



CHAPTER

## 2 Project Organization and Methodology

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### Abstract

This chapter examines the organization and methodology of the present study on global media ownership and concentration, which covers 30 countries and 13 media industries. It describes the data sources, market and geographic definitions, concentration measures, the media ownership and concentration diversity index, and owners of the world's media.

**Keywords:** [media industry](#), [media ownership](#), [media concentration](#), [methodology media industry](#), [media ownership](#), [media concentration](#), [methodology](#)

**Subject:** [Economic Sociology](#), [Social Research and Statistics](#)

## Organization

The project covers 30 countries—64% of the world by population and 85% by GDP. Thirty country teams with a total of about 60 reputable researchers from universities around the world contributed their knowledge and analysis. They covered 13 media industries, covered a period of 10 to 25 years, identified the market shares of thousands of companies, assembled their countries' data, and interpreted it. The data are theirs.<sup>1</sup> If this project had done nothing else, generating such work on media concentration in so many countries around the world would be important. We at Columbia University provided a common methodology, feedback, and the overarching summaries. The Columbia Institute for Tele-Information is an academic research center and is not engaged in commercial activities or advocacy. The principal author and editor of this study has not engaged in work for any of the companies discussed. The project was supported by the Media Program of the Open Society Institute.

An executive committee with members from three continents coordinated the first stage of the project. The country researchers worked separately, each an expert on his or her country. They periodically came together for conferences in New York, Paris, Brussels, and Yokohama.

As mentioned, on the subject of media ownership, strong opinions have been more plentiful than a fact base. The function of data analysis—if it was considered at all—has often been to support advocacy rather than enlightenment. In contrast, this study did not start with any preconceived notion or advocacy. Indeed, until the final weeks of a multiyear project, we did not yet know how the numbers added up globally. Our goal was not to make policy recommendations but to provide policymakers with objective measures. One strong point of this project is its consistency across countries, industries, and years, thus making comparisons possible.

Thirteen media industries of three main types were investigated:

1. Content media

Print media: newspapers, magazines, and books

Audiovisual media: radio, broadcast TV, video channels, and film

2. Platform media

Wireline telecom, wireless telecom, and multichannel platforms

(Cable and satellite TV platforms)

3. Internet media

ISPs (also in platform media), search engines (also in content media), online news media (also in content media)

The countries studied included the following:

1. Europe

Belgium, Finland, France, Germany, Ireland, Italy, Netherlands, Poland, Portugal, Spain, Sweden, Switzerland, United Kingdom

2. North America

Canada, United States

3. Latin America

Argentina, Brazil,<sup>2</sup> Chile, Mexico

4. BRICS (emerging) Countries

Brazil, Russia, India, China, South Africa

5. Middle East

Egypt, Israel, Turkey

6. Asia-Pacific

Australia, Japan, Korea, Taiwan

To assemble such a fact base has been both exciting and tedious. Writing opinion is much more fun than creating an information-dense book covering 13 information industries, 30 countries, 20 years, and thousands of companies. But the subject does not deserve shortcuts.

Why include 13 industries? Why go beyond mass media? Isn't the key issue the concentration of TV, newspapers, or cable TV? There are several reasons. The first is to recognize that there is no agreement on which media are "important." When people talk about media concentration, they tend to focus on a few examples, often picked based on their particular interest. Those fearing media power in politics are likely to point to television in its various forms. Those believing in media diversity based on the Internet will focus on the market power of internet service providers (ISPs). Those worried about computers and software applications will be concerned about operating systems. Those engaged in cultural studies will be particularly concerned with the film industry and book publishing. Those seeking an efficient national infrastructure to transport the various communications streams will focus on telecom. And so forth.

The importance one attaches to a partial segment of media and communications tends to be a reflection of one's values, pocketbooks, and professional spheres. To disregard the importance of other segments of the information sector can be parochial. And it has no future. Which is the second reason. The underlying technologies of the information sector are growing closer, their basic economics are becoming increasingly similar, and media companies spread their activities across industries.

A third reason is that at any given time, some media will concentrate while others diversify, and the only meaningful way is not to pick and choose examples but to look across the broad sweep of media. Of course, specific problems should not be submerged in a big average, and we therefore also analyze and discuss the data for specific industries, as well as for broader subcategories of industries, and for countries and regions.

To some readers, the selection of industries and companies might not be broad enough and ↪ may cover, in particular, “legacy” media rather than the richness of blogs and user-based publications. We are entirely mindful of those alternatives. But one should not equate newness and attention with economic presence. For now, these activities are, in revenue terms, the “digital pennies” that replace the “analog dollars.”

## Methodology

In order to enable a comparison of countries, industries, companies, and trends, a common basic methodology was required. The question of what firm controls what share of a media industry may seem simple. But it is not. Take the straightforward statement, “Company X has Y percent of media industry Z.” Every single element of that statement is potentially contentious.

*Who is X?* Is it part of a conglomerate? Is it a joint venture of several companies? Is it controlled by owners who hold only a minority of shares? What is its nationality?

*What is Y percent?* Is it in terms of revenues? Of circulation? Of audience or readers? What is the geographical market that is counted? What is the language or specialty market that is considered? Do we count broadcast signals across borders as a market participant? How do we know the overall market size, when it includes many small providers that do not show up in any statistics?

*What is media industry Z?* For example, is a weekly paper considered a newspaper or a magazine/periodical? Is a fan magazine in the same market as a news magazine? What exactly is an online news provider, does it include blogs, foreign websites, or information about the weather?

All of these are questions of concept and definitions, and these may well differ from country to country. On top of that are the factual issues of data. Companies are not neatly organized according to the industries and countries we identify. They often do not report their performance at all or they do so in other and nontransparent, nongranular ways. Even if they do, revenues and costs are often shifted for tax and regulatory reasons.

All these questions of concept and fact are complex, contentious, and subjective enough to provide, in the regulatory field, gainful employment for generations of media and antitrust lawyers.

It is therefore inevitable that some experts or interested parties of a particular industry in a particular country will find themselves in disagreement with country authors of this book or with the editor’s summaries. We welcome corrections and perspectives. Yet to keep it all in perspective, even medium-sized corrections are unlikely to change the overall findings, given the large number of countries, industries, and firms, their often huge size, and the likelihood that flaws will often cancel each other out.

The important thing to remember is that market definitions and indices are never perfect, and they are most useful if applied consistently over time and across countries. If the thermometer drops it is probably getting colder, whether the scale is Celsius, Fahrenheit, Reaumur, or Kelvin.

None of this is likely to dissuade some people who do not like particular findings—in one direction or its opposite—and who will imagine that the reason must be ideology, obtuseness, or conflicts of interest. The only response we can give, individually and as a team, is that we have tried to identify facts and figures fairly and without preconceptions and that constructive corrections are welcomed.

## Data Sources

“Official” numbers on company revenues and shares are usually not available, except perhaps for some of the regulated telecom operators. Numbers were therefore found by the authors in a variety of ways. Useful source categories were reports by governmental agencies, financial institutions, and consultancies, as well as company annual statements and news articles.

Yet in the end, considerable judgment and detective work were required. Each industry and country had its own sources and institutional peculiarities. Often, reported numbers ↪ were not broken down in ways granular enough for the authors’ tasks and were instead aggregate for the entire company, across countries and business lines. The effort required from the country chapters’ authors to collect and organize highly

disparate data in a consistent form was remarkable. For example, industrywide revenues proved difficult to find for industries such as magazine publishing. In several cases we had to estimate and prorate such revenues from those of comparable countries for which they were reported.

For the most recent period, several final updates were done by the editors for a number of industries or countries, especially when there were mergers. The authors are knowledgeable analysts of their country's media industries and are thus also the primary source for the data used in the overarching and summarizing chapters. In a few cases, we have slightly reorganized their data to achieve consistency.

To observe trends over time, we tried to cover a period of about 20 years, with one observation for every four years. It was not always easy to obtain data for past periods or for the most recent years. Due to different data availabilities in the various countries, the most recent available numbers vary. For some countries and industries they might go back to 2009. For others, 2013 data were available. In some cases, the editors updated the numbers to a more recent year.

## Market Definitions

Defining media industries always leaves gray zones. Some industries are intertwined, such as over-the-air TV broadcasters, satellite-delivered program channels, and multichannel video platforms. Another example is the film industry, for which consistency required the inclusion of imports and the exclusion of the film theaters (exhibition) from the market definition of film production and distribution. To deal with such issues, we tried to create consistent definitions, as follows.

- *Newspapers* are daily papers, not including their online versions (news-stand sales, subscriptions, and free distribution).
- *Magazines*: periodicals, mostly consumer oriented.
- *Books*: all books, including textbooks.
- *Radio*: AM, FM, digital terrestrial, and satellite audio broadcasting, both stations and networks.
- *Broadcast TV*: all “free TV” terrestrial video broadcasting by station and networks, as well as the retransmission of such channels over cable and satellite.
- *Video channels*: channels not distributed free over-the-air but for a fee over cable and satellite platform.
- *Film*: production, distribution, and importation of feature-length films. Does not include exhibition (theaters).
- *Multichannel platforms*: cable TV, direct-to-home broadcast satellites, telecom IPTV, and online (OTT) providers. The channels they carry (video channels and TV broadcasters) are not included.
- *Wireline telecom*: telecom companies, cable, and online providers of telecom service. Does not include mobile telecom, ISP service, and IPTV.
- *Wireless telecom*: mobile phone service providers, not including handsets.
- *ISPs*: Internet service access, including broadband and dial-up, using wireline, cable, satellite, or mobile connectivity.
- *Search engines*: major web-based information search systems.
- *Online news media*: online versions of newspapers, magazines, newsletters, and online providers and compilers of regular news. Does not include online blogs.

## Geographic Definitions

p. 20 The main unit of analysis was *national* rather than local markets. A newspaper company may be small nationally and tiny globally but loom large locally.<sup>3</sup> We first focus on national revenues of a company, and then we aggregate its multinational market shares. In national markets we include all participants, not only those domestically owned or headquartered. That is, we include imports, and do not aim to include exports.

Media activities are typically listed by company, not by title, brand, or corporate division. For example, for Germany, Bertelsmann would be listed as the primary entry, rather than its properties RTL, Random House, or Stern. This makes it easier to identify national and international cross-ownership. Foreign and state (“public”) ownerships are identified.

## Concentration Measures

There are several approaches to define media concentration. To many people it is the extent of viewpoint pluralism. To others it is diversity in the type of owners or managers. Still another perspective is the extent of local control versus absentee ownership. These approaches are legitimate, but they are difficult to operationalize on a national level, let alone for transnational research. Instead, this study uses basic tools of market structure definition from the economics of industrial organization. This is not to negate the usefulness of other forms of measuring pluralism, but they are less suitable to cross-industry and cross-country aggregations.

The methodology used had to be fairly simple and straightforward, for several reasons:

1. To facilitate usage by dozens of researchers from around the world who participated in the study and by researchers in the future who wish to deal with different countries, industries, companies, and time periods
2. To create a comfort level in readers and policymakers that the results are based on established ways to measure market concentration rather than on unproven new approaches (That said, several new approaches are also used in this book.)
3. To provide the kind of transparency of methodology, data use, and robustness that more complex econometric specifications with “black box” aspects do not provide

Therefore, instead of constructing a single and potentially complex measure for concentration, this study uses and creates several simple metrics that reflect different aspects of concentration. They are applied separately to subquestions and also put together to identify broad trends and correlations.

Several concentration indices are used, all of which are explained in this chapter:

- The C<sub>4</sub> ratio
- The C<sub>1</sub> ratio
- The Herfindahl–Hirschman Index (HHI)
- The power index (PI)
- The Net Voice and Net Voice/Capita counts
- The Noam Media Concentration Index (NI) (also known as the media ownership and concentration diversity index (MOCDI))
- The averaged C<sub>4</sub>, C<sub>1</sub>, HHI, PI, and NI
- The pooled C<sub>4</sub>, C<sub>1</sub>, HHI, PI, and NI

These concentration indices are aggregated across 13 media industries, and across 30 countries, in three ways: arithmetic averages, weighted averages, and pooled. The *weighted average* adjusts, in averaging, for different sizes of industries or countries, which an arithmetic averaging does not do. In contrast, a *pooled*

concentration index treats all 13 industries as part of a larger single media sector and looks at market shares and concentration within that larger market.

A pooled measure lowers the concentration numbers, of course, but it does so for all countries, and thus comparisons are still possible. What is gained is a dimension of cross-ownership, insofar as major companies often operate in several industries, and pooling the industries hence shows their overall share in an overall national media market. We also have other ways to identify cross-ownership, discussed later in the chapter.

## The C4 and C1 Ratios as a Measure of Concentration

p. 21 The C4 index aggregates the market share percentage of the largest four companies in an industry. If the market shares of the top four firms were, for example, 40%, 30%, 10%, and 10%, with five other firms holding 2% each, the C1 would be 40 and the C4 index would be 90. The formula for the C4 ratio is

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

where  $S_i$  = firm's  $i$  market share of a given industry  $j$  and where firms are ordered by size of market share.

When C4 ranges from 0% to 40%, the industry tends to be competitive if the companies are of roughly equal size. It says that smaller companies serve 60% or more of a market. With a C4 above 40%, the industry is most likely an oligopoly.

The C4 for the film industry in the United States, for example, was 60.7% in 2012: this was the sum of the market shares of Viacom's Paramount, Time Warner's Warner Bros, Disney, and Sony, the firms that had the largest market shares of all film studio-distributors in the United States market that year.

## The HHI Measure of Market Concentration

The C4 index does not account for companies that are below the top four but may still have an important presence. For example, in the US film industry, the share of firms ranked number five and six (Comcast's Universal and 21st Century Fox) is quite similar to those of the top four. Also, the aggregation of the C4 distribution does not account for the distribution of shares within it, which can vary greatly. A C4 of 60% does not show whether competition is relatively high—the top four firms each have about 15% market share—or low (one firm dominates with 55% of the market share in the industry, the remaining three combined account for just 5%).

The Herfindahl-Hirschman Index (HHI) is used to measure concentration in a more informative way than the C4 concentration ratio just described. The HHI rectifies the shortcomings of the C4 by squaring the market shares of the companies in an industry and then adding them up, thus giving extra weight to high market shares. The resulting sum ranges between 0 and 10,000 points (where one company holds 100%, and its squared market share is thus at 10,000). The US government's anti-trust enforcement guidelines hold that an HHI under 1,500 is defined as unconcentrated; moderate concentration occurs in the range of 1,500 to 2,500; and high concentration starts at 2,500. (These numbers had been considerably raised in 2010. Until then, the thresholds were 1,000 and 1,800.)

Although the HHI index is more informative, it lacks the intuitive ease of the C4 index. It is easy to understand that a market share of the top four firms of 80% means that concentration is high. It is less clear what an HHI of 1,900 means.

The formula for this index is

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

where  $f$  = number of firms participating in an industry,

$S_i$  = each firm's market share,

$i$  = firm in a given industry. In the earlier example, the HHI would be  $HHI = 40^2 + 30^2 + (2 \times 10^2) + (5 \times 2^2) = 2,720$ .

## Media Concentration Measured by Voices

One way to look at the diversity of media is through market shares, and this is the approach taken in much of this book. However, there is also another perspective. That perspective says that pluralism is not defined by concentration but rather by the diversity of sources available. Thus, if there are 20 radio stations in the market, their actual audience share is immaterial; what counts is the number of options for a listener, not how popular they are. In this case, there would be 20 "voices." But this needs refinement. The same firm might own several of these stations and thus there would not be 20 truly different voices. It therefore would be more accurate to consolidate voices of the same media organization and calculate "net voices."

p. 22 A second refinement is that of a limiting principle. Some voices are just too small to be considered an alternative option. Is a college newspaper or a shopping magazine a "voice"? There has to be some threshold for a voice to be a meaningful participant. For reasons of principle and practicality, we chose the threshold that a firm must have at least a 1% share of that media industry's market.<sup>4</sup> A media operation that is tiny does not, in most cases, meaningfully contribute to the pluralism of media choices or shape public opinion. True, tiny publications sometimes can have an impact, but typically only indirectly as a catalyst to larger media operations that pick up the story. On a practical level, it is difficult to define, measure, and count tiny media.

Choosing a threshold of 1% of a market means applying a sliding scale that rises in absolute terms with the size of the market. Comparing countries' voice count on that basis is defensible on the level of pluralism, where voices are relative, not absolute in size.

One may think that picking an absolute rather than relative definition of a voice would be an easy solution, but it is not. The US population is 60 times higher than that of Finland. If the same voice definition based on revenue or circulation definition were applied, and if a newspaper with a 1% penetration in the United States would be counted, the equivalent threshold market share in Finland would have to be 60% of that market. Conversely, a 1% firm in Finland would mean that one would have to count a US newspaper with 0.0167%, a tiny size that would not register many statistics or reports. Neither arrangement is practical. Could one disregard any size definition and just count media? That, too, is impractical. As mentioned, would every college paper, free shopping paper, blogger, and website be counted as a voice? This brings us back to a percentage-based definition.

Counting different voices is one way to measure diversity for user choice. But this does not measure diversity in terms of political perspective or subject matter focus. To measure such differences would be highly subjective to define or measure. Instead, the underlying assumption is that when the number of options rises, different perspectives will emerge. One example is the diversification of TV news perspectives in the United States. After several decades of three fairly centrist national TV news options, the emergence of multichannel cable TV led to the creation of TV news channels with pronounced political perspectives, with Fox News Channel on the right and MSNBC on the left. Thus, more options also meant a wider diversity.

## The Media Ownership and Concentration Diversity Index (MOCDI)

This index (the Noam-index, so named by others, not by the author), takes into account the number of voices available. Market power alone does not reflect media diversity.

The HHI is the sum of the squares of the market shares, or  $\sum S_i^2$ . The problem is that this measure does not cover pluralism well. For example, suppose the radio market consisted, as described earlier, of companies with market shares of 40, 30, 10, 10, and 5 times 2%. It would have an HHI of 2,720.

Most people desire a greater diversity in their media sources than in their computer hardware. They want more choices for themselves and for the political process. Therefore, the question arises of whether the traditional antitrust measure of the HHI is appropriate for media.

The issue is partly whether the concentration threshold for media should be lower, and also whether the HHI methodology itself accounts sufficiently for media pluralism. For example, in the radio example above, if the five smaller stations of 2% share each were replaced by 10 stations, each with 1% of the market, the HHI would decline only trivially, from 2,720 to 2,710. Yet the diversity of the local radio market would clearly be significantly increased by the presence of five additional radio station providers. Ignoring that addition would misrepresent pluralism.

p. 23 To deal with the pluralism issue, the US government (via its Federal Communication Commission) briefly introduced a “diversity index,” which counted each media outlet as a “voice.” ↵ But this approach, which was tainted by its being result oriented as part of a controversial effort to loosen restrictions on ownership, disregarded the size of the various media. It thus equated the mighty *New York Times* with the puny Poughkeepsie Gazette, which happens to be in the same media market. Both were equal voices. The FCC’s approach was repudiated by a federal court. This left the question of how to measure concentration and pluralism in media wide open.

Do more voices mean more diversity? The FCC said yes. But the answer is less clear if one takes into account how loud some voices are. With numerous video and Internet avenues existing today, it is easier to speak but harder to be heard. To be heard requires higher volume, which typically means more resources. Thus, one cannot equate a greater number of content providers with greater diversity. The two may work in the same direction but need not. Those who equate the two commit an error of composition: just because it is easier and cheaper for me to reach an audience over the Internet does not mean that it’s easier if everybody tries the same. It often becomes much harder and more expensive to get attention, thus necessitating greater marketing resources.

Market power is important. The antitrust HHI is a pretty good litmus test for market power, but it does not make allowance for pluralism. As a radio listener, I am better off with another 20 stations on the dial or another newspaper sold at the news kiosk, even if few people listen to or read them. Their availability provides an option that carries value even if it is unexercised by most readers or authors.

The conclusion is that one should not have to choose between a measure of market power (the HHI) or of pluralism (the number of voices) but ought to incorporate both. The HHI should be replaced with another diversity index. Such an index would take the HHI and divide it by the root of the number of voices.

This can be defined by the equation

$$\text{MOCDI} = \frac{\text{HHI}}{V} = \frac{\sum_i^n S_i^2}{\sqrt{n}}$$

where  $n$  = number of firms participating in an industry,

$S_i$  = each firm’s market share,

$i$  = firm in a given industry.

Thus, the less concentrated in market terms and the more numerically diverse a market is, the lower the index.

Using our numeric example, this index would result in

$$\text{MOCDI} = \frac{\text{HHI}}{V} = \frac{2,710}{\sqrt{9}} \approx 903$$



## Aggregations

The study applies various concentration measures to specific industries in specific countries. The measures can be further extended, beyond those limitations. An average  $C_4$  for an entire country averages the  $C_4$  market measures for the various media industries. Since a straight arithmetic average may overrepresent small industries, it is better to take a weighted average, weighting by the size of that industry. The result represents the average level of concentration prevalent across all media industries of that country, taking their size into account. (It should be understood that the top four companies are not the same in each industry.)

We can also measure the individual companies' share in the world market of that industry. This is found by aggregating a company's revenues in that industry in the countries in which it operates and calculating the percentage of global newspaper revenues that this represents.

These worldwide market shares enable us to calculate worldwide concentration measures such as the worldwide industry  $C_4$  ( $W-C_4$ ) and the worldwide HHI ( $W-HHI$ ) index. Obviously, these measures will usually be much lower than country-specific concentration measures, since the overall market is much larger.

### Cross-Ownership of Media Concentration

p. 24 A "pooled" concentration measure such as a pooled  $C_4$  looks at the market share of the top four companies in an entire national media market. Unlike the average weighted  $C_4$ , it does not present a mean of concentration across all 13 industries but describes the companies that dominate the national market overall.

In the extreme, if no firm owns more than one voice, the numerator is zero, and cross-ownership is zero. Where all voices are owned by a single firm, the ratio approaches 1.

### Cross-Ownership of Voices

We can calculate the percentage of media voices owned by multivoice firms in the overall number of voices.

$$\text{Cross-Ownership of Voices} = \frac{\text{Gross Voices} - \text{Net Voices}}{\text{Gross Voices}}$$

### Concentration Measured by Power Indices

We define a new type of cross-ownership measure, the media power index (MPI). The industry-specific concentration measures (HHI,  $C_4$ , NI), as well as the averages across industries, are useful measures but they do not capture cross-industry, multimedia market power. A firm may have moderate market shares in multiple media industries but no dominance in any. Looking only at one industry market at a time would understate a company's vertical and horizontal market position. How can one measure such cross-ownership?

The power index introduced here is a cousin to the HHI. Whereas the HHI aggregates the squared market shares of different firms in the same market, the power index aggregates the squared shares of the same firm in different national media markets, adjusting for market size. It is the sum of a company's market shares in the markets it operates, summed up across the various markets in which the company operates, weighted by market size.

There are several variants of the power index. One can aggregate a company's squared market shares across several industries in which it participates in a single nation. Or one can aggregate the company's market shares in a single industry across several nations in which it is active. Or one can do both, aggregating for a given company across industries and nations. Or, in still another variant, one can aggregate in a single nation the aggregations of the several top companies.

We designate the first of these MPIs in which a given company's ( $\hat{c}$ ) activities in a given nation ( $\hat{n}$ ) in the various industries ( $i$ ) are aggregated as

$$\text{Company-National MPI} = \sum_n S_{\hat{c}, \hat{n}, i}^2 \frac{R_{\hat{c}, \hat{n}, i}}{\sum_i R_{\hat{c}, \hat{n}, i}}$$

where  $R_{n,i}$  is an industry's national revenue.

The second MPI is that for a given company ( $\hat{c}$ ) across all nations ( $n$ ) for a given industry ( $\hat{i}$ ).

$$\text{Company-Industry MPI} = \sum_n S_{\hat{c}, \hat{n}, \hat{i}}^2 \frac{R_{\hat{c}, \hat{n}, \hat{i}}}{\sum_n R_{\hat{c}, \hat{n}, \hat{i}}}$$

where  $R$  is an industry's revenues in a nation.

This index measures a company's worldwide role in an industry.

The third MPI is a company's overall global market position, across both nations and industries. It measures, in effect, a company's overall role in the overall global media sector.

$$\begin{aligned} \text{Company-Worldwide MPI} \\ = \sum_n \text{Company-National MPI} \end{aligned}$$

where the company national MPI is given above. The fourth metric—the National MPI—is the overall aggregation of the individual companies' MPI in a given nation.

A fifth measure aggregates these global company power measures to one covering all industries, all companies, and all nations. This is the Media Power Index-Global (MPI-G).

## Foreign Ownership<sup>5</sup>

p. 25 Additional dimensions of analysis are *foreign ownership* and *public ownership*. Foreign ownership means that a company's ultimate controlling owners are operationally headquartered in another country. For example, Telefónica, one of the world's largest telecom companies, is counted as a foreign operator in Argentina or the United Kingdom. Sony, headquartered in Japan, is considered a foreign-owned company in the US market even though its film studio, the former Columbia-TriStar, is one of the traditional Hollywood "Big Six."

Foreign ownership, strictly speaking, is not a measure of concentration, but it is a measure of the openness of a country's media market to the outside and its absence of barriers to such entry, which may raise competitiveness. Such barriers might be legal/regulatory or simply those of difficulty in adapting to a foreign market with its special circumstances.

To calculate the percentage of foreign ownership, identify the imports ( $F$ ) and companies ( $c$ ) that are majority-owned by foreign entities. Their revenues aggregate provide a share of a country's overall media industries' revenue.

$$\text{Foreign Ownership Ratio} = \frac{\sum_c \sum_i F_{c,i}}{\sum_c \sum_i R_{c,i,\hat{n}}}$$

## State Ownership

We also measure public ownership to show how much of a country's media market is controlled by state enterprises. These can be direct government operations, semi-independent organizations like public-service broadcasters, or private-law companies in which the government is a controlling shareholder.

We use the term *public* in the sense of "owned by public authorities," as distinguished from the use of the term in the stock market and investor community, where a "public company" means a firm whose shares

are publicly traded in a stock market.

Why is state/public ownership relevant to concentration? The higher the such state ownerships of companies  $c$  in an industry  $i$  or nation  $n$ , the less likely the competition is. This can be due to the difficulty of contesting a government operation; it might be legally prohibited; or, conversely, state ownership might indicate a nonviability of competition, for example in the early stages of a new medium.

$$\text{State Ownership Ratio} = \frac{\sum_c \sum_i S_{c,i}}{\sum_c \sum_i R_{c,i,n}}$$

## Ownership and Control

The ownership of a media organization is assigned in this study based on actuality of control rather than of legal setup. Berlusconi's Fininvest is structured as a set of over 30 smaller corporations, each holding a small percentage of the whole. Rupert Murdoch's stakes are shares with preferred voting rights, held by a family trust, and they comprise control over the two major firms that were split from each other in 2013, News Corp and 21st Century Fox. Sumner Redstone has a similar setup with Viacom and CBS. Telefonica (Spain) controlled Telecom Italia (Italy) through a stake of about 46% in an investment vehicle Telco, which owned 22.4% of TI. Telefónica's actual share in TI equity was thus only about 10%. In all of these cases we go beyond the legal arrangement that has been created for reasons of tax, corporate law, family succession, control, access to stock markets, and so forth. Similarly, we aggregate media companies that are under common control, regardless of the name of their corporate division or country of operation. Thus, Random House, Gruner + Jahr, and RTL are all counted as part of the same parent company, Bertelsmann. They might operate independently on a day-to-day and even strategic basis, but their top managers are ultimately selected, directed, and coordinated by the same control group, which bears final responsibility.

This would be fairly unexceptional, but the same principle must also be applied to national governments holding multiple state-owned firms. In particular, it is an issue with China. Most Chinese multimedia producers are state owned. However, different parts of the government and different levels of government own certain media properties. So the question is how to view these organizations. Are they a single "firm" with multiple divisions, in the same way that Vivendi's Canal Plus pay-TV operation, its SFR mobile phone operator, and its Universal Music Group are controlled by the same enterprise even if managers get substantial autonomy from interference from the top and from each other? Or, are the various state organizations truly independent of each other? The two perspectives have different adherents. Those inside China often tend to present the latter perspective. But this would make China, by the numbers, the world's most diverse media environment, so this might be pushing an argument a bit too far to be plausible. The other perspective, that of a unified media system where state companies ultimately answer to the same authority or to lower levels who answer to that authority, creates the other extreme: now, China's media is just about the world's most concentrated. To be consistent with the rest of the countries and companies, we tend to the second view. However, to provide the alternative perspective, we often present both sets of numbers, and we use two measures: an *integrated* perspective in which the concentrations are calculated with the state as a single owner, for example ("Government of China"), and a *segmented* perspective in which each state enterprise is deemed an independent entity. Both ownership definitions are used when it is possible, but the former is used in calculating world averages, where one measure must be picked.<sup>6</sup>

p. 26

There is a large discussion of the issue of media independence in China—hegemony versus diversity. Examples are Chan (1993), Chu (1994), Kennedy (2009), Lee (2006, 2007), Liu (2006), Stockmann and Gallagher (2011), Winfield (2005), Wu (2000), and Zhao (2000). Those who argue for media diversity correctly observe a greater independence by journalists, at least compared to the past, as well as a greater reliance by media on nonstate financial support through advertising and subscriptions. But this diversification of content and business models should not be equated with ownership diversification.

## The Owners of the World's Media

Ultimately, somebody owns media organizations. The question of actual ownership comes in two dimensions: who owns the largest media firms; and whose ownership stakes in media are the largest. We investigate both.

## The Owners of the World's Largest Media Firms

We select the largest media companies—about 20 platform companies and a similar number of content companies—and investigate their ownership structure by using the ownership records of each of these companies and identified company's owners from companies' annual reports and filings with government agencies, as well as press sources.

We identify the major individual and institutional holders of each company, the number of shares they held, their percentage ownership of the company, and the total value of their shares.

There are several complicating factors. Some shares are not publicly traded and their value has to be estimated. In other cases, companies have several classes of shares.

Still another complicating factor is that for some companies, media activities are only part of what they do. Where companies' activities span media and nonmedia industries, only the former have been used. These issues are discussed in the chapter, "Ownership Analysis."

## The Largest Owners of Media

Who owns the media? There are three kinds of owners: (1) individuals/families, (2) institutions, and (3) governments/public. We identify, measure, and discuss them sequentially. Institutional ownership holdings were determined by examining investment companies' filings to regulatory agencies.<sup>7,8,9</sup> In many cases we also looked at the institutional investor's annual reports, where available. In the process, we construct an aggregated list of the largest owners of media companies.

We also aggregate the media industries into two subsectors, namely, platform media and content media. *Platform media* refers to the transmission and delivery of media, while *content media* refers to consumed material. A subcategory of content media is *news media*, described further in the next section. Many firms are both providers of content and of platform services. And several industries straddle the platform/content divide. This is particularly true for multichannel platforms. It therefore required some work to segment these firms by activity.

## News Attention

*News media* are the media that provide much of the information for civil and political discourse. In our investigation, they are defined as newspaper, magazines, radio, broadcast TV, online news, and part of multichannel TV. They will be considered based on the time people spend on each medium's news content.

We estimate *news attention shares*, using a number of simplifying assumptions due to a lesser availability of data. The reader should take the results as orders of magnitude rather than as precise metrics.

We can determine the market shares and the concentration indices for these six news media industries. The question is how to add them up in order to get a company's share in the overall news media, both nationally and globally. This really is the question of how important the different news industries are in news terms. Two proxies are used. The first measure is to use an industry's *revenues* to weight the various news industries. The second and better method is to assign weights according to the *attention time* they receive from users as a news source, that is, the time people spent reading, listening to, or watching the medium's news content. Of course, some news attention has more of an impact, such as reading an editorial versus the weather report, and some media may leave more of an impact on a user per time unit. However, trying to gauge and measure subjective dimensions such as importance, value, or impact raises formidable conceptual and methodological barriers.

*Attention weight* of a news medium is calculated by the average time spent by an average user, prorated to the share of that medium's news content in its overall content, and also adjusting for the penetration of that medium in a country's population. The data necessary for usage time were available for some countries, but not for others. Where they were not, we use the average of those that were available. This is a simplifying assumption, but for those countries where the data were available, we did not observe huge differences across countries in the consumption-time among news users of a medium, given access to that medium. What differs more are penetrations, for example, for newspaper readership or of online news access.

News attention for company  $c$  in country  $n$  for its activities in a given news industry  $i$  is

$$A_{c,\hat{n},\hat{i}} = \text{Population}_{\hat{n}} \times \text{Penetration}_{\hat{n}} \\ \times \text{Medium's Attention Share}_i \text{ by users} \\ \times \text{Market share}_i$$

For all of company  $c$ 's news activities across industries  $i$  in country  $n$ , news attention would be

$$A_{c,\hat{n},j} = \sum_C A_{c,\hat{n},j}$$

And the total news attention share of company  $c$  in country  $n$  and in the world can then be aggregated.

This way, we can calculate the global news media share of companies that are active in several countries, and we can compare the share in worldwide attention of the various media companies.

p. 28 The top company in news attention has, by definition, the greatest “mindshare” in its society. But there are degrees of dominance. Is media concentration in news associated with high developmental level or with lesser economic development? A regression analysis of the market share of the top firm (the “C1”) with the average income in that country might show a possible correlation.

## Factors of Inter-Industry Concentration

When market trends in a single country are considered, the particularities of a particular national situation may obscure a more fundamental explanation. But once 30 countries' figures and trends are analyzed, a fuller picture emerges.

What are factors that can explain concentration levels  $K$  that exist in different media industries  $i$ ? To find answers we run regressions over a number of variables  $v$ . The maturity of an industry, for example, might have provided the time for industry consolidation to take place; the global export intensity of an industry might create scale effects that go beyond a country's borders; or the size of an industry might give more firms an opportunity to flourish, and so forth.

$$K_i = f(v_i)$$

## Factors for Intra-Industry Concentration Differences

How can one explain different industry concentration levels in different countries for the same industry? This is a different question from the one in the previous paragraph. Such an analysis would try to capture country-specific characteristics that affect concentration in that industry. A number of country-specific variables  $H_x$  were hypothesized and tested: population size, geographical size, income, education level, per capita spending, regulatory quality (for regulated media industries), years as a democracy since 1900, economic growth, research and development (R&D) spending, and other variables.

$$K_{n,i} = f(H_{x,n})$$

## Identifying National Divergence of Concentration from the Expected

The data that were collected from around the world and subjected to methodological uniformity permit an econometric cross-section analysis. The results show which factor affects concentration levels of different media industries and which factors affect concentration within a media industry.

We then take this analysis a step further and try to extract information from “nonconformity.” That is, from a country's industry deviation from the concentration level predicted by the econometric model.

Overall, the models that were estimated provide a prediction: for a given industry and country—using its actual sociodemographic, economic, and geographic values—a prediction for concentration can be readily obtained, based on the explanatory power of the estimated coefficients. But the actually observed concentration levels will tend to deviate from predicted levels. What this means is that we can observe deviations of media from levels that can be explained by poverty, geography, population, and so forth.

These deviations  $D$  of the predicted concentration  $K_p$  from the one actually observed  $K_o$  should be the measure in judging a country's concentration. The difference of actual to predicted values is the residuals of the estimation.

$$D_{n,\hat{i}} = K_{p(n,\hat{i})} - K_{o(n,\hat{i})} = f(H_{x,n}) - K_{o(n,\hat{i})}$$

## Convergence Trends

*Digital convergence* has been discussed for many years, first in terms of similar technology and then of overlapping industries and businesses. We can measure convergence trends of the structure of different media industries with each other. We do so by observing the standard deviation—the measure of the  $y$  industries'  $I$  divergence from the average  $\mu$ .

$$\sigma = \sqrt{\frac{1}{y} * \sum_i (K_i - \bar{K})^2}$$

## Conclusion

p. 29

In this chapter, we introduced the process and the methodologies of this book. We are now ready to proceed with an analysis of the 30 countries' media markets, followed by five overarching chapters, and two chapters of conclusions.

## Bibliography

p. 30

For the sources mentioned in this chapter see the General References on Media Ownership and Concentration at the end of this book. ↴

## Notes

1. Those who wish to use the various chapters' data extensively need permission from the chapters' authors.
2. Brazil is listed in two categories.
3. Several country chapters also discuss local markets.
4. For radio and book publishing, we use a 2% national market share threshold because a large number of subnational stations or specialty publishers would otherwise dominate country voice counts.
5. In this section, there is no need to distinguish between China's "integrated" and "segregated" ownership indices because they are the same, so China is rendered as just "China."
6. This judgment was taken by the editor, after considerable review of the literature on China's media. It was done independently from the authors of the country report on China and other researchers, and the responsibility is the editor's alone.
7. <<http://www.fsa.go.jp/sesc/english/>>
8. <<http://www.cnbv.gob.mx/en/Paginas/default.aspx>>
9. <<http://www.finanstilsynet.no/en/>>