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Economic Perspectives on Media Mergers and Consolidation

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Summary: This article synthesizes several existing economic perspectives on the incentives for and consequences of media consolidation. Because of the two-sided nature of media markets, media mergers may lead to unexpected effects, which may not be deduced from common notions of industrial economics. We explore three such effects. In particular, we illustrate that media consolidation may lead to a *reduced* level of content diversity. Also, we present a recent theory that suggests conditions when a politically biased media may actually prefer competition. Finally, we illustrate how a media merger, or media consolidation in general, may lead to stiffer competition in the markets in which advertisers compete. This article is written for practitioners and regulators in the media and advertising industries. Furthermore, it is not intended to push a particular viewpoint or perspective. While non-technical, the arguments in the paper assume a background in introductory microeconomics.

Zusammenfassung: Dieser Artikel führt verschiedene ökonomische Sichtweisen auf Gründe für (zunehmende) Medienkonzentration und ihre Folgen zusammen. Da Medienmärkte durch die Existenz zweiseitiger Netzwerkeffekte geprägt sind, können Fusionen von Medienunternehmen zu unerwarteten Ergebnissen führen, die sich mithilfe der üblichen Konzepte der Industrieökonomik nicht erklären lassen. Im Mittelpunkt der Analyse stehen drei verschiedene Aspekte. Wir zeigen, dass (zunehmende) Medienkonzentration zu *geringerer* Programmvielfalt führen kann. Ferner präsentieren wir eine neue Theorie, die Bedingungen aufzeigt, unter denen es ein politisch einseitiges Medienunternehmen vorzieht, im Wettbewerb mit anderen Unternehmen zu stehen. Und schließlich zeigen wir, wie eine Medienfusion, oder generell (zunehmende) Medienkonzentration, zu stärkerem Wettbewerb in Werbemärkten führen kann. Dieser Artikel richtet sich sowohl an Praktiker der Medien- und Werbeindustrien als auch an den Gesetzgeber. Obwohl der Artikel selbst ohne eine formale Analyse auskommt, setzen die angeführten Argumente gute Kenntnisse grundlegender Mikroökonomie voraus.

1 Introduction

The media industry provides a unique setting for industrial economists because of its unique relationship with two sets of interrelated markets – the subscribers and the advertisers. Academic economists have only recently begun to develop a formal understanding of this unique industry. In this paper, we synthesize these recent developments in a non-technical way for use by practitioners and those involved in competition policy analysis as applied to mergers and consolidation in media industries. Specifically, we use basic economic reasoning to uncover insights regarding incentives and consequences for mergers and media consolidation.

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We confine the scope of our discussion to *horizontal mergers/consolidation in commercial media industries*. This includes most forms of print (newspaper, magazines, etc.) and broadcast (television and radio) media. By *commercial*, we generally mean media that is subsidized, at least in part, by advertisers. To that extent, some forms of Internet media fall under this definition. However, publicly funded media does not fall under this category. Our restriction to horizontal mergers and consolidation means that we consider only ownership unions among competitors, rather than, for example, a merger between a content provider and a distributor.

Horizontal mergers are generally a concern for regulators and antitrust officials because of the potential to consolidate market power. But such mergers can also lead to efficiency gains since combining operations may exploit economies of scale or scope. For example, a merger between radio stations might lead to higher advertising prices, but may simultaneously lead to lower production costs or higher quality programming. This welfare tradeoff is as much an issue for commercial media as it is in other industries. However, because regulators and antitrust officials are well aware of these concerns, we do not elaborate on them here.

Despite the commonalities with many industries, the commercial nature of the media industry leads to economic effects, which are not present in more "traditional" industries. In particular, the fact that commercial media sell to two interrelated markets leads to incentives not captured in traditional models of industry. Commercial media firms, for example, sell space in an advertising market and offer content in a subscriber market.[1] The interrelationship between these two markets can be seen by the fact that the demand for advertising space on a television channel is affected by who and how many watch the channel. Conversely, the demand for subscription may depend on who advertises and on how much space or time is devoted to advertising. This unique relationship, therefore, requires alternative notions of thinking about the incentives for mergers and the implications for social welfare.

In what follows we pose three illustrations about incentives and consequences of media mergers, which might not be seen with standard intuition. The purpose here is not to generalize or give a unifying theory of the effect of mergers on society's well-being. Rather, these simple illustrations are intended to generate new perspectives and, thereby, challenge common notions about media mergers and consolidation.

The following three sections each provide challenges to common notions about competition when applied to the media industry. In the first section we illustrate a counter-intuitive example that media consolidation may lead to a *reduced* level of content diversity. This is followed by a recent theory that demonstrates plausible conditions under which politically biased media may actually prefer competition. Finally, we illustrate how a media merger, or media consolidation in general, may lead to stiffer competition in the markets in which advertisers compete.

1 Subscriber is generically used to represent a reader, viewer, or listener.

2 Content Diversity

A common complaint about consolidation of ownership in media industries is the homogenization of content. As media owners become fewer in number and bigger in size, the fear is that the media content will be aimed solely at the lucrative *mass* market. This market will then be served in excess, while smaller market tastes will not. In this section, we illustrate that this reasoning may not always be valid. That is, in some cases it is reasonable to expect that an industry with fewer owners may be more profitable by serving not only the mass market, but the smaller markets as well.

The industry outcome in which media firms offer similar or identical content is often referred to as *program duplication*.[2] For example, program duplication would be said to occur in a radio market with two competing stations when they both choose to air a pop music format rather than, say one pop and one classical. Duplication can be economically inefficient (i.e. socially wasteful) since pop music listeners are no better off with two stations than with one. Furthermore, classical music listeners have no listening alternative. Wasteful duplication arises because of the commercial incentive of media firms to attract wide audiences in order to appeal to advertisers.

To illustrate, consider a radio market with two groups of radio listeners whose distribution of tastes is shown in Table 1. As a benchmark, suppose that the industry is constrained to only two radio stations, and that these two stations independently choose their formats. Further suppose that each station earns 1 Euro for each share of the market. Since stations wish to attract the widest audience, they will both choose the pop format because splitting the mass of listeners is better than serving the minority. To put it another way, half of 80 Euro is better than 20 Euro. In contrast, a single owner of two stations would serve the entire set of listeners by offering both formats.

The simple example illustrates that monopoly may, in fact, provide greater content diversity than competition. The implication for merger analysis, therefore, is that industry concentration may alleviate program duplication and lead to social gains via program diversity.

Note, however, that by relaxing the constraint of only two radio stations in the competitive case above, we achieve full program diversity. If owners are free to enter the industry and offer formats of their choosing, we should expect additional stations to enter until the

Table 1

A Radio Market with Two Listening Segments

Listener Group	Size (portion)	Tastes
1	80	Pop
2	20	Classical

2 The concept of duplication is, perhaps, the earliest issue addressed in the media economics literature (Beebe 1977, Spence and Owen 1977, Steiner 1952).

fixed costs exceed the potential profits. Suppose, for example, that a 20% market share is necessary for a station to survive. Then five stations will enter, and the minority format will be offered. However, the first four entering stations will choose to split the pop market before the minority format is finally offered. Therefore, free entry alleviates the problem of diversity, but there is still socially wasteful program duplication that would have been avoided with monopoly.

Note in addition that this anomaly occurred because of a large disparity in listening tastes. To see this, consider a radio market in which tastes are more evenly distributed. In particular, suppose the ratio of group sizes is 60 to 40 in favor of Group 1, again with only two stations allowed. Using the same reasoning as before, a profit maximizing monopoly would provide both formats. Note, however, that competition between two stations independently choosing formats would lead to the same outcome. In this case, tastes are less clumped in the mass. Hence, a highly skewed distribution of tastes was necessary for the duplication problem in the opening example.

It is important to point out that in the previous examples listeners did not pay for content. Rather, advertisers financed program provision. However, if it were possible to get listeners to pay for listening, then how would this affect the duplication issue? This latter situation perhaps better approximates press markets where readers pay per copy received. In such an arrangement, when payments by subscribers are required, incentives are more closely aligned with consumption, which generally leads to more efficient outcomes.

To see why, reconsider the example of the market in Table 1. If listeners in Group 2 were, say, 2.01 times more passionate about their favorite music than those in Group 1, then Group 2 listeners would be willing to pay more than double to hear classical music. Therefore, in an industry with two independent fee-collecting media firms, the full spectrum of content would be provided since the revenue in Group 2 would be more than half of the revenue in Group 1.

The reason the payment system corrects the distortion of the original example is that consumption of the media good is driven by listener value, rather than by the value advertisers place on the listeners.

It is noteworthy to mention that in this last example it was assumed that listeners valued their programming equally within the same group. It is reasonable to expect, alternatively, that demand curves for each listener group be downward sloping. In this case, since each station has monopoly power over its listening group, then monopoly pricing excludes low valuing listeners despite the zero marginal cost to serve them. Hence, the usual monopoly inefficiencies would exist.

These examples leave out many aspects of the real media markets, but nevertheless serve to illustrate that when media firms have a profit motive, the consequence of consolidation is not necessarily a loss of content diversity. Key to this conclusion, however, is the assumption that media owners seek solely profits. If their objectives are otherwise, driven by political motives for example, then concerns regarding journalistic plurality arise. We turn to this issue in the next section.

3 Journalistic Biases

There is understandably great concern over mergers and consolidation of media firms because of potential biases in editorial decisions. This concern is driven by the argument that owners of media inject their viewpoint into the editorial decision regarding how to shape the news. Media owners with political leanings, the argument goes, will bias the news that favors their own position. Despite these biases, as long as there is competition, the voting population will be offered a host of competing viewpoints from which to consider. However, the issue of mergers raises concerns if we believe the merged firm will close out a source of alternative opinion.

Note that if media owners are driven purely by the profit motive, then journalistic content can be interpreted along the lines discussed in the previous section. Hence, our concern here assumes that owners have political leanings or objectives. Specifically, we suppose that owners wish to influence public opinion, which in turn motivates editorial decisions.

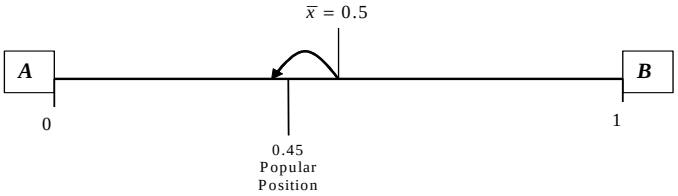
In this section we explore the case when political motives rule the decision making process and examine the implications of and incentives for media consolidation. The theory presented here is based on recent work by Anderson and McLaren (2004) and provides a condition for which acquisition of a media outlet with opposing viewpoints is not driven by journalistic bias motives. Specifically, if popular opinion is fairly neutral, then a monopoly media outlet with strong leanings may prefer to be in a competitive environment. This suggests, therefore, that observed attempts to merge would be motivated by non-editorial objectives.

The argument relies on an assumption that readers know the editorial position of newspaper owners and factor that into their perception of the reporting. For example, if the right-leaning newspaper doesn't report how well the left-leaning candidate performed in his past campaign speech, then readers would shade their beliefs toward it being a good performance. As we explain below, this shading of beliefs can work against the newspaper if the candidate's performance were, in fact, poor, but the newspaper was unable to cover the story. In the competitive case, however, no shading occurs because newspapers publish known stories if and only if it favors their position. Hence, when the candidate's performance is not reported, readers correctly infer that the story was inaccessible.

To make this idea more precise, suppose there are two newspapers, *A* and *B*, each offering opposing editorial positions – right and left. For the sake of illustration, suppose the population leans slightly to the right. Figure 1, which captures the relationship on a political dimension where the popular position is at 0.45, slightly toward the right. Suppose a news event occurs, which is represented as a random number x between 0 and 1 and can be represented by a point on the line between *A* and *B*. If readers observe the location of this news event, then they use it in their decision to support either the left or the right position on this issue. For example, suppose $x = 0.3$, then because it is to the left of the populace location, they vote left. Alternatively, for any $x > 0.45$, they see the news as favoring the right perspective and vote right. If all values of x are equally plausible, then news events will tend to favor the right candidate (55% to 45%).

Figure 1

Newspaper Locations in the Political Dimension



Newspapers *A* and *B* have, for the sake of argument, positions at opposite ends with *A* having a rightist perspective and *B* a leftist. (Note this seems inconsistent with Figure 1. In a similar manner as described in the previous paragraph, newspaper *A* favors the rightist perspective no matter the outcome of the news event.) The newspapers learn the true location of the news event *x* by the flip of the coin. With probability 0.5 both *A* and *B* learn *x*. Otherwise, with equal probability, they don't know *x*. If they learn *x*, they can either choose to report on it or, instead conceal it by reporting other news, which is inconsequential to the political issue.

The obvious strategy for *A* is to report the true news only when it learns that the news favors the rightist perspective, that is, only when it learns that $x > 0.45$. In this case, readers support the same position *A* supports. Otherwise, it reports on something else; either it learned *x* and is trying to hide it or did not learn it. Newspaper *B* has the mirror strategy. It reports the true *x* only when it knows that $x < 0.45$. Hence, when there are competitive news perspectives, readers infer that whenever *x* is not reported, it must not have been available to the newspapers because if it were, one or the other would have reported it. In this case, readers expect $\overline{x} = ½$.

Now consider the case of monopoly and suppose that only the rightist newspaper *A* exists. Whenever it is learned that $x > 0.45$, it is reported and revealed, as in the competitive case. However, when $x < 0.45$, the reader wonders whether *A* is trying to hide the true location of the news event or *A* never learned it. Recall that readers know that there is a 50/50 chance (a coin flip) that *A* learns the true value of *x*.

Consider a fully rational reader. Upon no reporting on *x*, this reader would then *update* her belief using this information. Specifically, she could infer that there is a ½(0.45) = 22.5% chance that the newspaper is hiding knowledge that $x < 0.45$. Hence, she would lower her expected value of *x* from 0.5 to approximately 0.415.[3] This is a so-called *suspicion effect* (Anderson and McLaren 2004) and reflects the fact that the reader has a suspicion that *A* might have decided to withhold the true nature of the news event.

3 Using Bayes' rule, this is computed as

$$E\left[x \mid No\ News\ on\ \ x\right] = \left(\int_0^{0.45} ydy + \frac{1}{2}\int_0^{0.45} ydy\right) / \left(\frac{1}{2} + \frac{1}{2}(0.45)\right).$$

The suspicion effect is often innocuous if the populace is fairly certain of its position – positions closer to either end point in Figure 1. However, when the popular opinion is closer to neutral, like 0.45 in our example, the suspicion effect works against the newspaper. Before updating her belief, the reader based her decision on the expected value $\overline{x} = 0.5$. This would have led her to the rightist position since $0.5 > 0.45$. However, the suspicion effect causes her to flip sides because the expected value of x is now 0.415, which is less than her cutoff value of 0.45.

What makes this outcome so striking is that *A*'s monopoly has actually hurt its ability to influence the political outcome. If the competing and politically opposing newspaper *B* were also active, the reader would have no suspicions in the case that x were not reported. She simply would have inferred (correctly) that the true nature of the news event had not been learned and made her decision based on her original expectation $\overline{x} = 0.5$. This would have led her to choose the rightist position.

To be sure, this example is a special case and used to illustrate a point. The condition that popular opinion was close to neutral was an important factor generating a powerful suspicion effect. Consider a contrasting situation in which the popular position is far to the right. News events in this case are very likely to be favorable for *A* so the suspicion effect is small. In the unlikely event of unfavorable information, monopoly power gives *A* the ability to keep readers guessing whether it was an unfavorable event or simply not learned. While suspicion will still be present, it is not enough to overturn the strong popular opinion.

The simple model has two implications for understanding the incentives for media firms in a proposed merger. First, if the aggregate popular position lies in the center of a political spectrum and newspaper *A* proposes to buy out its rival newspaper *B*. Then, the above analysis suggests that this is not a wise decision *if its objective is political*. Hence, a proposed merger by these two firms is likely to be driven by motives other than influencing political outcomes.

On the other hand, if media owners are driven by political motives, and the popular political position tends strongly to one side, then the newspaper with the more popular position will have an incentive to buy out the opposing newspaper.

4 Product Competition

Perhaps the most subtle consequence of media consolidation is its effect on the competition among advertisers. In this section, we present a general framework for thinking about the relationship between the structure of the media market and product market competition. We then use this framework to analyze the incentives for and the consequences of media mergers.[4]

4 This framework is based on a simplified version of the model appearing in Dukes (2004), and the extension to the merger analysis is based on Gal-Or and Dukes (2006).

The link that ties product competition and the media industry rests in the manner in which advertising affects the price of advertised products. For many markets, it is reasonable to assess that more advertising leads to lower prices. To see this, suppose that firms cannot advertise their existence. Consumers, in this case, are not fully informed of the entire set of potential sellers. When customers of a given seller are unaware of alternatives, the seller has the market power to set high prices. This is the classic explanation behind a well-known empirical study in which the market prices for eyeglasses were *higher* after a ban on advertising (Benham 1974). To be sure, the direction in which advertising levels affect competition most likely depends on the nature of the product in question. For example, manufacturers of consumer goods which are differentiated by means of advertising (e.g. via brand images) tend to raise prices subsequent to higher levels of advertising. We shall return to this case later, but for now we take the ability to advertise to be positively related to competition.

To understand how conditions in the media market affect the level of advertising, we must examine the process by which consumers make their media choices. To facilitate discussion, we shall refer to these consumers as *listeners* choosing among a set of radio stations.

An important distinction for media markets, in particular for broadcast media, relative to other markets is that listeners do not pay prices for their reception of radio programming. Rather, if the radio stations are financed through advertising, then listeners must endure commercial breaks as a form of "payment" for programming (music, entertainment, news, etc). It is natural to expect, therefore, that more advertising on a given radio station will tend to drive listeners to an alternative radio station. For example, if one radio station devotes 25% of its airtime to advertising, and a similar radio station devotes only 10% to advertising, then perhaps we would expect the former station to have fewer listeners than the latter station.

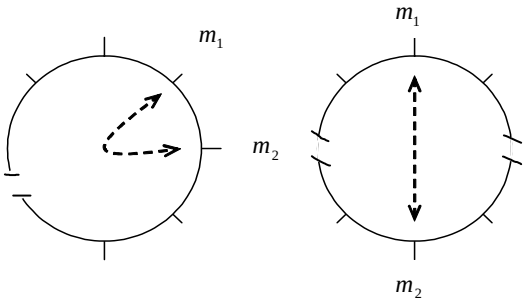
The fact that listeners are averse to advertising has direct implications regarding the relationship of advertising and the degree of diversity among formats. In particular, if formats differ greatly, listeners are willing to suffer ads to a greater extent before switching to a diverse alternative. Stations, therefore, need not be so worried about loosing listeners when raising the number of advertising minutes. Consequently, diversity in listening tastes tends to lead to higher market levels of advertising.

To illustrate this more concretely, consider two hypothetical towns. In Town 1 there are two radio stations, both airing varieties of schlager. Assuming that listeners prefer music to ads, then an increase in ads on one station would tend to drive many listeners to the other station. In contrast, Town 2 has one classical music station and one schlager station. Since listening alternatives in Town 2 are less substitutable, listeners would tend to endure more advertising on either station before switching to the rival station. As a result, Town 2 will have higher levels of advertising, all else equal.

Putting these two pieces of the model together, we can summarize as follows. Diversity in listening tastes contributes to higher levels of advertising, which in turn leads to stiffer competition for advertised products. This process lays the groundwork for our media merger analysis.

Figure 2

Radio Station Mergers



a) Merger between neighbors b) Merger between non-neighbors

To begin the merger analysis, imagine radio stations of different formats represented around a circle of listeners as depicted in Figure 2. Diverse radio formats would be represented by few stations spread sparsely around the circle. As illustrated in Figure 2, we consider two types of mergers: (a) a non-consolidating merger among neighbors; and (b) a non-consolidating merger among non-neighbors. A consolidating merger, in which two radio stations converge into one, is not considered here.

A merger of type (a) gives the joint owner access to all listeners in between without the threat of loosing them to competing stations. As such, advertisers have a greater incentive to advertise with this pair of stations as their message is more likely to be heard. With more advertising on the merged pair of stations, m_1 and m_2, the neighboring stations on either side have more listeners, which make them more attractive to advertisers. Hence, there is more advertising on the neighboring stations.

The same reasoning applies to the next pair of neighbors, those two away from the merged pair. Each has a larger set of listeners, thereby making them more attractive to advertisers. Consequently, they will have more advertisements post-merger. However, for this pair of neighbors, the effect is once removed from the merger and, as a result, will be weaker than for the immediate neighbors. Nevertheless, we can see a “ripple”-like pattern developing in which the merger leads to more advertising industry-wide. This pattern is also characterized by more intense advertising in formats closest to the merged pair with the intensity wearing off for more distant formats.

On the surface, this seems good for media firms because they are selling a higher quantity of advertising, post-merger. However, as argued above, product competition is stiffened as a result of more advertising. Advertisers, therefore, obtain a lower marginal benefit from their advertising because consumers are paying *lower* margins on advertised products. Consequently, the market price of a unit of advertising falls post-merger. Hence, a merger will be profitable only under certain conditions. Specifically, there will be an incentive to merge only if the merged pair of stations sells sufficiently more advertising to offset the drop in the price of advertising.

Note however, the degree to which the price of advertising drops is directly linked to the degree to which the "ripple" effect softens the growth in advertising levels. If diversity among stations is low (e.g. lots of schlager) then the ripple effect is low. That is, when stations are similar, competition for listeners keeps neighboring stations' advertising levels in check, post-merger. This enables the merger to sell more advertising while enjoying advertising prices that do not drop too much. Conversely, if diversity among stations is high, the ripple effect is high, and the incentive for mergers is reduced, possibly negative.

Less interestingly, mergers of type (b) have no effect on advertising levels because there is not a set of "trapped" listeners to exploit. As a result, such mergers can only be profitable if there are some cost-side savings, which is not treated in this analysis for simplicity.

Two implications from this analysis can now be summarized. Mergers among two stations of similar formats may be inspired by strategic incentives to "trap" listeners for the purposes of being more attractive to advertisers. However, the benefit from this will exceed its costs only if the remainder of the industry is sufficiently diverse to mitigate excessive advertising supply via the ripple effect.

The second implication is that a merger, when profitably executed, leads to more advertising and, consequently, better informed consumers. As such, price competition for advertised products will be more intense.

One must bear in mind that this highly specialized analysis was simply meant to capture economic subtleties related to media consolidation, which might have been overlooked in a standard analysis. To get at these subtleties, we made highly stylized assumptions, which should not be stretched too far in application. As such two caveats are in order.

The first regards the informative role of advertising assumed above. Admittedly, some advertising serves to reinforce brand differentiation and lower price sensitivity. Our results above were derived assuming that advertising had competitive effects. The second limitation of our analysis is in its assumption about listeners' aversion to advertising. While this is a reasonable assumption for many broadcast media like radio and television, its applicability to print media is questionable. Broadcast media are often capacity constrained by broadcast times, and therefore viewers and listeners must bear the annoyance of commercial breaks. With print media, readers may be interested in the ads or, when they are of no interest, can easily pass over them.

5 Conclusion

The media industry is unique among industries because of its position between two interrelated markets – the advertising and subscriber markets. More generally, the industry is an important one because of its impact on social, political, and cultural aspects of life through its ability to inform and entertain as well as to facilitate public debate. Because of this importance, antitrust and competition policy makers are concerned about the consequences of changes in the structure of media markets. This paper has offered some economic perspectives on this issue in order to illustrate distinctive properties about media, which might not be obvious from the analysis of most other industries.

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