

Competition and Truth in the Market for News

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“[T]he best test of truth is the power of the thought to get itself accepted in the competition of the market . . . That at least is the theory of our Constitution.

— Oliver Wendell Holmes, *Abrams v. United States* (250 U.S. 616 [1919])

The political traditions, legal doctrine, and regulatory policy of the United States have all been heavily influenced by the proposition that competition in news markets promotes truth. In colonial America, the idea that truth would prevail in a competitive “marketplace of ideas” was “used continuously. . . . Puritans, printers, and politicians among others used the concept to justify their assaults on authority” (Smith, 1981). This proposition has been called “one of the earliest and most influential contributions to First Amendment doctrine” (Williams [2002] 2006, p. 627) and “one of the basic tenets of our national communications policy” (Federal Communications Commission, 2003). Allusions to it appear in 126 Supreme Court opinions (Hopkins, 1996) and in 87 policy documents of the Federal Communications Commission (Napoli, 1999). It has also been used as a central justification in the promotion of press freedom abroad (Islam, 2002).

However, many have questioned whether press competition is so obviously beneficial. Increased market pressure is sometimes associated with cutbacks in reporting and editorial quality (Zaller, 1999). Firms such as the BBC that are insulated from traditional product market competition are sometimes viewed as especially informative (Prat and Stromberg, 2005). Falsehoods can persist for long periods despite high levels of press competition (Schauer, 1986), and consumers may be unable to distinguish accurate and inaccurate reporting (Ingber, 1984). In the view of one legal scholar: “The assumptions on which the classic marketplace of ideas theory rests are almost universally rejected” (Baker, 1978).

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In this essay, we will evaluate the case for competition in news markets from the perspective of economics. We begin by considering the simple proposition that when more points of view are heard and defended, beliefs will converge to the truth. This concept of “competition” is several steps removed from market competition among actual media firms, but it has played a prominent role in the legal arguments for a free press, and it provides a useful point of departure.

We then explore three mechanisms by which increasing competition, or more precisely increasing the number of independently-owned firms, can limit bias or distortions that originate on the supply side of the media market. First, when governments attempt to manipulate news, competition can increase the likelihood that the media remain independent. Second, when news providers have an interest in manipulating consumers’ beliefs, diversity in such incentives can reduce the risk of information being suppressed or distorted. Finally, competition may drive firms to invest in providing timely and accurate coverage. Overall, we argue that there are robust reasons to expect competition to be effective in disciplining supply-side bias.

Next, we ask how the effect of competition changes when distortions originate on the demand side of the market. Because competition will generally strengthen firms’ incentives to give consumers what they want, its effects are more ambiguous when consumers themselves demand biased or less socially relevant news. We find that increased competition may or may not improve welfare in these cases, though we caution against using this as a justification for concentrating media power in the hands of state-controlled or regulated firms.

In the final section of the paper, we assess the policy implications of our results. We argue that the relevant definition of competition for assessing the performance of media markets differs from the traditional economic definition in important ways, and that the gains from government intervention to promote competition in the United States are probably limited.

A Starting Point: When do Beliefs Converge toward the Truth?

Let [Truth] and Falsehood grapple; who ever knew Truth put to the worse, in a free and open encounter?

— John Milton, (1644 [2006]), *The Areopagitica*

The liberal case for freedom of the press is usually traced to a 1644 speech by John Milton in opposition to English licensing laws. Much subsequent writing in support of free expression has interpreted competition in the “marketplace of ideas” as an extension of the same analogy: conflicting points of view from various news outlets will meet in a kind of metaphorical debate. When the evidence from each is placed side by side, consumers will be able to distinguish the point of view that is true.

Statistical theory gives us one way to understand this claim. If a true and a false statement are both made and a large number of pieces of evidence are presented,

a rational listener will come to believe the true statement and reject the false statement, provided the evidence is informative about the question at stake, and the different pieces of evidence are statistically independent (Savage, 1954, p. 46).

This result suggests a theoretical justification for a free press. Suppose that each potential entrant in a news market is endowed with a separate piece of evidence. Then beliefs will clearly be closest to the truth when the number of competitors is large and when the available evidence is clear and verifiable. Moreover, for any given number of firms, the independence condition suggests that they should be as diverse as possible. This condition says that each new piece of evidence must be based on new information, not simply a different transformation of what was already known; those who are most similar geographically, culturally, or ideologically are likely to also have access to more similar information and thus have less to add. Diverse sources may also be less likely to make the same errors, another reason their information would better approximate statistical independence.

The idea that the aggregation of the information from diverse sources will be more informative than the information possessed by any one is indeed a powerful argument for open information markets (Hayek, 1945; Surowiecki, 2004). However, there is no compelling reason to equate the number of independent sources with the number of *firms*. Adding competitors will have little value if they all have access to the same sources or reprint the same wire stories. Conversely, a single monopolist could itself sample the diverse sources and provide consumers with a convenient summary of the truth gleaned. Indeed, the job of reporters and editors is to do precisely that.

If there is an economic case for competition in news markets, it must go beyond statistical arguments. It must rest on the way the interaction between competing firms affects their incentives to collect, verify, and report information. There are many reasons why a monopoly firm might not provide a socially efficient summary of the available evidence. In the sections that follow, we explore these incentives and the way they may be mitigated by competition.

Competition and Supply-Driven Bias

Independence

The press was protected so that it could bare the secrets of government and inform the people. Only a free and unrestrained press can effectively expose deception in government.

— Hugo Black, *New York Times Co. v. United States* (403 U.S. 713 [1971])

In mid April, 2004, CBS News received a dossier of photos and videos graphically detailing detainee abuse by American soldiers in Iraq's Abu Ghraib prison. This was both an enormously valuable scoop for CBS and a revelation with potentially devastating political and military implications. Aware that CBS had this information, the chairman of the Joint Chiefs of Staff personally called CBS anchor

Dan Rather to ask him to suppress the photos and videos, at least temporarily. He gave a variety of reasons, including the effect the information would have on the safety of American hostages. Rather agreed and the planned broadcast was postponed (Bauder, 2004).

A somewhat similar sequence of events had taken place several decades earlier when the *New York Times* began printing excerpts from an internal government history of the Vietnam War commonly known as the “Pentagon Papers.”¹ The Nixon administration viewed these papers as potentially damaging to national security. The day after the first story appeared, the Justice Department sent a telegram instructing the *Times* to cease publication and, through separate communication, threatened legal action. When the *Times* continued publishing the papers, the government went to court and obtained an injunction to halt their publication.

The oldest and most frequently discussed objection to handing control of the media to a small number of firms is that those firms will be captured by the government. Even in countries where the press is protected by strong constitutional guarantees of independence, the state has many levers by which to influence it. In the case of CBS, a phone call was sufficient to delay broadcast of the Abu Ghraib photographs. To suppress the Pentagon Papers, the Nixon administration used legal action premised on its special powers in the domain of national security. Governments can also dispense with legality and explicitly bribe the media, as McMillan and Zoido (2004) document for the case of Peru.

The government’s ability to control future access to information and regulate industries provides additional levers. In 1970, after two years of critical coverage by the *Washington Post*, President Nixon issued a remarkably explicit memo (quoted in Graham, 1997, p. 478): “No one on the White House staff is to see anybody from the *Washington Post* or return any calls to them. . . . Just treat the *Post* absolutely coldly. . . . I want a policy in which the *Washington Star*, the *Washington Daily News* . . . and others who may be competitive with the *New York Times* and *Washington Post* continue to receive special treatment.” Two years later, after the *Post*’s first stories on the Watergate affair had appeared, Nixon told two of his aides, “The *Post* is going to have damnable, damnable problems out of this one. They have a television station. . . . and they’re going to have to get it renewed.” Of more than 30 Florida television stations up for renewal in the following cycle, the two owned by the *Washington Post* were the only ones whose renewal was challenged, although there is no direct evidence that these challenges originated with Nixon (Graham, 1997, p. 464).

How can competition prevent government capture of the media? For one thing, it increases the range of incentives that exists in the market. Suppose that the government threatens to stop returning calls from any firm that prints a particular damaging story. Suppose that both the cost of this lost access and the benefit from printing the story are independently distributed across firms. (The costs might

¹ Our discussion of the Pentagon Papers case is drawn from Bezanson (2003), Graham (1997), and Tiffet and Jones (1999).

differ because different firms have different levels of initial access; the benefits might differ because of variation in the tastes of consumers or the premium owners put on public service.) Suppose, finally, that if at least one firm reports the story it will be widely rebroadcast and all consumers will learn about it. In this case, the more firms there are in the market, the more likely that at least one of them will have a benefit to printing that exceeds the cost of government retaliation and the story will be exposed.

A more subtle effect of competition on government capture is analyzed by Besley and Prat (2006). A simplified version of their model is as follows: N firms each possess the same potentially damaging story. Consumers value the story, and their business will produce revenue R to be evenly split among all firms that print the story (we can think of R as either circulation revenue or advertising revenue generated by a larger audience). The government can make a “take it or leave it” offer to each firm in exchange for its suppressing the story, after which the firms decide simultaneously whether to accept or not. If at least one firm prints the story, all consumers will learn about it.

Consider a possible equilibrium in which the government successfully suppresses the story by paying each firm a bribe B . Each firm could potentially deviate and print the story. Because that firm would then be the only one printing the story, it would get the entire revenue R . We must therefore have $B \geq R$. If the government gets value V from successful suppression, each bribe B must be no greater than V/N , and so equilibrium suppression requires $V/N \geq R$. The greater the number of firms N in the market the less likely the story is to be suppressed. Thus, competition reduces the likelihood of capture.

Intuitively, there are two forces at work. First, once one firm prints the story, the value to the government of preventing any other firm from printing it drops to zero. This prevents equilibria in which the government successfully bribes some firms and not others. Second, the more firms have accepted the bribe and suppressed the story, the greater is the value to any given paper of refusing and printing. In an equilibrium in which the story has been completely suppressed, each firm must have passed up the option to print it and become a monopolist.²

Note that competition in this case does not increase the diversity of incentives in the market. Instead, all firms have the same stake in revealing the truth because it increases their revenue. The key is that the *strategic* interaction among the firms means that each firm can defect from an equilibrium where the bribes are accepted and capture the entire monopoly rent R . A third party who wishes to suppress information thus faces a problem of coordinating the action of the firms that is

² Note that the results of this model can change somewhat if the government threatens to punish news outlets that print the story rather than pay a bribe to those that do not. Under some assumptions, if a punishment is severe enough to deter printing, it will never actually be carried out in equilibrium. This means that the government could in principle deter an arbitrarily large number of firms even if carrying out punishments is costly. Also, if punishing one firm requires the cooperation of other firms (for example, if the government threatens to punish a firm by giving all valuable news to its competitors), a small number of firms might be better able to cooperate in resisting the government’s threat.

exactly analogous to the problem firms themselves would face in trying to maintain a cartel. Increasing the number of firms makes it more difficult to suppress information for the same reason that it makes it more likely that tacit collusion will break down.

In the end, competition played a pivotal role in the resolution of the Pentagon Papers case. The *New York Times* had originally obtained the documents from Daniel Ellsberg, an MIT researcher best known to economists for demonstrating a famous violation of expected utility theory (Ellsberg, 1961). When Ellsberg learned of the injunction against the *Times*, he contacted the three major television networks and offered them the documents. All three refused to make them public, presumably fearing similar legal action. Ellsberg then offered the documents to the *Washington Post*, which agreed to publish them. Thus, no sooner had the administration succeeded in silencing the *Times*, than the *Post* picked up printing where it had left off. Eventually, the government pursued legal action against both papers, which ended with the Supreme Court's decision in *New York Times Co. v. United States* (403 U.S. 713 [1971]) and the quotation from Hugo Black at the start of this section, upholding the papers' right to publish.

Both of the two key intuitions from the Besley and Prat (2006) model are readily apparent in these events. First, as soon as some piece of information was published by at least one paper, the government's incentives to suppress further publication were dramatically weakened. This was made clear during oral arguments for *New York Times Co. v. United States* in the following exchange between one of the Supreme Court justices and the government counsel (as quoted in Bezanson, 2003, p. 24):

Question: To the extent anything has been published and has already been revealed, the United States is not seeking an injunction against further publication of that particular item?

Solicitor General: No, Mr. Justice. I think at that point we would agree that it becomes futile. It is useless.

Second, the fact that the *Times* had been barred from publishing increased the *Post's* returns to printing the story. As long as the *Times* could publish, the *Post* was reduced to "[rewriting] stories that appeared in the *Times*, crediting the competition with their original publication" (Graham, 1997, p. 445). Once the *Times* was muzzled, the *Post* had both an exclusive story and a chance to be seen as a solitary defender of press freedom. Publisher Katharine Graham (1997, p. 458) called the story "the graduation of the *Post* into the highest ranks." She recalled: "One of our unspoken goals was to get the world to refer to the *Post* and the *New York Times* in the same breath . . . After the Pentagon Papers, they did."

That CBS's *60 Minutes* finally broadcast the photos and videos from Abu Ghraib on April 28, 2004, is also due in large part to competitive forces. Three full weeks after CBS first obtained the information, they learned that investigative

reporter Seymour Hersh had also obtained copies of some of the photos and that they would be published in an upcoming issue of the *New Yorker*. Although we do not have detailed documentation on the decision-making process within CBS, Dan Rather made clear to viewers that competition was instrumental in causing the broadcast to go forward (*60 Minutes II*, 2004): “Two weeks ago, we received an appeal from the Defense Department . . . to delay this broadcast given the danger and tension on the ground in Iraq. We decided to honor that request. . . . This week, with the photos beginning to circulate elsewhere and with other journalists about to publish their versions of the story, the Defense Department agreed to cooperate in our report.”

Diversity

So long as popular truth is one-sided, it is more desirable than otherwise that unpopular truth should have one-sided assertors too; such being usually the most energetic, and the most likely to compel reluctant attention to the fragment of wisdom which they proclaim as if it were the whole.

— John Stuart Mill, (1859 [2006]), *On Liberty*

Even if governments do not attempt to manipulate the media, firms themselves may have incentives other than accurately reporting the truth. Prior to the early twentieth century, the vast majority of newspapers in the United States had explicit affiliations with political parties (Hamilton, 2004). Today, perceived bias is among the top three reasons consumers cite when asked why newspaper readership is not higher (Innovation Media Consulting, 2007), and leading outlets such as the *New York Times*, CBS News, and Fox News are frequently accused of pursuing ideological agendas (Alterman, 2003; Coulter, 2003; Goldberg, 2003).

When such bias is important, many have argued in the spirit of the John Stuart Mill quotation above that more truth will be obtained if there are vested interests on all sides of the issue (Dewatripont and Tirole, 1999). An obvious analogy is with the advocacy structure of the U.S. judicial system, where opposing lawyers each present a single side of a case and neither is expected to be “unbiased.” This argument has been a central justification for media policy in the United States. According to the Supreme Court, “[The First] Amendment rests on the assumption that the . . . dissemination of information from *diverse and antagonistic* sources is essential to the welfare of the public” (*Associated Press v. United States*, 326 U.S. 1 [1945], emphasis added).

The Crédit Mobilier scandal of 1879 provides a vivid illustration of the way partisanship affects the revelation of truth (Gentzkow, Glaeser, and Goldin, 2006). The scandal concerned the payment of bribes to mainly Republican congressmen in exchange for favorable votes. The paper that initially broke the story, the nominally independent *New York Sun*, began it with a series of dramatic headlines: “The King of Frauds; Colossal Bribery; Congressmen Who Have Robbed the People.” The coverage of Democratic papers in the following days was similar. In

sharp contrast, the Republican *Philadelphia Evening Bulletin* began its first story: "Political Slanders; How Leading Republicans are Vilified; The Whole Thing Proven to be False." The Republican *Albany Evening Journal* called the accusation of bribery a "lie" and a "libel invented by knaves but . . . retailed by fools," and noted that it was first reported by "a New York paper known everywhere as a conduit for slander and an organ of black mail." Democratic and independent papers devoted significantly more space to the scandal and reported more of the key facts than Republican papers. The result was that in the early weeks of the scandal, a reader of a Republican paper was much less likely to learn the important facts than a reader of a Democratic paper.

How can competition mitigate the effects of news firms' incentives to persuade? For one thing, the fact that Republican and Democratic papers covered the scandal so differently meant that a reader who picked up both was in a good position to learn the truth. Readership of multiple newspapers at the time of *Crédit Mobilier* was common, so it is not a stretch to believe that many consumers in large cities were able to piece together facts from both sides.

Milgrom and Roberts (1986) show in the context of a "persuasion game" that, so long as there is at least one information provider in every state of nature that would prefer for consumers to have accurate beliefs, the truth will always be revealed to a consumer with access to reports from all providers. If Democratic providers always have an incentive to report Republican scandals and Republican providers always have an incentive to report Democratic scandals, all scandals will be exposed. Mullainathan and Shleifer (2005) make a similar point in an explicit model of news markets, showing that a consumer who combines information from different sources can form accurate beliefs even if the underlying sources are biased. (Note, however, that these results are not perfectly general. They show that beliefs will become accurate as the number of competitors grows large, not that having $N + 1$ competitors is always better than having N . Also, the effect of competition on the beliefs of a consumer who only reads one source can be very different—a point we return to below.)

What is perhaps more interesting is that the availability of information from the Democratic papers in the *Crédit Mobilier* case may eventually have made the suppression of information by the Republican papers untenable. As Gentzkow, Glaeser, and Goldin (2006) document, Republican papers eventually reported just as many of the key facts as the Democratic ones and acknowledged the severity of the bribery. Republican newspaper editors presumably knew that if they continued to pretend that there was no evidence to support the charges, some fraction of their readers would eventually learn this was untrue, potentially damaging their papers' credibility. The result was that even consumers who only read Republican papers eventually learned the truth.

If a firm knows that some consumers will learn the truth from its competitors, the costs of pursuing an ideological agenda by suppressing or distorting information are increased, because it becomes more likely that such actions will be exposed. Firms that compete head-to-head in markets are especially likely to try to

expose such information, since they benefit directly from undermining their competitor's reputation. Of course, this mechanism will only operate if firms value a reputation for reporting the truth. We discuss this condition in more detail below.

Investment

We have . . . repeatedly emphasized that competition is the wellspring of greater innovation and improvements in the quality of service.

— Federal Communications Commission (2003)

The incentive to beat competitors to a story has driven investments in news gathering since newspapers' earliest days. In efforts to get news before their competitors, papers invested in horse relays, carrier pigeons, balloons, trains, and high-speed schooners to meet ships offshore, among other technologies (Stephens, 1988). Papers were reported to have hijacked competitors' trains (Stephens, 1988), bribed postal riders to outrace competitors' horses (Woods and Bishop, 1983), and shot down competitors' pigeons (Jones, 1947).

Why does competition lead news firms to invest so much in getting stories first? The obvious explanation is that on a day where they have a big story and their competitors do not, they will have more demand. This is surely true to some degree—no doubt the sales of *Time* and *Newsweek* do fluctuate according to who has the best cover story. But this kind of payoff has limits. As emphasized above, information reported in one outlet quickly spills over to others. Because a paper cannot copyright the facts in an important exclusive, it earns no revenue from the large number of consumers who read about it elsewhere. The returns to a scoop are thus bounded by consumers' willingness to pay to learn about it today rather than in the next news cycle. This willingness to pay may be more than zero (a new Harry Potter novel sold on eBay for \$250 three days before it went on sale to the public for \$18, reported Collier (2007)), but it must be much less than the willingness to pay to learn about the story at all. We might expect that the rapid spillover of information would lead to a severe free-rider problem where no firms would invest in gathering information.

Reputation provides one way to understand why firms continue to invest in getting scoops and why competition can strengthen this incentive.³ A fundamental feature of information goods is that by definition their content cannot be known until they are consumed. Information is the quintessential experience good. News firms may choose to give away a few bits of information in advance—front page headlines, television teasers before news programs, and newsboys shouting “Extra! Extra!” on street corners may provide a few hints as to the day's events—but the only way to learn the rest is to watch or read. This means that consumers' *expectations* about the timeliness, comprehensiveness, and accuracy of news cover-

³ Sobel's (1985) model of credibility provides a clear exposition of reputational incentives in an informational game closely related to news markets (though it does not deal with competition).

age (not to mention its entertainment value) are the key drivers of sales. Competition allows consumers to judge quality more accurately because they can benchmark one firm's reporting against the other. It can therefore strengthen firms' incentives to invest in high-quality reports.

To make this concrete, consider a simple model of reputation in the spirit of Kreps and Wilson (1982). Suppose that news stories arrive stochastically, so on a given day there may or may not be a story to print. News firms come in two varieties: high types that always uncover the story (if there is one), and low types that can choose to uncover the story but must pay some cost. Consumers do not know whether a firm is a high type or a low type, but will try to infer this from the way the firm reports. A firm will earn more revenue (from either circulation or advertising) if consumers believe it is a high type, so a low-type firm will try to build a reputation for being a high type. We ask when this reputational incentive could be enough to cause low-type firms to pay the cost of investing in stories.

Suppose, first, that the market is a monopoly. In the case that the firm is a low type, could it be an equilibrium for the firm to invest? In such an equilibrium, the reporting behavior of the firm will be the same regardless of its type. Since consumers will recognize this, their beliefs about the firm's type will not change, whether or not the firm prints a story. But then the decision by a low-type firm to invest in reporting would not be optimal. A low-type firm would prefer to deviate from the equilibrium and not invest, since this would save the cost of uncovering the story and have no effect on the firm's reputation. There can thus be no equilibrium in which low-type firms invest in reporting.

The situation is very different if the firm faces a competitor. For illustration, suppose the competitor is known to be a high type that reports anytime there is a story. Reconsider the proposed equilibrium in which the low type invests. If a story is available, both the firm and its competitor will print. If there is no story, neither will print. In either case the consumer learns nothing about the firm's quality. If the low type *deviates*, however, and does not invest, consumers *will* be able to detect this because they will see that it has no story while its competitor does. If, as seems reasonable, the consumer interprets such a deviation as evidence that the firm is a low type, the low-type firm has an incentive to invest. If the reporting cost is not too large, investment is an equilibrium.

Similar reputational incentives can make sense of the sharp discontinuity between being the first or second to report a story. Suppose two firms both report a story, but one reports a day before the other. Because information once printed can be freely replicated at zero cost, the reputational gain will all go to the firm that reported first. Even if the second firm dug up the story independently rather than simply copying it, it will have no clear way to demonstrate this. As in academic races to publication, competition can significantly increase investment in equilibrium.

This model is highly stylized and would need to be extended in several ways to provide a realistic description of news markets. For one thing, if the reputation firms build is only about getting stories quickly, its value would still be limited in a world of rapid information spillovers. What seems more likely is that the assets that

allow firms to be the first to an important story—highly-skilled reporters and editors, access to a wide network of sources—predict other desirable characteristics such as accuracy, comprehensiveness, and quality of analysis. Thus, having important exclusives serves as a strong signal of quality more generally. Moreover, the same reputational mechanisms can provide direct incentives to invest in other dimensions of quality. A monopoly firm that reports inaccurately or omits important facts may suffer little loss in reputation, because consumers do not observe the underlying information from which the report was produced. But the observation that a firm's report is convincingly contradicted by a competitor conveys a great deal of information.

This link between competition and quality is closely related to the literature on relative incentives in principal–agent and regulatory problems (Lazear and Rosen, 1981; Green and Stokey, 1981; Holmstrom, 1982; Nalebuff and Stiglitz, 1983; Shleifer, 1985). These papers consider cases where a principal provides incentives to multiple agents to make nonverifiable investments, such as exerting effort or monitoring quality. The observable output of each agent depends on both the agent's investment and a random shock that is common across agents. Because the noise is common, the relative output of an agent may be a more precise signal of investment than the absolute output, allowing the principal to extract more investment through relative incentives than absolute incentives. News markets satisfy the key conditions that make such relative incentives desirable: 1) investment is hard to observe; 2) the variation in output (the day's news) unrelated to investment is large; and 3) most of this variation is common across firms.

The general question of how competition affects investment, quality, and innovation is one of economics' oldest and most studied. A long line of literature running from Adam Smith through Schumpeter (1942) and Arrow (1962) to the modern literature on competition and innovation (for example, Aghion and Griffith, 2005) has shown that the effects of competition on the quality of products firms produce is complex and defies easy answers. Monopolists may make fewer investments in product quality because they lack competitive discipline, or they may invest more because they stand to capture greater rents from innovation. These lessons apply as much to investments by media firms in the accuracy of their reporting as they do to investment by concrete plants, and the ultimate effect of product market competition on truth is similarly ambiguous.

What we have been describing, however, is an effect of competition in the *information market* that is independent of the tendency of competition to depress rents. The difference can be seen most clearly if one considers two papers such as the *Boston Globe* and the *Los Angeles Times* that do not (to a first approximation) compete for readers but do compete for stories. Consumers of one are likely to know about stories reported by the other, if only because borrowed stories are explicitly credited to the paper that originated them. In this case, the only effect of a competitor is to give consumers a better signal of the potential stories available. Thus, independent of product market competition, intensifying information-market competition will tend to increase firms' incentives to invest in quality news.

Competition and Demand-Driven Bias

It is so difficult to draw a clear line of separation between the abuse and the wholesome use of the press, that as yet we have found it better to trust the public judgment, rather than the magistrate, with the discrimination between truth and falsehood. And hitherto the public judgment has performed that office with wonderful correctness.

— Thomas Jefferson (1803 [2007])

The mechanisms discussed in the last three sections relate to situations where distortion in news content originates on the supply side of the market. Broadly speaking, competition is effective in reducing these distortions because competition makes it more costly for firms to deviate from the kind of content that consumers want. Competition produces truth because we assume that consumers value truth more than falsehood or suppression. This argument suggests that the benefits of competition will be less clear when distortions in news markets are driven by the demands of consumers themselves.

Slanting toward Consumers' Priors

The first important category of demand-driven bias comes from the apparent preference of consumers for news sources that confirm their prior beliefs. This preference has been extensively documented in psychology (for example, Lord, Ross, and Lepper, 1979; Nisbett and Ross, 1980) and is confirmed by econometric evidence from news markets (Gentzkow and Shapiro, 2006b, 2007). In Mullainathan and Shleifer (2005) and one of our papers (Gentzkow and Shapiro, 2006a), models are developed in which firms distort information to cater to this taste, and the accuracy of consumers' beliefs is reduced as a result.

How does competition affect the revelation of truth when this kind of distortion is present? The answer depends critically on *why* consumers prefer like-minded information sources. Suppose a left-wing news outlet chooses not to report an important fact—say evidence of corruption by a Democratic politician—because this fact would conflict with the prior beliefs of its target readers. Suppose that a competing news outlet reports the evidence and points out that its competitor had suppressed it. How will learning this change the left-leaning consumers' willingness to pay for the first outlet?

At one extreme, suppose that consumers consciously trade off accuracy of a news source against a preference for information that is likely to confirm their beliefs. They want to learn the truth, but will choose a less accurate source or one that avoids reporting certain kinds of facts in order to avoid having their personal beliefs challenged. This approach is a literal rendering of the model of Mullainathan and Shleifer (2005) and is consistent with the way confirmatory preferences are modeled in Yariv (2002). In this case, consumers who watch the left-wing news station do so *because* it will avoid reporting facts like the corruption of a Democratic politician. That a competitor highlights this will not change their willingness to pay, and the firm's profits should not suffer as a result.

This description probably captures some kinds of distortions, especially to the extent that the taste for confirmatory information is partly about a desire to be entertained. Readers of liberal magazines may enjoy the fact that they present many negative stories about Republicans and few negative stories about Democrats. An exposé by a competitor about the magazine's unbalanced reporting may not harm its reputation. If Rush Limbaugh devotes a great deal of time to skewering Democrats but ignores misdeeds by Republicans, he may not be punished. Nobody really expects a balanced perspective from a late-night comedian like David Letterman or Jon Stewart. That this kind of "slant" is designed partly for entertainment by no means suggests that it cannot cause real distortions in consumers' beliefs.

Competition will be relatively ineffective in disciplining this kind of bias. Of course, having more sources of information available may lead consumers' beliefs to be somewhat closer to the truth if consumers are exposed to them. If Rush Limbaugh was the *only* source of information, right-wing viewers would probably have much more distorted beliefs than if they also watched CNN from time to time.⁴ But competition from CNN would be unlikely to lead Rush Limbaugh to moderate his own content.

Moreover, as Mullainathan and Shleifer (2005) demonstrate, adding competitors in this kind of world can sometimes exacerbate bias because it allows consumers to self-segregate more effectively and to avoid hearing information that might contradict their priors. The case for advocacy in a courtroom would break down completely if half the jury was only allowed to hear from the defense and half the jury could only hear from the prosecution. Sunstein (2006) argues that these problems have become especially important in the advent of the Internet. The availability of customized news can in principle create an "echo chamber" phenomenon where each consumer hears only the precise set of news reports that will confirm that consumer's prior beliefs, and learning ceases entirely.

At the other extreme, suppose that consumers choose like-minded sources because they sincerely believe that they are more accurate. A large body of evidence in psychology shows that subjects tend to remember evidence better, and rate its quality more highly, when it supports their prior beliefs. With respect to direct ratings of news sources, both U.S. consumers (Gentzkow and Shapiro, 2006a) and consumers in Islamic countries (Gentzkow and Shapiro, 2007) rate the quality of news outlets whose slant matches their own views to be higher on a number of dimensions. This outcome could occur because of information-processing heuristics, coarse thinking, or a subconscious process of justification.

Moreover, as we point out in Gentzkow and Shapiro (2006a), even fully rational consumers will tend to infer that like-minded sources are more accurate. If a consumer strongly believes that Elvis Presley is dead, seeing a tabloid newspaper report otherwise will lead that consumer to infer rationally either that the paper has

⁴ This is closely related to the benefits of diversity discussed above, and modeled by Milgrom and Roberts (1986).

poor information, that it executes poor analysis, or that it has motives other than accuracy. For the same reason, someone who believes that U.S. troops do not routinely target civilians in Iraq, or that Democratic politicians are not corrupt, will question the quality of a source that reports otherwise.

To the extent that confirmatory preferences are driven by a desire for accuracy, competition will be effective in disciplining bias. A monopoly firm will prefer to distort information or suppress important facts to convince consumers that it is high quality. In the presence of competitors, however, firms run the risk that such inaccuracies will be exposed and that consumers' assessments of their quality will fall as a result. In Gentzkow and Shapiro (2006a), we demonstrate this effect in a model with rational consumers. Furthermore, the same forces will operate whether or not it is rational to infer that a like-minded source is high quality.

Numerous examples show that news firms pay a high price when they are shown clearly to have distorted information. For example, the exposure of fraudulent reporting by the reporter Jayson Blair at the *New York Times* caused a major scandal that led top editors Howell Raines and Gerald M. Boyd to resign. According to one prominent executive: "They, of course, had to resign . . . Any company has to sell the credibility of its product, but a media company has nothing else to sell" (Kirkpatrick and Fabrikant, 2003). Similarly, when a CBS News report on George W. Bush's National Guard service was shown to be based on fraudulent documents, the segment producer, Senior Vice President of CBS News, and Executive Producer were all fired or asked to resign. Anchor Dan Rather resigned several months after the broadcast. CBS President Andrew Heyward (2004) issued an apology stating: "[N]othing is more important to [CBS] than our credibility."

A more precise understanding of the way competition affects firms' incentives to slant the news will require knowing more about what drives confirmatory preferences in specific situations. Anecdotal evidence strongly suggests that competition will be effective in preventing firms from catering to consumers through outright distortions or omission of major facts. It is less clear how competition will operate in cases where distortions takes the form of subtle "spin," are harder to expose definitively, or are intended mainly to entertain. Finally, the gains to increased market discipline must be compared to the potential costs of consumer self-segregation. Convincing empirical analysis of these different forces remains an important subject for future research.

Hard News vs. Soft News

The other possible source of demand-driven distortion is that consumers value politically relevant information less than a social planner would. As Downs (1957), Coase (1974), Posner (1986), and others have pointed out, when it comes to the kind of information that the First Amendment is most concerned with, there may be large social gains that consumers do not internalize. Consumers will prefer to free-ride and let others invest in casting informed votes. A first-best outcome might require encouraging consumption of news over entertainment, and politically relevant "hard news" over "soft news" about car chases and celebrity scandals.

This argument suggests an important reason why a policymaker might prefer to have less competition in media markets. Competition will tend to give firms incentives to produce the products that consumers want. A publicly owned firm charged with upholding the social good or a private firm with publicly spirited owners might therefore produce more socially desirable hard news than a competitive firm.⁵ Various authors have presented evidence consistent with this claim. Hamilton (2004) argues that the quantity of political news on U.S. network television news has fallen since the early 1980s as regulatory controls were loosened and competition from cable intensified. Zaller (1999) reports a number of comparisons that suggest less “quality” news (defined as news which is “primarily designed to provide information” rather than entertainment) in more competitive markets: publicly-controlled British television news is higher quality than privately controlled American news; monopoly newspapers are higher quality than television; and local news quality is lowest in the most competitive markets. Many communications scholars and political scientists who have written on this issue seem to agree that catering to consumer tastes for soft news has reduced the value of news from a welfare perspective.

This potentially powerful counterargument must be balanced against the traditional case for competitive news markets. Benefits like increasing the diversity of owner incentives or preserving press independence must be weighed against the possible cost of underproviding socially valuable information. We agree that these costs are real. We would argue, however, that the case for limiting competition on these grounds is less persuasive than it might appear.

First, increasing the supply of politically relevant programming is worth little if few consumers watch it or if the information is not absorbed by those who do. The Jim Lehrer *NewsHour* on public television in the United States is often cited as an example of high-quality journalism, but it attracts relatively few viewers compared to the network newscasts, Fox News, or CNN. Furthermore, it would be hard to argue that even the more popular networks supply too little political programming. The website of Fox News reported roughly 15,000 stories about the leading U.S. presidential candidates in the second half of 2007, more than a year before the election. Adding more such stories, or increasing the supply of programs like the *NewsHour*, would probably have little effect on the news actually consumed.

A regulator who wanted to increase consumption of socially desirable news would also need to *limit* consumers’ supply of more entertaining choices. This prospect is much more challenging. It requires either nationalizing a large share of the media, or enforcing content regulations that apply to all major outlets. Even if such a policy were possible, its effects will be muted by the fact that many consumers are not on the margin between watching hard news or soft news but between watching some news or no news at all. A regulation that successfully increased the

⁵ Besley and Ghatak (2007) analyze the relative advantages of privately owned and state-owned firms in providing public goods.

share of public affairs programming across all news outlets could in principle lead the average consumer to watch less news and thus become *less* informed.

Moreover, a policy that did cause consumers to watch more informative news would still be of limited value if the additional information is not understood or is quickly forgotten. For any given set of facts, a competitive media will have strong incentives to package them in a way that is clear, entertaining, and memorable, much as a well-incentivized teacher will make dry or difficult material vivid to students. State-sponsored media that delivered dry technical reports on economic policy might not improve citizens' knowledge or decision making, even if it increased the amount of information to which they were exposed.

Second, while increasing the coverage of certain news stories surely could improve welfare, it is not always easy to define which stories these are. Are stories about wars in Africa more or less relevant to U.S. voters than stories about local crime? Should we subsidize a report on the latest budget numbers more or less than coverage of a natural disaster? The Monica Lewinsky scandal—often cited as a prototypical example of low-value “soft news” (Zaller, 1999)—led directly to a presidential impeachment. Even if a consensus later develops on what news would have been desirable to present, providing the right incentives in real time for producers of a complex, multi-dimensional product is notoriously difficult (Holstrom and Milgrom, 1991; Hart, Shleifer, and Vishny, 1997).

Third, the empirical evidence does not suggest that highly-regulated or state-run media improve political outcomes as a general rule (the possible counterexample of the BBC notwithstanding). Djankov, McLiesh, Nenova, and Shleifer (2003) show that in a large sample of countries, state-controlled media are associated with less democratic government, lower levels of press freedom, and worse health outcomes. Although these findings are correlations and not causal parameters, the authors conclude that the evidence supports a model where governments usually own media outlets to enrich or empower themselves, rather than to cure market failures. Even within Western democracies, state involvement often does not improve outcomes. Prat and Stromberg (2005) provide evidence that the introduction of private television in Sweden increased political information and political participation relative to a public television monopoly. Hazlett and Sosa (1998) argue that the Fairness Doctrine—an FCC regulation designed to guarantee that U.S. broadcast media represented a broad spectrum of political viewpoints—actually caused a sharp reduction in political discussion on radio.⁶

Finally, even if limiting media competition were to lead to a better-informed citizenry most of the time, the costs when it does not can be severe. The fundamental problem is the unavoidable interest of the state in manipulating the news, which we discussed in the section on independence above. The U.S. government

⁶ The Fairness Doctrine regulation required a broadcaster who gave time to one point of view to make equal time available to all alternatives. Airing a controversial political program thus opened a broadcaster up to costly demands for time from anyone who could claim to have a different view on the issue, and many broadcasters preferred to avoid such programs altogether.

has little interest in controlling most news on most days. Where it has attempted to intervene, however—the Alien and Sedition Acts of 1798, World Wars I and II, the Pentagon Papers and Watergate, the Abu Ghraib photos—have been times when the importance of information to democratic decision making was at its highest. Government-controlled news outlets in China produce a great deal of political programming and their citizens are probably well informed about many important issues as a result, but these outlets’ information is least accurate when the political stakes are greatest. Buying a healthier diet of political news overall in exchange for less protection by the press in times of crisis may not be an appealing bargain.

Implications for Media Regulation

Traditionally, the arguments in favor of news-market competition discussed above have been used as a justification for *laissez-faire*. In the writings of Milton, Mill, Jefferson, Madison, and others, the “marketplace of ideas” was deployed in opposition to government restraints on the press. Many of the landmark Supreme Court cases that have fleshed out First Amendment doctrine concern limits on government intervention.

Others have argued, however, that the consolidation of media ownership makes government intervention necessary to *guarantee* competition. In a famous decision later overturned by the U.S. Supreme Court, the Florida Supreme Court found: “The right of the public to know all sides of a controversy . . . is being jeopardized by the growing concentration of the ownership of the mass media into fewer and fewer hands, resulting ultimately in a form of private censorship” (*Miami Herald Publishing Company v. Tornillo*, Supreme Court of Florida, 287 So. 2d 78 [1973]).⁷ Blasi (1977), Ingber (1984), Bagdikian (2000), and others have elaborated on this argument, and it has been accepted as a central justification for broadcast regulation (Federal Communications Commission, 2003).

The heart of the debate is a question about whether the free market on its own will generate “enough” competition. The theory and evidence presented here cannot settle this empirical question. However, the discussion highlights one crucial point that is often overlooked: the relevant definition of competition for evaluating the performance of a news market is very different from the traditional economic definition.

The traditional definition focuses on competition in the *product market*. Two firms compete in this sense if their products are substitutes from the perspective of consumers. A change in the price of one affects the purchasing behavior of the other’s customers. This kind of competition is important because it limits firms’ ability to raise price above marginal cost.

⁷ The case was overturned by the U.S. Supreme Court in *Miami Herald Publishing Co. v. Tornillo* (418 U.S. 241 [1974]).

What is relevant to the mechanisms discussed above is competition in the *information market*. Two firms compete in this sense if 1) they cover the same events and 2) at least some consumers will learn the facts reported by both. A change in the set of facts one reports affects the information of the other's customers. This kind of competition limits firms' ability to control consumers' beliefs.

Firms need not be product-market competitors in order to be information-market competitors. When conservative blogs revealed that CBS had based a story on a forged memo, other media outlets that compete with CBS had a strong incentive to reveal this fact. Coincidentally or not, ABC was among the first major media outlets to mention the allegations of forgery (Wikipedia, "Killian Documents"). Many CBS viewers thus learned the substance of the blogs' reports, even though they were not blog readers themselves and blogs do not significantly compete with CBS in the product market. Moreover, once enough of one firm's consumers know about information reported by a second, the first firm may find it too costly to suppress the information any longer. CBS itself eventually broadcast a prime-time apology repudiating its National Guard report. Even a consumer who *only* watched CBS would have learned the facts initially reported by the blogs. We suggested above that similar incentives may explain why Republican papers eventually reported the truth about *Crédit Mobilier*.

The fact that important reports are quickly rebroadcast by a wide spectrum of media means that the set of relevant information-market competitors is often much broader than traditional market definitions would suggest. As mentioned briefly above, the *Boston Globe* and the *Los Angeles Times* are information-market competitors, even though few consumers see them as substitutes: they both cover national news, and a story first reported in the *Los Angeles Times* can reach Boston consumers either directly (via the *Times*' website) or indirectly (through reports on CNN or NBC or by word of mouth). Understanding the proper market definition provides one possible rationale for regulators' tendency, puzzling in light of traditional antitrust doctrine, to impose limits on joint ownership of media outlets in separate local markets.

Moreover, small firms that are insignificant as product-market competitors can play outsized roles in the information market. When it looked like the *New York Times* might decide not to publish the Pentagon Papers, the executive editor threatened to publish them himself in a tiny paper he owned called the *Vineyard Gazette* (Tiffet and Jones, 1999, p. 484); had he done so, the Papers would almost surely have been reprinted in much larger media and the story exposed. The list of local papers that have won Pulitzer Prizes for breaking major national or international news stories includes the *Minneapolis Tribune*, the *Des Moines Register and Tribune*, the *Chattanooga Times*, the *Philadelphia Inquirer*, the *Miami Herald*, and the *San Jose Mercury News*. Many recent news items were originally disseminated by nontraditional online outlets, including Senator George Allen's use of the racial epithet "Macaca" (Lizza, 2006), the firing of U.S. Attorneys by the Bush Justice Department (McDermott, 2007), and Monica Lewinsky's relationship with Bill Clinton (Stewart, 1999). None of this implies that having a large number of tiny

outlets would necessarily be better than a smaller number of more established ones. It does suggest, however, that traditional concentration measures such as the Herfindahl index that emphasize the relative *market shares* of firms are inappropriate as measures of information-market competition.

How, then, would we evaluate the state of media competition today? There is no question that markets exist in which media concentration is so great as to significantly curtail the dissemination of information. Totalitarian states such as North Korea, Iran, or China are the most obvious examples. Russia also currently ranks with this group. Where concentration is this extreme, it is almost always the result of too much rather than too little government intervention (Friedman and Friedman, 1980), and policies to restrain government interference in media markets (or to promote the availability of outside sources) are strongly desirable.

In the United States, the strongest case for government involvement to promote information-market competition is at the local level. It is often noted, for example, that few U.S. cities have competing newspapers and that local television and radio stations invest relatively little in news *gathering*. Several papers have shown that changes in the news coverage of a single local newspaper or television station can have large effects on consumer knowledge about local politics (Gentzkow, 2006a; Oberholzer-Gee and Waldfogel, 2006; Mondak, 1995), supporting the view that there are few good substitutes for the information these sources provide.

To get an additional data point on the degree of local-market competition, we contacted mayor's offices in 40 U.S. cities ranging from 70,000 to more than three million inhabitants to determine the number of independent news outlets that attend their press conferences. Among the smallest cities, there were typically four or five outlets (one or two newspapers, several television stations, and possibly a radio station) that attended regularly, while the number in larger cities was usually in the neighborhood of ten. This finding contradicts the view that local newspapers have a true monopoly in any cities of the sizes we study, but the level of concentration in the smallest cities is high enough to be a possible cause for concern. Further investigation into the effect of concentration at these levels is clearly warranted.

We are more skeptical about ownership regulation of U.S. media at the national level. Few individuals have ever had a greater combination of motivation and power to suppress media reporting than Richard Nixon, yet his efforts to prevent publication of the Pentagon Papers proved futile. Since that time, the advent of cable news and the Internet mean that the scrutiny of media reports and the speed with which errors are exposed is greater now than it has ever been. Moreover, direct evidence on the drivers of newspaper slant we present in Gentzkow and Shapiro (2006b) suggests that neither the identity of a paper's owner nor the party of incumbent politicians have any detectable impact on its content. None of this is to say that markets achieve the first best, that reporting will never be distorted, or that consumer inferences will be correct. But we think it unlikely that the existing level of concentration at the national level significantly limits the production of truth.

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