

**Before the
Federal Communications Commission**

In the matter of
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 No. 02- 277
MM Docket No. 01- 235
MM Docket No. 01- 317
MM Docket No. 00- 244

January 2, 2003

**MEDIA CONCENTRATION TRENDS IN AMERICA: JUST
THE FACTS**

Comments to the FCC
Eli M. Noam

Professor of Finance and Economics, Columbia Business School
Director, Columbia Institute for Tele-Information¹

¹ Formerly, Commissioner, New York State Public Service Commission. This submission is in an individual capacity and not in behalf of Columbia University, any of its sub-divisions, or any other entity.

MEDIA CONCENTRATION TRENDS IN AMERICA: JUST THE FACTS

1. The Issue.

There is no need to recite the significance of media concentration. We all know that the political, social, and business stakes are high. What we do not know, however, is whether there is a real problem in the concentration of the American information and communications sector. Have American media become more concentrated?

Despite much conventional wisdom and books based on anecdotes rather than data, the answer is not an obvious "yes." And despite the hand-waving of market doctrinaires, the answer is not an obvious "no", either. There have been, obviously, many media mergers and expansions. But while the fish in the pond have grown in size, the pond did grow, too, and there have been new fish and new ponds. Conversely, it is equally near-sighted to ignore the growth of large, vertically integrated, and globally ubiquitous media firms.

When it comes to concentration, views are strong, but numbers are scarce. Some observers have never met a media merger they liked; to them, the sky has been falling for decades. Others believe that market and technological forces are overcoming all barriers, and that there is no problem except bureaucratic rules.

Given the stakes, the tone of the discussion has often been strident. How then is the FCC to determine its policy? It should be based on a solid factual base on the nature of the problem. Of course, the FCC always does so, we know, even if some courts have quibbled. But here, in particular, it is important to proceed with a clear knowledge of what has actually been happening, as opposed to what facts we select from the multitude of data to suit our policy preferences.

I am therefore heartened that several of the Commissioners, and in particular the Chairman, have expressed a keen interest in such data, and in the results of our larger study at Columbia University, some of whose preliminary results are presented here.

I present the trend data without much interpretation and comment, leaving it to others to analyze and draw policy implications.

The study has been conducted without any pre-conception as to where the data will lead, and with no attempt to prove a point or advocate a position. Indeed, earlier conclusions, based on earlier data, had to be somewhat revised in light of 2001 data. The study has not been supported by any firm or industry group; its origin is a request, several years ago, for a report on American media concentration trends, by the German government's Monopoly Commission. I have not conducted any paid work for any of the firms or industries. Those who may disagree with the findings might therefore confine their criticism to methodology or data. It should be further stated that the study, though

probably based on the most extensive data collection on media concentration and ownership trends yet conducted, is not completed, and any help to strengthen it will be appreciated.

Methodology.

To return to the question: has the American information sector become more or less concentrated? To provide an empirical answer, we have consciously adopted a methodology that is fundamentally simple and transparent. We looked at the market concentration trends in the American information sector, for 95 separate industries. Examples for such industries are long distance telecommunications, cellular mobile, broadcast TV, cable TV, film distribution, daily newspapers, as Internet service providers. For each of these industries, we tracked and calculated their individual firms' U.S. revenues and U.S. market shares in this particular industry, using a variety of sources such as reported revenues, FCC filings, Wall Street reports, press coverage, etc for a period of 20 years. The resultant database is unprecedented in its scope.

Why so many industries? The media sector is quite diverse. Trends in radio networks may be very different from those in TV or cable networks. Second, one needs to look beyond industries regulated by the FCC. Third, in the era of convergence, one must go beyond "mass media" and also observe parallel trends in telecommunications, the Internet, and information technology.

The market shares obtained were then used to calculate concentration indices and to follow them over time. The concentration index used was the Herfindahl-Hirschman Index ("HHI") of the US Department of Justice.²

$$HHI = \sum_{i=1}^f S_i^2$$

Where f = number of firms participating in an industry, S_i = each firm's market share, i = firm in a given industry

The U.S. Government's Antitrust enforcement guidelines classify market concentrations according to their HHI score:

- HHI < 1,000 Unconcentrated Market
- 1,000 < HHI, Moderately Concentrated Market
- 1,800 < HHI, Highly Concentrated Market

² A second index was also used to crosscheck the HHI. The "C4" index is the combined share of the top four firms in a market.

$$C4_j = \sum_i^4 S_{ij}$$

Where: S_{ij} = firm's i market share of a given industry j , where firms are ordered by size of market share.

The study tracked these indices of concentration over time, mostly from the years 1983 and 1984, just before and just after the AT&T Divestiture. 1984 was also a major liberalizing milestone year for the cable TV industry, which experienced a significant deregulatory law.³

The concentration trends of individual industries' concentration trends are important by themselves. However, each industry may have peculiarities and specific transactions that create particular trends. Thus, the concentration in newspapers and academic journals might rise, while that of magazines declines and that of books remains stable. To get the big picture, then, it is more useful to look at trends for larger categories, that of "Print Publishing", which is a weighted aggregate of the several sub-industries that comprise the print sector.

We therefore proceed to aggregate the industries along the dimensions of broader sectoral categories such as telecommunications, and along the dimensions of regulated industries, such as whether they are regulated telecom industries or not. The weighted aggregate HHI is defined as

$$WAHHI = \sum_{j=1}^n \frac{m_j}{\sum m_j} \sum_{i=1}^f S_{ij}^2$$

Where j = an industry

m_j = total revenue of an industry

S_i = each firm's market share of an industry

n = number of industries in a specific subset of the information sector

f = number of firms in an industry.⁴

For example, suppose the HHI of industry A for a given year is 1,000, and the size of the industry is \$10 billion, while the HHI for industry B is 2,000, and its size \$ 20 billion. The weighted aggregate HHI would be 1,666.

³ Where the industries do not go back 20 years, a shorter time series is used.

⁴ The formula for the C4 aggregation that is used as a cross-check

$$WC4_k = \sum_{j=1}^n \frac{m_j}{\sum m_j} \sum_{i=1}^4 S_{ij}$$

Where j = a industry j within a larger segment

m_j =total revenue of an industry j.

M = total revenue for the segment industries k

i = firm in an industry

S_i = market share of firm in a given industry

k = segment of industries

n = number of industries

We first aggregate the 95 industries into 13 larger categories of major information industry sub-sectors, specifically:

1. Telecommunications
 - 1.1 Telecommunications Services
 - 1.2 Telecommunications Equipment
 - 1.2.1 Telecommunications Network Equipment
 - 1.2.2 Telecommunications Consumer Equipment
2. Mass Media
 - 2.1 Electronic Mass Media
 - 2.1.1 Electronic Mass Media Programming
 - 2.1.2 Electronic Mass Media Distribution
 - 2.2 Print Media
 - 2.3 Film
 - 2.4 Music
3. Internet Industries
4. Information Technology
 - 4.1 Computer Semiconductors
 - 4.2 Computer Software
 - 4.3 Computer Hardware
 - 4.4 Computer Peripherals
 - 4.5 Consumer Media Electronics

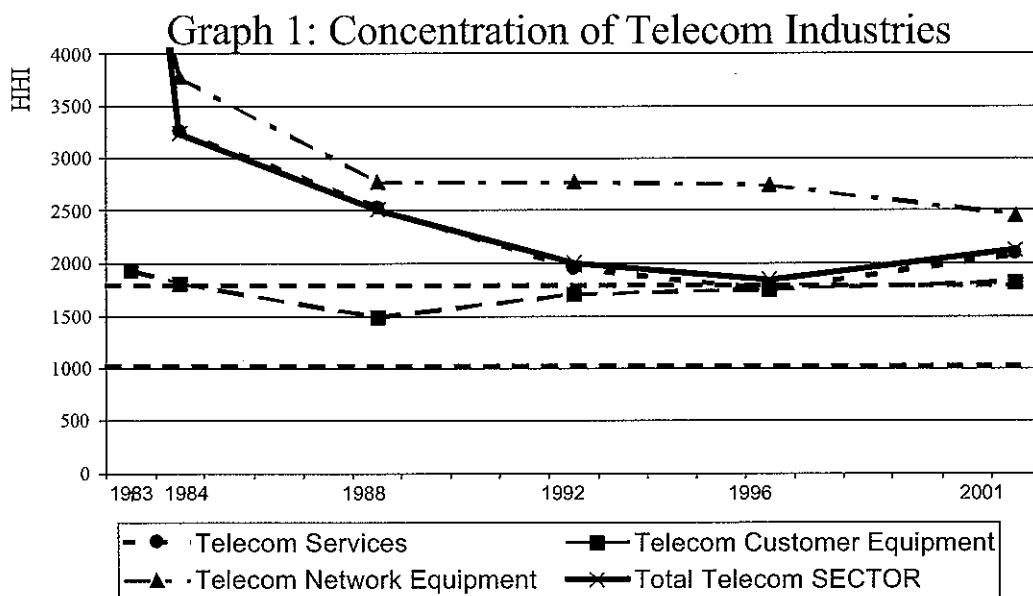
The sub-categories are aggregated still further into 4 major categories, Telecommunications, Mass Media (as well as a sub-category, Electronic Mass Media), Internet, and IT. Finally, we aggregate all of the industries into a single trend for the entire Information Sector.

One important caveat is that the market shares, as reported here, are national in scope rather than local. Such definition is appropriate, e.g., to cable TV channels or magazines, but more problematic for cable MSOs and daily newspapers. The larger market definition, though it permits a comparison of the trends of individual companies in the market, tends to overstate the realistic choice set available consumers, and to understate the market power of local providers. Future parts of this study will add an analysis of local concentration, and will address the local issue on a national basis. For now, the national market definitions are used.

Findings.

Concentration trends are provided in the graphs that follow. The time period covered is from 1983 or 1984 to 2001. The vertical scale shows the HHI score. The horizontal hatched lines show the three ranges of DOJ guidelines: HHI above 1,800, the upper hatched line, presumptively indicate high concentration; and those below 1,000, the lower horizontal hatched straight line, indicate an unconcentrated market structure. Graph 1 shows the concentration trends for the Telecommunications Sector (the bold line), consisting of the three sub-sectors Telecom Services⁵; Telecom Network Equipment⁶; and Telecom Consumer Equipment⁷. It is most useful to look at the bold line for the overall concentration in the telecom sector.

The results show that the telecom sector's concentration declined dramatically as part of the AT&T Divestiture and for several years beyond. It still remained high, however.



Around 1996, the year of the Telecommunications Act, aggregate concentration rose again. The main component of this increase are services, which account for the bulk of the sector. Overall telecom sector concentration, and telecom service concentration, while higher in 2001 than 1996, is still considerably lower than after the divestiture (1984), not to mention before it.

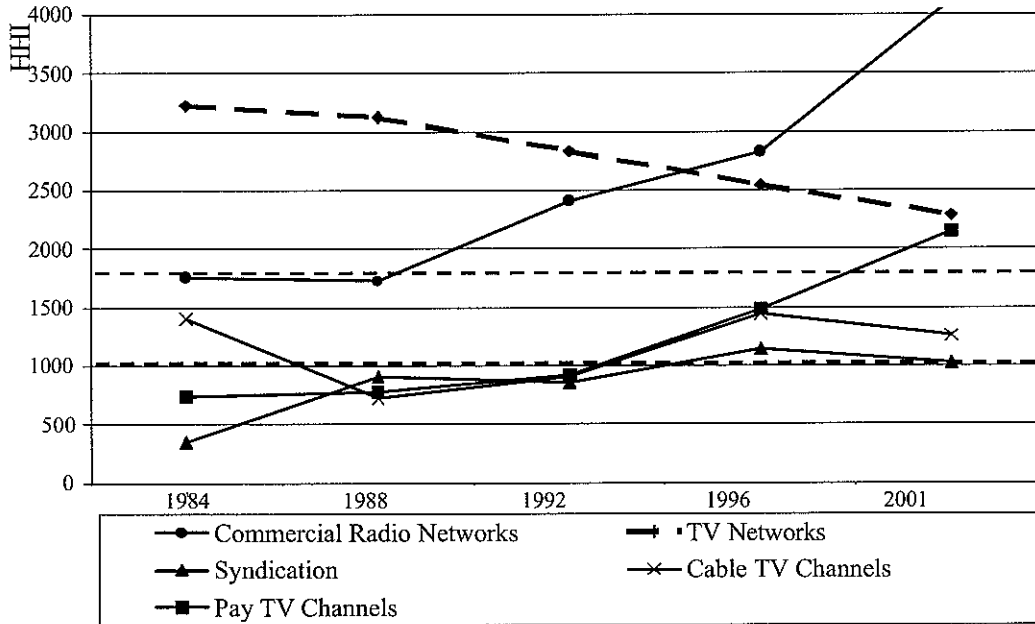
⁵ Local Service, Long Distance (Long Distance Service, Long Distance Private Line), International Service (International Voice, International Telex, International Telegraph, International Private Line), Mobile Service, Radio Dispatch, and Paging.

⁶ Central Office Switches, Multiplexers, Internetworking Equipment, Fiber Optical Cables, Copper Wire & Coax Cables, Microwave Equipment, and Cellular Infrastructure.

⁷ Corded Handsets, Cordless Handsets, Fax Machines, Mobile Handsets, and Private Branch Exchanges.

Graphs 2 shows the concentration trends for Electronic Mass Media, comprised of Electronic Mass Media Programming⁸ (Graph 2.1); Electronic Mass Media Distribution⁹ (Graph 2.2). Because the focus of the FCC's proceeding is on electronic mass media, the individual industries' concentration trends are provided.

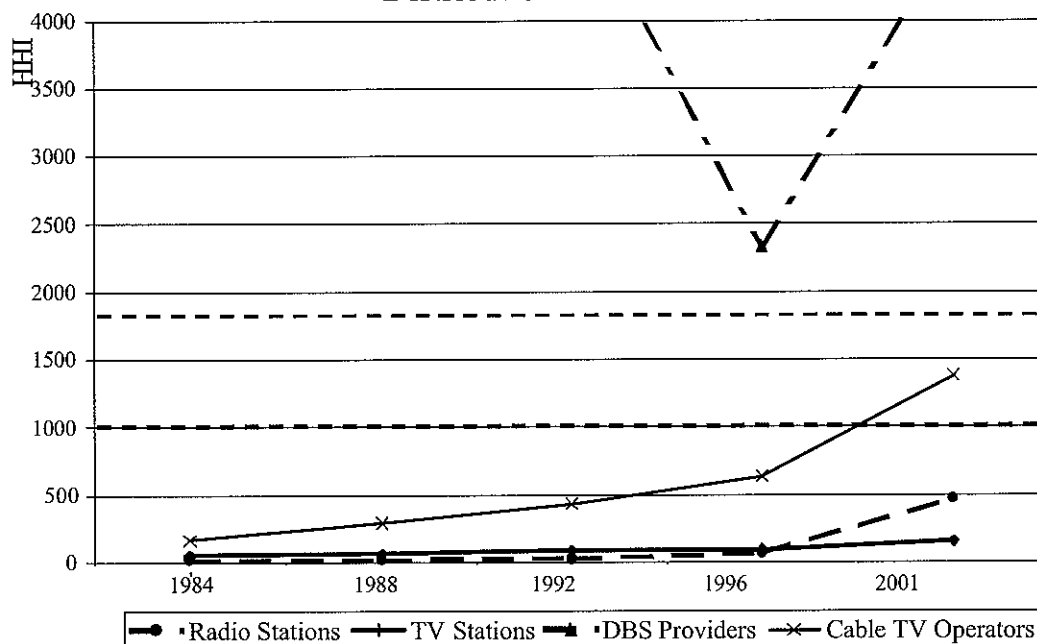
Graph 2.1: Concentration of Electronic Mass Media Programming Industries



⁸ Radio Networks, TV Networks, TV Syndication, Cable TV Channels, and Pay TV Channels.

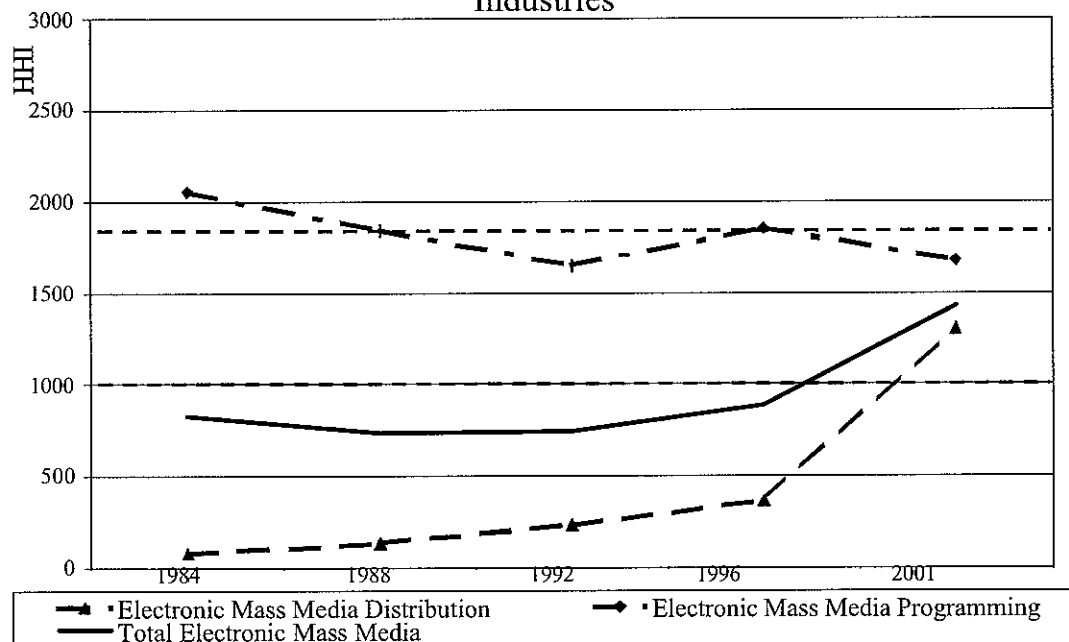
⁹ Commercial Radio Stations, TV Stations, DBS Providers, and Cable TV Operators.

Graph 2.2: Concentration of Electronic Mass Media Distribution Industries



All of these industries are aggregated to show the overall concentration trends in electronic mass media (Graph 2.3)¹⁰.

Graph 2.3 Concentration of All Electronic Mass Media Industries



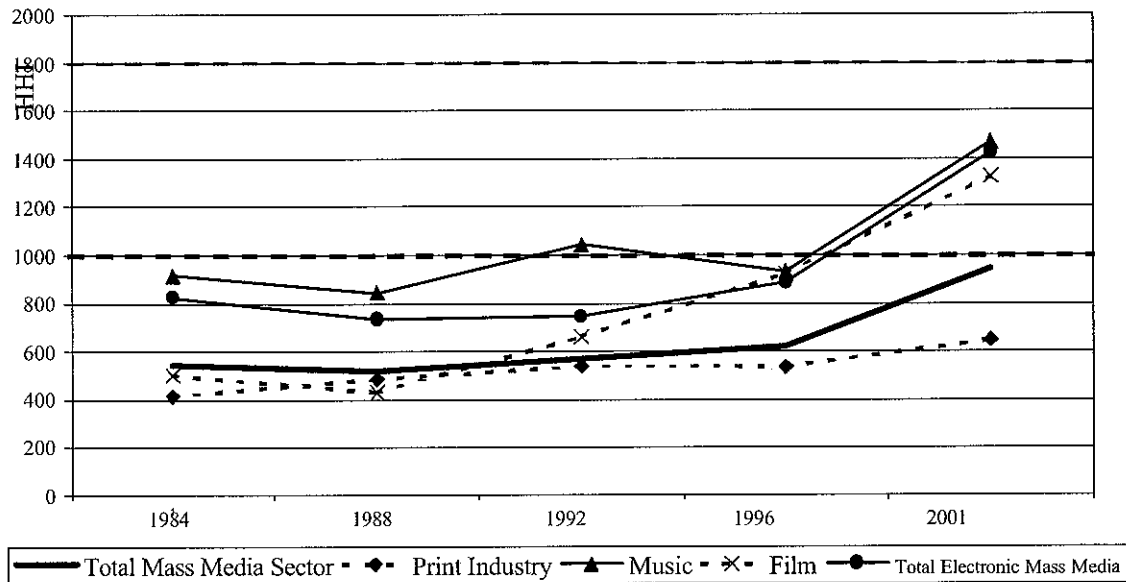
¹⁰ 'All Electronic Mass Media' includes the following industries: Radio Stations, TV Stations, DBS Providers, Cable TV Operators, Commercial Radio Networks, TV Networks, Syndication, Cable TV Channels, and Pay TV Channels.

The results show that Electronic Mass Media programming (TV, Cable, and Radio networks, syndication, etc) has been fairly highly concentrated, but that such concentration has not increased, and in fact is slightly lower in 2001 than it had been in 1984, or in 1996.

On the other hand, for Electronic Mass Media Distribution (TV and Radio Stations, Cable Operators, DBS Providers, etc), market concentration has increased steadily, especially since around 1996. However, market concentrations have been low and moved only recently into the range defined as ‘moderately concentrated’ by the Justice Department Guidelines. Looking at specific industries, concentration figures have steadily increased for radio and TV stations. But they are not concentrated based on a national market definition. Cable TV is more concentrated nationally, and DBS still further.

When both Distribution and Programming are aggregated, the concentration of the overall Electronic Mass Media Sector is in the intermediate range, and increasing through most of the period since 1984, especially since 1996.

2.4 Concentration of All Mass Media Industries



Graph 2.4 shows the concentration trends of Electronic Media, together with those for non-electronic mass media such as print¹¹, music¹², and film¹³.

¹¹ Daily Newspapers, Magazines, Academic Journals, Educational Books, Trade and Paperback Books, Other Books, Retailing Books, Online Book Retailing, Online Information Services, and Printing Services.

¹² Music Production and Wholesale Distribution (Music Publishing, Performance Rights, Records Labels/Distributors), and Music Retailing and Marketing (Music Retailers, Music Cable Channels).

¹³ Film Production and Wholesale Distribution (Movie Production, Prime Time TV Production, Movie Theater Chains), and Film Distribution and Retail Distribution (Home Video Distribution, Video Rental).

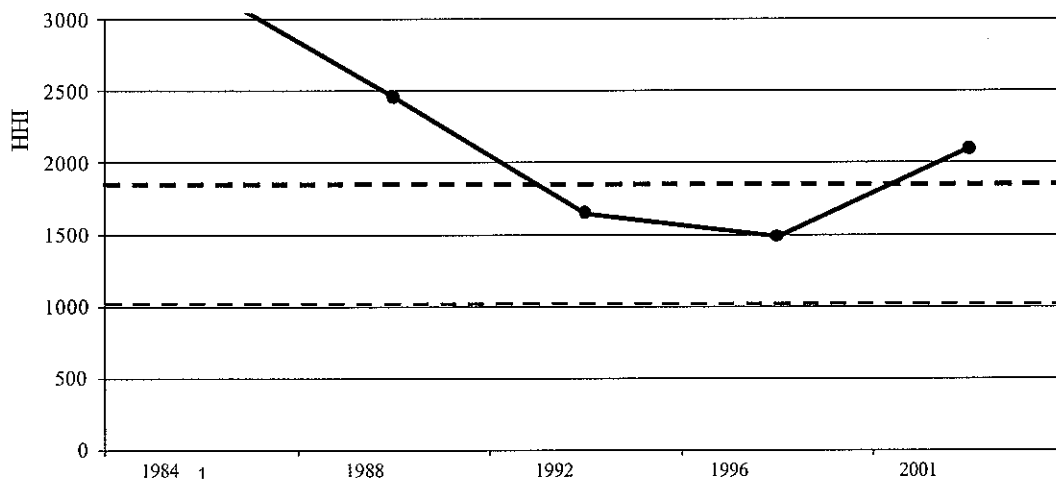
Each of these is composed, in turn, by several industries. The bold line shows concentration trends of the aggregate mass Media sector.

What these results show is that national concentration in Mass Media has been fairly flat and low in the 80s and early 90s. It has increased since 1996. But it is still in the unconcentrated range of the DOJ guidelines. Thus, while it is true that on the whole mass media has become more concentrated in the past 6 years, the data does not indicate, based on a national market definition, a high level of national concentration.

We next move to the Internet Sector, comprised of industries such as backbones, ISPs, portals, etc. that provide the basic instrumentalities for the Internet (as distinct from applications such as e-commerce sites)¹⁴.

Graph 3 shows the aggregate concentration trends for the Internet industries.

Graph 3: Concentration of Internet Industries



The results show that the internet used to be highly concentrated in its infancy, when it operated as a governmental or semi-governmental system. Concentration dropped sharply for a decade, but increased again after 1996. (We have not calculated yet the exact year of the turning point, and it might well be later than 1996). By 2001, the supposedly wide-open internet sector had become highly concentrated again. The present downturn is likely to accelerate this trend.

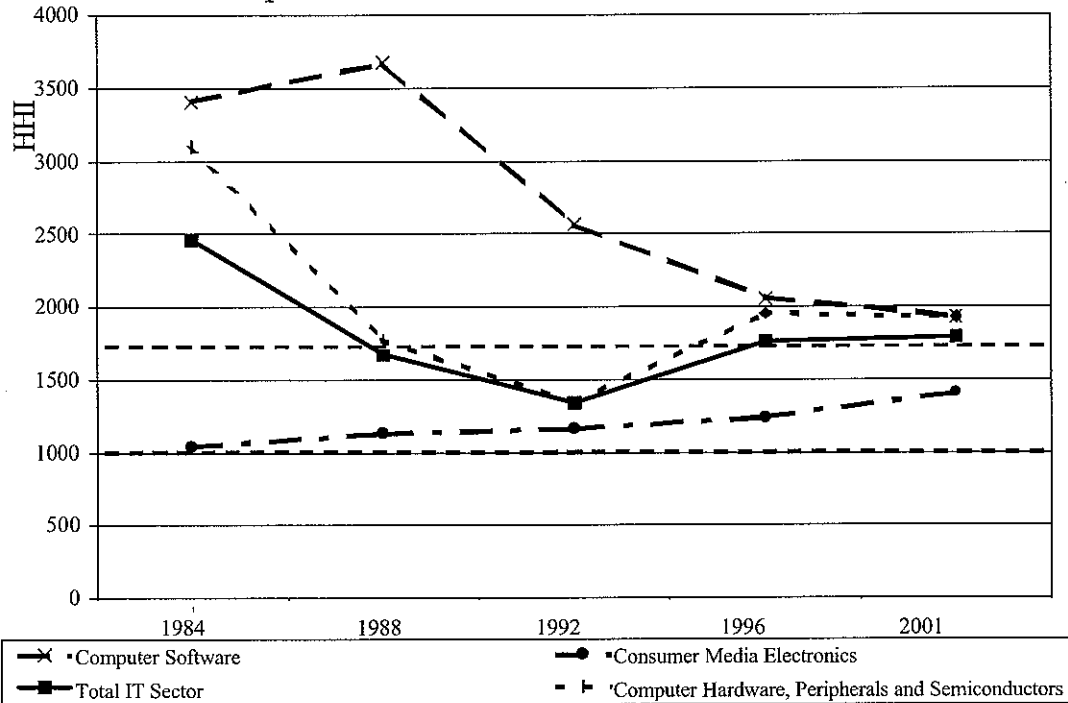
We next move to the information Technology (IT) Sector. Graph 4 shows the concentration trends for Information technology industries, comprised of Computer

¹⁴ Backbones, ISPs, Broadband Providers, Browser Software, Internet Search Engines, Portals, IP Telephony Providers, Media Player Software, and Internetworking Equipment.

hardware¹⁵, peripherals¹⁶, and semiconductors¹⁷, as well as Computer Software¹⁸, and Consumer Media Electronics¹⁹. The bold line is the overall trend for the IT sector.

The results show an moderate increase of concentration after 1992, though to levels lower than 1984, and a fairly steady concentration in recent years at a level that just skirts the

Graph 4: Concentration of IT Sector Industries



DOJ guidelines' range of highly concentrated.

We can now compare the concentration trends in the several main segments of the overall Information Sector. Graph 5 shows the concentration trends for the four major industry segments.

¹⁵ Microcomputers, Workstations, Midrange Computers, Mainframe Computers, Supercomputers, PDAs, Video Game Hardware, and Copiers.

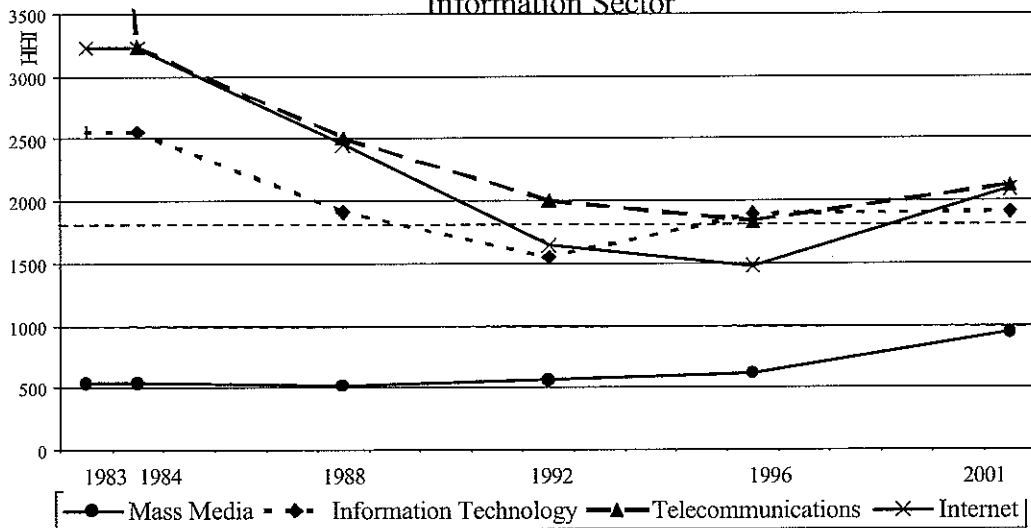
¹⁶ Storage Devices, Printers, and Modems

¹⁷ Computer Memory, CISC Microprocessors, RISC Microprocessors, and Microcontrollers

¹⁸ Operating Systems Software, Network Operating Systems Software, Enterprise Applications Software, Mainframe Software, Software Services, PC Entertainment Software, Games Software, and Consumer Application Software

¹⁹ Television Sets, Home Video (VCR Players, DVD Players, PVR Players, and Camcorders), TV Reception Equipment (DBS Equipment, and Cable TV Set Top Converters), and Audio Equipment (CD Players, MP3 Players, and Audio Systems & Radios)

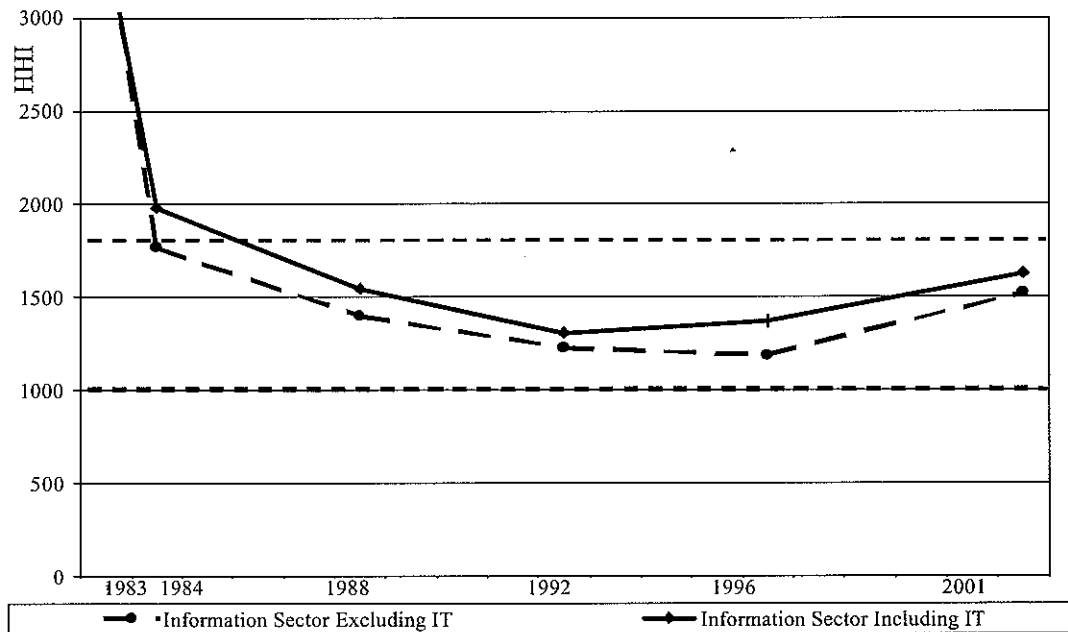
Graph 5: Concentration of the Four Major Segments of the Information Sector



The results show that the concentration trends in Telecommunications, IT, and the Internet have followed a U-shaped path, increasing since somewhere in the mid 90s. In contrast, the Mass Media (and its sub-component Electronic Mass Media) have increased gradually in concentration throughout the period, but are at a much lower level of national concentration. It is also noteworthy that the concentration of the Internet sector, both absolutely and relative to the other segments, is quite high.

Graph 6 shows the overall concentration trends of the information sector. (We also calculated the trend without the IT sector, and the results are similar).

Graph 6: Concentration of Total Information Sector

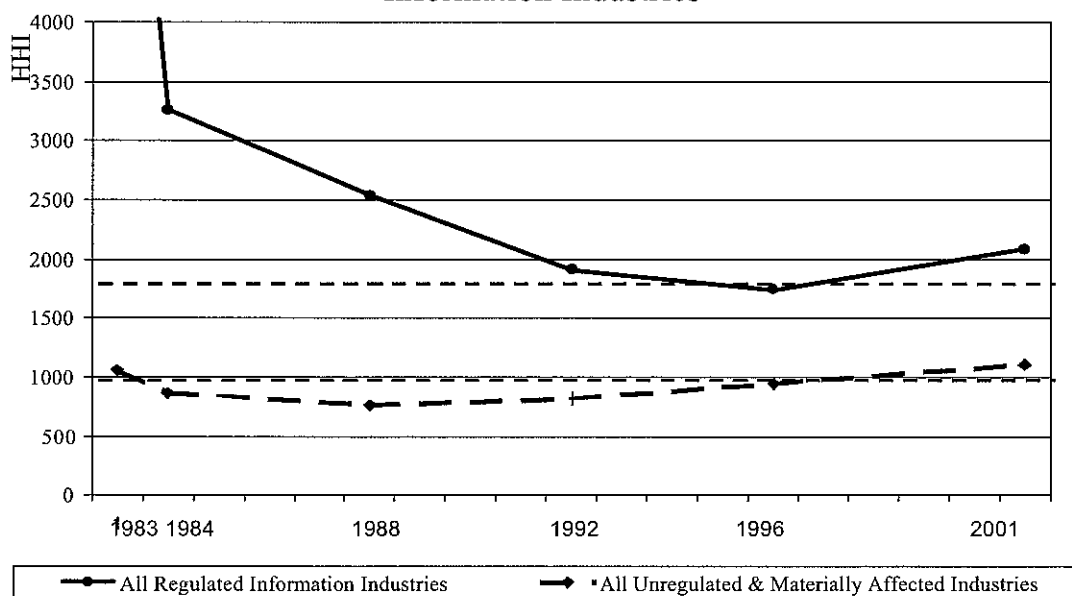


The results show that the overall concentration trend of the Information Sector has been a U-shaped curve. It rapidly deconcentrated in the 80s and into the mid 90s. The turning point was earlier in the decade, if the IT sector is included, and later in the decade, if the IT sector is excluded. The overall level of concentration is within the intermediate range of the DOJ's guidelines. One can observe the enormous impact on deconcentration of the AT&T Divestiture. Subsequently, national concentration trends moved gently down for a while, and have more recently been rising gently. Overall national concentration of the information sector in 2001, while higher than in 1996, is lower than in post-Divestiture 1984.

Finally, we sort out the 95 industries into two groups: those information industries that are *regulated*, such as local telecom service or cable TV; and those industries that are *not regulated*, such as magazines and computer hardware. We compare the concentration trends of the regulated²⁰ vs the unregulated industries in Graph 7.

²⁰ Backbones, Broadband Providers, Radio Stations, TV Stations, DBS Providers, Cable TV Operators, TV Networks, Local Service, Long Distance Service, Long Distance, Private Line, International Voice, International Telex, International Telegraph, International Private Line, Mobile Service, Radio Dispatch, and Paging.

Graph 7: Concentration of Regulated vs. Unregulated Information Industries



The results show that the regulated industries are more concentrated than the unregulated ones. That is not surprising, since market power is one of the reasons they are regulated in the first place. But it is also possible that the regulatory system affords some protection against entry. One can also observe that the unregulated information industries have been fairly steady in their level of aggregate concentration, whereas the regulated industries have gone through a more pronounced cycle of deconcentration and concentration over the past two decades.

Outlook. We stress that this study is still work in progress; were it not for the FCC’s tight deadline, we would not quite make it yet public, and would add data on local concentration. However, we do not expect major changes of the results, and improvements are likely to be more in the nature of refinements. We seek the assistance of the FCC and of other parties to improve and expand the database and analysis.

Some of the additional questions we are or will be addressing are:

- The trends of vertical ownership
- The trends of inside ownership and institutional ownership
- Ownership concentration within and across firms
- The trends of Internet concentration
- Local concentration trends
- The concentration trends in regulated and unregulated industries.
- Trends in foreign ownership

We are also interested in analyzing the trends in minority media ownership, going beyond FCC-regulated industries, if we can obtain data on such ownership of information firms. We will make these reports publicly available when they are ready, and look forward to collaborating with the FCC staff and any interested parties.