.752+	0.002	n.a.	Newhouse
TV One	1.583**	-0.061**	26.0%	Comcast
WE	7.317**	-0.412**	17.8%	Cablevision
FUSE	not reported due to "strange probit result"			Cablevision

** significant @ 1%; * significant @ 5%; + significant @ 10%.

On their own terms, these statistical results actually do not yield evidence of anticompetitive self-carriage bias. Before explaining this, however, a number of comments on the strength of the econometric evidence are appropriate.

First, while the paper reports eleven regressions, twelve were estimated, the results from one (involving *FUSE*) being so "absurd"[59] as to go unreported. The statistical difficulties encountered in this estimation suggest that the data may not fit the model well. These problems are likely to be an issue in estimating the other equations. Indeed, the results obtained for *WE*, the other Cablevision-owned network (like *FUSE*) in the sample, appear economically "absurd," as shown below. Both sources of information strongly undercut the validity of the estimated coefficients in explaining market behavior.

Second, only eight of twelve regressions suggest that, at standard confidence levels, there exists a statistically significant relationship between vertical integration and cable carriage choices. The evidence, even accepting the underlying economic model, becomes even weaker when it is recalled that the twelve channels chosen for analysis were selected because the very widely distributed channels owned by cable operators – such as AMC and CNN – were omitted. It was argued that anticompetitive foreclosure was not a factor for these channels: "it is important to note that the historic literature on vertical integration and the carriage decision no longer applies to most of the major vertically integrated networks because all of them are carried on virtually all major cable systems."[60] Of course, the very popular channels not owned by cable operators – such as

[59] Goolsbee (2007), p. 29.
[60] Goolsbee (2007), pp. 26-27.

MTV and ESPN – could also have been examined (reversing the favoritism hypothesis), but were not. Presumably, the same result would obtain for the non-integrated channels: "the historical literature on vertical integration and the carriage decision" would not apply to these ubiquitously available networks.

Further, there are numerous problems with the data, including deficiencies in the Warren cable TV database and the geographical mismatch between cable TV franchise areas and the DMAs in which they operate. Beyond these issues, the regressions do not adjust for share ownership of cable networks by MSOs; Time Warner's incentives, when owning all of *Boomerang*, are treated the same as Comcast's with its 40% share of *G4*. And relevant information about vertical integration in the twelve selected cable TV networks is discarded: *CNN International*, wholly owned by Time Warner, has essentially exited the U.S. market. Launched in 1985 and backed by the second-largest U.S. cable operator, it proved unsuccessful in the U.S. – much as did *CNNfn*, which went dark in Dec. 2004.[61]

As shown in Table 5, *CNN International* has carriage in but 18% of Time Warner's U.S. cable households and just 5% of other firms'. The Goolsbee regressions show evidence of anticompetitive foreclosure in Time Warner carriage decisions. This is because the firm is found more likely (than other MSOs) to carry *CNN International*, but that the tendency is found to be reduced in areas (DMAs) where DBS penetration is higher. The interpretation is that the intensified competition in such high-DBS areas forces Time Warner to move *CNN International* off its line-ups, making way for more competitive fare.

That is uncompelling, and – even accepting the DBS penetration rate as a metric for competitiveness -- it does not show what the argument implies. That would require evidence that high DBS penetration drove the Time Warner system to omit the network it owned *and* move something more valuable into its place. Dumping *CNN International* in such markets suggests, by itself, that fewer channels are presented to customers in such markets. Associating the dropping of an owned cable channel is then correlated, wrongly, with "competitiveness."

The weakness of the results shown in Table 5 can perhaps be understood by considering the largest and most significant empirical estimates. In the *WE* ("Women's Entertainment") regression, the coefficient on *Vertical Integration* equals 7.3, twice the magnitude in any other estimated equation. Similarly, the coefficient on *VI*DP* equals -0.41, more than twice the magnitude (in absolute value) obtained elsewhere. Both estimated parameters are significant at the 1% level.

So this is what we would appear to learn: Cablevision Systems, which owns *WE*, highly favors its own programming relative to other program networks, except when it faces a lot of competition, as measured by the DBS penetration rate for the DMA. But

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[61] Linda Moss. *CNNfn's Loss, Others' Gain*, MULTICHANNEL NEWS (Dec. 2004); http://www.multichannel.com/article/CA487306.html (visited Sept. 27, 2007).

consider further how the DBS penetration rate varies in the case of Cablevision's systems. The company's website describes its operations thusly:

> Founded in 1973 as a cable television operator with 1,500 Long Island customers, today, Cablevision operates the nation's single largest cable cluster, passing more than 4.5 million households and 600,000 businesses in the New York metropolitan area with our state-of-the-art fiber-rich network.[62]

The company's subscribers are located in New York, New Jersey, Connecticut, and Pennsylvania, clustering around New York City.[63] DBS penetration variance by DMA is irrelevant to Cablevision's program choices; their customers face the same substitute products across the metropolitan area that it serves. It is interesting that the *WE* regression produced manageable coefficient estimates; the other Cablevision-owned network (*FUSE*) did not.[64] But that the model found a link between *VI*DP* and *WE* carriage strongly suggests spurious correlation, not strategic behavior.

Even were the results obtained in the cable program network regressions plausible and were there no problems with data or economic interpretation, the regressions would not constitute evidence suggesting vertical integration in cable as anticompetitive. That is because the estimated parameters allow calculation of 'break even' DBS penetration levels where the estimated favoritism ends for a given MSO-owned cable channel. This statistic is reported in Goolsbee (2007) as "DBS share for VI neutrality," and presented in Table 6.

The estimates show that, given the econometric results in the Goolsbee model, MSOs are discriminating in favor of their own programming up until a DBS penetration rate of the critical value. After that value, the model suggests that the operator *discriminates against its own programming*. Given existing levels of DBS penetration, it turns out that the eight estimated regressions imply that there is more likely to be this latter discrimination against self-carriage. The results break down this way:

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[62] Firm website: http://www.cablevision.com/about/index.jsp (visited Sept. 24, 2007).

[63] Indeed, the database used in Goolsbee (2007) features 33 systems owed by Cablevision, all located in three DMAs: New York (DMA 1), Philadelphia (DMA 4), and Hartford/New Haven (DMA 28).

[64] Goolsbee (2007), p. 29.

- 12 channels are investigated in separate regressions.

- 8 of the regressions produce statistically significant coefficients (at standard confidence levels), in the proper direction, for both *VI* variables: *BBC America, Boomerang, CNN International, Fit TV, PBS Kids, Science, TV One,* and *WE.*

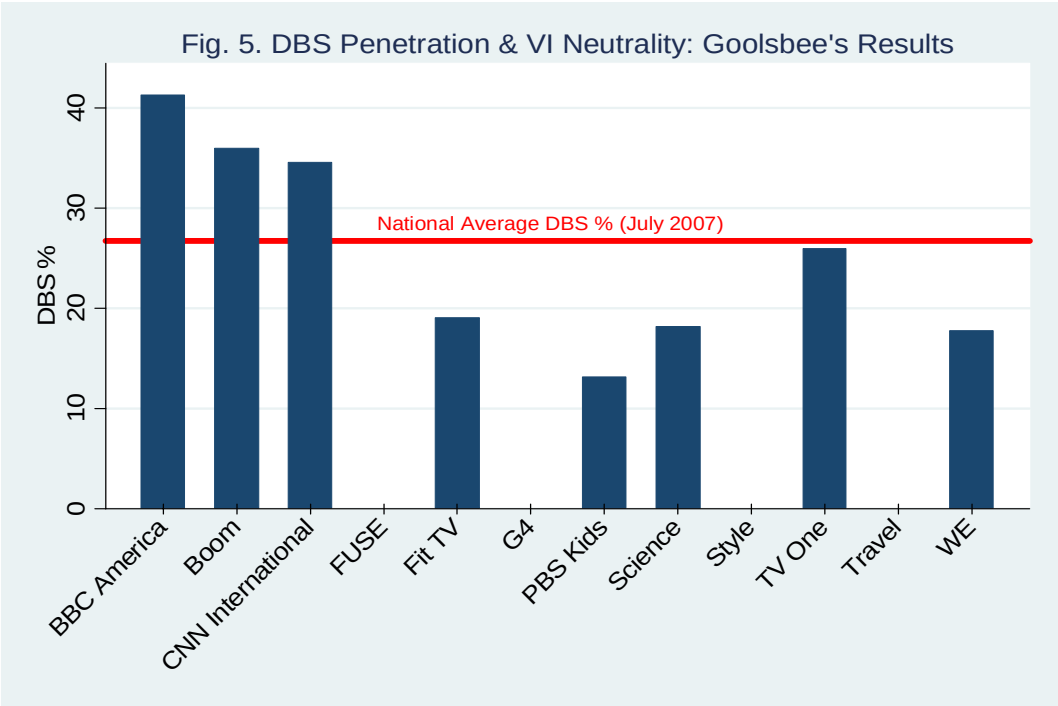
- The most recent data (July 2007) show that the national average DBS penetration, with DMAs weighted by households, equals 26.7%.[65]

- 5 of the 8 equations that find a pattern between *VI* and carriage choice in the model (those for *Fit TV, PBS Kids, Science,TV One,* and *WE*) exhibit a DBS "neutrality share" below the current national average level of "competition."

- 3 of the 8 equations (those for *BBC America, Boomerang,* and *CNN International*) exhibit a DBS "neutrality share" above the national average.

- Hence, the empirical model in Goolsbee (2007) suggests that *cable systems owned by operators are at least as likely (5 times in 8) to suffer negative bias from their parent companies as they are to enjoy favoritism.*

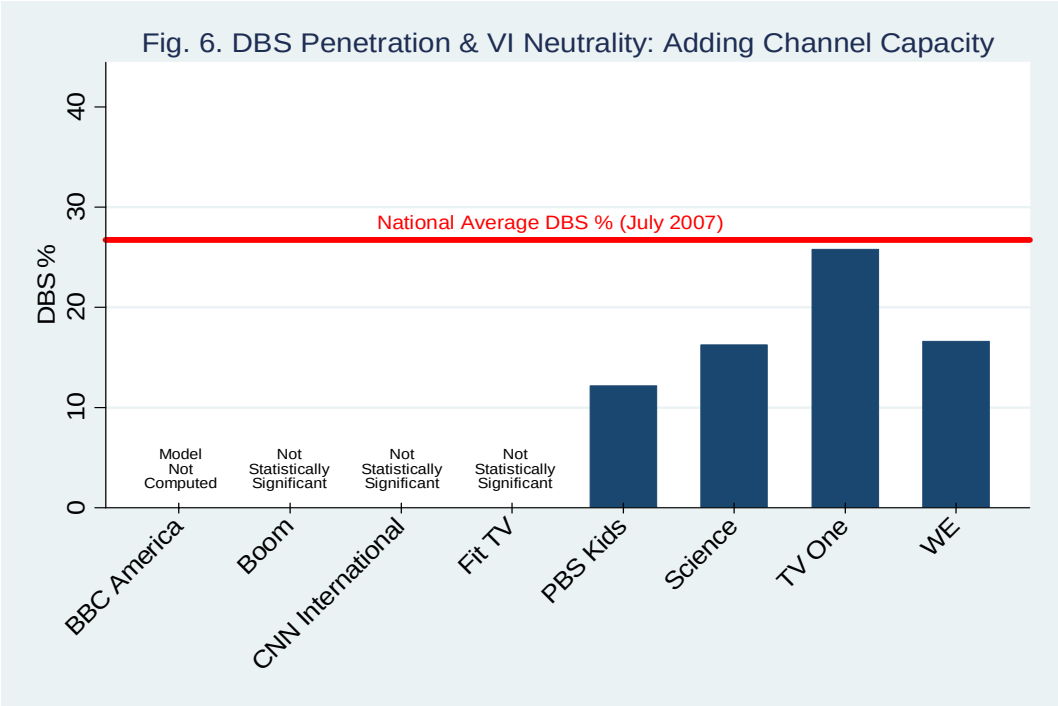
These results offer no support for the conclusion that anticompetitive vertical foreclosure has been found. The evidence presented leads to implausible conclusions, namely that cable operators discriminate against their own programming. But those results – whether plausible or implausible – do not imply vertical foreclosure.



[65] The equally weighted mean value across all DMAs is slightly higher.

It is also possible to see how adding (analog) *Channel Capacity*[66] (*CC*) and *Cable Saturation* by DMA as independent variables alters econometric results. This offers a robustness check, helping to discern whether the coefficient estimates produced in the Goolsbee (2007) model are stable across alternative specifications that include theoretically important causative factors In fact, statistical outcomes substantially vary.

In particular, simply adding one additional variable – *CC* – eliminates the results obtained for the only three regressions suggesting, given the assumptions of the model, that cable operators discriminate against program networks owned by rivals and do so more in areas where DBS penetration is higher.[67] In two of the equations (for *Boomerang* and *CNN International*), the estimated co-efficients for the two VI variables are insignificant. In the third (for *BBC America*), the model will not compute due to colinearity. See Fig. 6. Including *Cable Saturation* as an explanatory variable produces additional instability in results.



In sum, even accepting the estimates at face value, only 3 of the 12 regressions suggest that cable operators, on average, discriminate in favor of their own programming,

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66 Channel Capacity per cable system was obtained from Warren Publishing, Television and Cable Factbook (2007).

67 A substantial number of observations are lost due when *Channel Capacity* is included, reducing observations (each denoting a different cable TV system) from about 1400 to about 800, depending on the regression. Data unavailability already excludes the overwhelming share of cable TV systems from the analysis, however. The regressions in Goolsbee (2007) incorporate approximately 1400 observations from a universe that, in 2006, was comprised of 7,090 systems (Warren Communications data as reported at: http://www.ncta.com/ContentView.aspx?contentId=54).

5 of the 12 predict that operators discriminate against their own networks, and 4 of the 12 offer no statistical relationship between carriage choices and vertical integration. Even the results obtained for just the 3 regressions suggesting discrimination vanish when *Channel Capacity* is added as an explanatory variable. Hence, none of the regressions produce robust results consistent with the hypothesis that vertical integration leads to anticompetitive foreclosure in the marketplace. These results are summarized in Figures 5 and 6, and Table 6, the latter of which also notes the relative economic importance of widely distributed networks (which form the lion's share of industry profits) which were excluded from the analysis because the data were not expected to yield variance in carriage choices that could be associated with self-carriage bias.

TABLE 6. EVIDENCE ON EFFECT OF VERTICAL INTEGRATION IN GOOLSBEE (2007)

Network Category	*% of 2005 Cable Program Net Cash Flow*	*Included in Regressions*	*Implications of Evidence*
top MSO-owned program networks (*AMC, CNN, Discovery, TBS, TNT*)*	17	No	widely carried MSO-owned channels implies lack of "self-carriage" favoritism or, therefore, anticompetitive foreclosure
top non-MSO program networks (*Nickelodeon, ESPN, MTV, Disney, USA, Lifetime, CNBC, Fox News, BET, HGTV*)**	45	No	widely carried non-MSO channels implies lack of "self-carriage" favoritism or, therefore, anticompetitive foreclosure
12 smaller cable networks (*BBC America, Boomerang, CNN International, Fit TV, FUSE, PBS Kids, Science Channel, Style, Travel Channel, TV One, WE*)	1.3***	Yes	8 of 12 regressions report two statistically significant coefficients which, jointly, are consistent with a "self-carriage" bias that lessens as DBS penetration rises. Five of the eight biases become "neutral" with DBS penetration at or below the national average, meaning no anticompetitive foreclosure is generally in evidence. The 3 regressions consistent with foreclosure at typical DBS penetration are not robust to the inclusion of *Channel Capacity*. Robust results consistent with the observation of anticompetitive vertical foreclosure in the marketplace: 0 for 12.

* Networks rejected in Goolsbee (2007) for inclusion in foreclosure tests due to widespread coverage.
** Networks not owned by MSOs which had 2005 cash flows exceeding those for AMC, the least profitable network excluded from foreclosure estimates due to widespread coverage.
*** Data from Kagan (2005); CNN International and PBS Kids not listed or included in totals.

iii. *Regulatory Policy*

This analysis does not offer even the beginnings of an economic case for further regulation. To make that case, two substantial elements would have to be established. The first is a showing that vertical integration threatens consumer welfare. The second is a cost-benefit analysis of proposed regulatory changes. Since such reforms potentially alter regulatory process and productive incentives of both operators and programmers, the analysis must properly account for the costs of administration and the risks entailed in rearranging property rights and business models now in place.

The predicate for such intervention, of course, is market failure. To identify a market failure one must adduce evidence of actual anticompetitive foreclosure, and devise a mechanism to improve outcomes for consumers. Regulatory changes that slow the dramatic increases in highly valuable cable TV programming in recent years will inflict substantial collateral damage. The analysis must also factor in the presence of competing national satellite platforms for the delivery of video programming, and the emerging wireline competition developing from telephone carriers. It is already the case that subscribers who reject the cable operators' choice of program networks can substitute into multiple rival providers to obtain close video substitutes at comparable prices. Regulatory rules that seek to further consumer welfare must promise – with evidence – to do better.

V. CONCLUSION

In recent years consumers have been treated to a dramatic increase in the number of cable TV program networks. They have responded by buying more subscription video and decisively shifting their viewing from broadcasting to cable.

The ability of markets to efficiently coordinate vertical relationships between operators and program networks has produced these expanding and well-received viewing choices. Satellite-distributed cable TV networks have risen in number from just 172 networks in 1997[68] to 531 in 2005,[69] with virtually all the growth in networks owned by non-MSOs. Cable MSO program network equity shares have, in turn, declined. As cable television programming is enjoying highly positive financial trends within the industry, the economic opportunity for non-MSOs to profitably offer new cable program networks has never been greater.

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[68] Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Fourth Annual Report,* CS Docket No. 97-141, FCC 97-423 (Rel. Jan. 13, 1998), para. 158; http://www.fcc.gov/Bureaus/Cable/Reports/fcc97423.pdf

[69] Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Twelfth Annual Report,* MB Docket No. 05-255, FCC 06-311 (Rel. Mar. 3, 2006), para. 21; http://fjallfoss.fcc.gov/edocs_public/attachmatch/FCC-06-11A1.pdf;

These industry trends are important to incorporate into a public policy analysis of vertical integration. When addressed without this focus, essential economic margins may be overlooked and counter-productive regulatory policy result. This can occur when channel carriage decisions by cable operators are scrutinized under the premise that choices favoring vertical integration are anticompetitive. Not only can vertical integration be efficiency-enhancing, it is clear from industry history that MSO ownership can reduce costs and improve content. Consumers have benefited, as previous research has documented.

The evidence presented in the FCC's Paper No. 9 (in its series of Media Ownership Studies) investigates a specific margin on which industry dynamics (including investment incentives) are held constant, to observe whether cable TV operators tend to favor their own programming more in situations where retail competition is weak. This would presumably answer the question: Are cable system owners engaged in self-carriage as an anticompetitive, rather than an efficiency-enhancing, exercise?

The empirical evidence presented is uncompelling. The test for vertical integration efficiency focuses on measures of performance that, at best, are highly incomplete. The reported findings fail to discover evidence of efficiency, but are not correctly interpreted to imply that efficiencies do not exist. The remaining empirical inquiry then attempts to evaluate cable TV operator program network carriage selections. It selectively focuses on a small segment of the cable program network universe because the more popular and economically dominant program networks are ubiquitously carried no matter their ownership structure, excluding the more important evidence about carriage choices available in the marketplace.

The model estimated then reports that eight of twelve regressions produce statistically significant results for two particular coefficients. The first is designed to capture the effect of vertical integration on carriage choices by cable operators, revealing whether operators favor program networks they own. The second aims to reveal whether that favoritism diminishes when market rivalry increases in the local market.

Several analytical problems with the general exercise are discussed above. The results as derived, however, suggest that vertical integration does not result in favoritism by U.S. cable operators. Prof. Goolsbee appears to partly embrace this conclusion when he writes "that competition has taken away the ability of cable systems to take as much strategic advantage of vertical integration as they may have once done." But the paper's econometric results actually go much further. The estimated model suggests that cable operators are as likely to discriminate *against* their own program networks as they are likely to favor them. Including important omitted variables in alternative specifications eliminates even this middle ground, leading to the empirical conclusion that none of the twelve estimated equations suggest self-carriage favoritism, a necessary (if insufficient) predicate for vertical foreclosure.

To unearth the effects of vertical integration on consumer welfare, an approach examining quality and price changes in output markets is called for. This requires

examining how markets evolve over time. It must also factor in dynamic feedbacks that spring from regulatory changes, and the social costs associated with the administrative process. The present study before the Commission does not do this, and the econometric results obtained shed no new light on the actual effects of vertical integration in cable.