ATtribution, Acountability, and 
Institutional Design in Bureaucratic Politics

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Abstract

*Attribution, Accountability, and Institutional Design in Bureaucratic Politics* is a collection of three essays about news coverage of regulatory agencies. In a democracy, the news is a crucial source of information about public affairs for voters. The news enables accountability for elected officials such as the president and members of Congress. I ask how news coverage enables political accountability of powerful federal agencies, whose leaders are unelected and only accountable to the public only through the executive, legislative, and judicial branches. In particular, voters rely on the news to connect agency regulations and enforcements to the elected officials with formal responsibility for those agencies. If the news provides poor information, by blaming the wrong official, mischaracterizing the authorities of the president and Congress, or biasing the news to favor a particular ideology, accountability is undermined.

In Chapter II, I examine how agency institutional design moderates attributions of responsibility to the president. A lack of direct electoral checks on government bureaucrats challenges norms of democratic accountability. One proposed solution is to increase the president’s control over federal agencies. It is, however, an open question as to whether voters will attribute responsibility to the president even when in charge of agencies. A key empirical challenge has been that presidential control is not randomly assigned across agencies. To overcome this issue, I compare two agencies that enforce the same policy but differ in insulation from presidential control. I examine a large, original dataset of news coverage, showing that news coverage of the presidentially-controlled agency features more politicized content that ties the agency to the president. I then demonstrate that this political content increases attribution of control to the president. The results support theories that claim agency design moderates voter attribution of responsibility to the president.

In Chapter III, I investigate whether formal presidential authority over agencies moderates attributions of responsibility for agency scandals. Using a survey experiment that manipulates news coverage of a major agency scandal. I find that providing details about
formal presidential control in news coverage significantly increases attributions of responsibility to the president. I then explore broader questions of accountability by assessing mass media attention to agencies. I use an original dataset of over 150,000 newspaper articles and find considerable variation in total coverage and coverage that mentions the president along with the agency. Combined, the results suggest that media coverage of agency design affects how voters allocate blame for agency actions, and that political accountability is hindered by minimal media attention to a large number of agencies that wield significant regulatory powers.

Chapter IV looks at the political biases of news sources. I ask if the political biases of newspapers influence the coverage of government regulation. While scholars have found evidence that news outlets bias coverage toward their own editorial ideology, the manner in which regulatory coverage is biased remains unknown. Regulatory coverage is uniquely important to study, since regulation involves a mix of complex science and politics, providing a number of specific ways in which journalists can frame or slant coverage toward their own ideology. I collect an original dataset of thousands of newspaper articles about the Environmental Protection Agency published in the New York Times and the Wall Street Journal. I use machine-learning and text-mining methods to identify biases in negative sentiment and the choice of contextual frames. I find that the conservative-leaning Wall Street Journal is significantly more likely to use negative slant when writing about regulation, though the effect varies across presidential administrations. I also find that the Wall Street Journal is more likely to frame articles around the negative economic consequences of regulation. These results enhance understanding of public support and opposition regarding agency regulation, which is crucial given the vast importance of agency regulations on issues such as climate change and financial market stability.
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Kosuke Imai is a tough adviser, but any student should count their blessings to have him on his or her committee. His critical reading of manuscripts and tireless dedication to his students provide a true model for any young scholar. That he is a great researcher is
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To John “Johannes” Shirley Starck, MIA, North Korea, 1951
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Chapter 1

Introduction

In a democracy, the news is a crucial source of information for voters about public affairs. The news enables political accountability for elected officials by providing accounts of their actions and serving a watchdog role for their malfeasance. In this dissertation, I ask how news coverage enables political accountability of powerful federal agencies, whose leaders are unelected and accountable to the public through the executive and legislative branches. In particular, voters rely on the news to connect agency regulations and enforcements to the elected officials with formal responsibility for those agencies. If the news provides poor information, by blaming the wrong official, mischaracterizing the authorities of the president and Congress, or biasing the news to favor a particular ideology, accountability is undermined.

While the news plays a fundamental role providing information about Congress and the president, I argue that coverage of federal agencies is equally important. Unlike lawmaking, which has tallied roll-call votes and often a formal signing statement given by the president, most agency policymaking occurs in a “black box” \cite{kagan2001}. Unelected officials, often out of public view, make critical decisions about national security, the environment, and the economy. For example, agencies produce regulations that are a product of science, interest group input, congressional and presidential influence, and the discretion of agency leaders. Without media coverage, citizens are unlikely to know which elected officials or bureaucrats...
are responsible for agency policymaking or performance.

The process by which voters learn which elected officials are responsible for an agency is complicated by institutional structures that feature multiple political principals, layers of bureaucracy, and complicated decision-making procedures often hidden from public view. A large body of research has thus focused on institutional-design features that enhance the clarity of responsibility for agency actions (e.g., Kagan 2001). However, even with this research we know little about how these features moderate voter attribution of blame. Are responsibility attributions for agency actions influenced by the institutional clarity of responsibility?

Proper allocation of blame and credit is necessary for democratic governance. Voters learn who is responsible for an action, form judgments about their performance in office, and then vote according to those judgments (Malhotra and Kuo 2008). Concerns about the proper allocation of blame motivates many scholars to advocate for more presidential control over agencies. However, in order for increased presidential formal authority to enhance political accountability, voters must actually know that the president wields that authority.

This dissertation asks several questions about the role of agency institutional design, media coverage, and how citizens allocate blame for the actions of federal regulatory agencies. First, does presidential control solve the democratic dilemma of unaccountable federal agencies? It is an open empirical question whether voters attribute responsibility when the president is in charge of an agency, and whether the voters withhold this attribution when the president is not primarily in charge. Two key challenges arise in answering these questions. The first challenge is finding a source of information about agencies that is readily available to the public. The second challenge is that presidential control is not randomly assigned across agencies, so attribution may be confounded with the policy or mission of the agency.

To address the first challenge, I study agency political accountability using an original
dataset of newspaper coverage of federal agencies. The news provides a source of information readily available to the public and serves a crucial watchdog role over agencies for both the public and Congress (Rosen 1998). Scholars across disciplines have studied the influence of news coverage on the accountability of elected officials (Arnold 2004; Snyder and Strömberg 2010), and, more broadly, they have studied the large amount of coverage journalists devote to presidential politics and its impact on voter evaluations of presidential performance (Miller and Krosnick 2000; Cohen 2009). Others have explored the connection between agencies and the news in the context of scandals or individual agencies (Gordon 2011), but a systematic empirical examination of the news and agency accountability is lacking.

To limit bias introduced by studying agencies with different policy missions, I analyze news coverage of two agencies with joint enforcement over the same policy area—antitrust law. I compare the U.S. Justice Department Antitrust Division to the Federal Trade Commission Bureau of Competition (FTC). Justice’s Antitrust Division (Justice) is a cabinet-level division, which places it under close presidential supervision (Lewis 2003). The FTC, while enforcing the same policy mandates, is an independent five-member commission, designed to be insulated from politics and presidential control (Stewart, Anderson and Taylor 1982; Barkow 2010).

I use methods developed in the machine-learning literature to study newspaper articles about antitrust regulation. I classify articles into two broad classes: a political frame, which focuses on issues of political controversy surrounding an action, and a policy-focused frame, which focuses on specific cases, industries, or broader issues of antitrust policy. Scholars have shown that the political frame increases voter attribution of responsibility, while policy-focused frames divert voter blame away from elected officials (Iyengar and Kinder 1987). I find a significant difference in the news coverage of the Justice Department and the Federal Trade Commission: news coverage of the Justice Department is significantly more likely to feature a political frame than news coverage of the FTC.
I then examine how this coverage affects voter attributions of responsibility to elected officials for agency policymaking. Using two survey experiments, I show that political frames, even without direct attributions of responsibility, such as “The president today ordered the Security and Exchange Commission to...”, can influence attributions of responsibility. I then show that information about agency design moderates attributions of responsibility, even when journalists’ sources directly attribute responsibility to the president.

My dissertation’s second question concerns how agency design features that increase presidential formal authority over agencies help, or hurt, the president during an agency scandal. I use a survey experiment to identify the effect of agency design information on attributions of responsibility for agency scandals. The survey experiment allows me to manipulate the information that respondents receive about agency design, while holding constant other potentially confounding details about the agency.

In the experiment, respondents read a real newspaper article about an agency scandal. Scandals provide an opportunity to study one of mass media’s most important functions—revealing government malfeasance to citizens. Officials themselves are unlikely to provide information to the public about misdoings in government. Absent these disclosures of wrongdoing, the mass media is the public’s only source of information concerning officials who are not representing their interests (Snyder and Puglisi 2011). Thus, out of all types of media coverage, coverage of agency scandals is arguably the most important place to convey information about political control of the bureaucracy. In addition, using news coverage allows me to manipulate an information source that is readily available to the public and is a primary source to voters about agency actions and institutional context.

In one experimental condition, I include agency-design information—the institutional context—that explains how the agency is structured to allow greater presidential influence over its operations. I provide respondents with agency-design details widely promoted by scholars as enhancing presidential control: presidential appointments and removal of agency
leadership, the agency’s location in the president’s Cabinet, and centralized regulatory review by the White House Office of Management and Budget (OMB). The second experimental condition presents the same newspaper article but with no information on agency design.

I find that informing respondents about agency-design features that enhance presidential control significantly increases attributions of responsibility to the president. This result is consistent with presidential control theorists, who argue that increasing presidential formal authority over agencies enhances clarity of responsibility for voters.

Coverage of scandals, however, is only one part of the media’s role informing voters about public affairs. Simple media attention to the day-to-day activities of regulatory agencies enhances accountability by providing voters with crucial information about the numerous ways that agency activity influences themselves and society. To assess mass media attention to federal agencies, I investigate how much opportunity voters have to learn about agencies through the news. I collect over 150,000 newspaper articles about a large sample of U.S. federal agencies and examine how coverage varies by agency, agency-design features, and regulatory activity. I match news coverage to data about agency-design characteristics from Lewis’s work (Lewis 2003, 2008) and regulatory review activity from the Office of Management and Budget. The analysis presents a mixed assessment of how well the news enables accountability of federal agencies. I demonstrate a high degree of heterogeneity across agencies in both the attention they receive in the news and the frequency with which journalists mention the president along with the agency. Some agencies with vast regulatory powers—such as the Food and Drug Administration (FDA)—receive relatively little coverage that mentions the president, despite the president’s significant powers over that agency.

My dissertation’s final question concerns the existence of partisan bias in information that the news provides voters about federal agencies. Government agencies are responsible for the regulation and enforcement of laws that affect nearly every aspect of society. Their responsibilities range from the implementation of major healthcare and financial reform to
the criminal enforcement of antitrust laws and the collection of taxes. Agencies’ regulations can have significant consequence for public health and the economy. The Environmental Protection Agency’s program to address climate change is a prominent example.

At the same time, public opinion about government regulation is highly polarized by ideology (Gallup 2012). Conservatives generally favor a more restrained approach towards regulation, while liberals advocate a more activist governmental role in regulatory matters. For voters of all ideologies, the mass media is a primary source of information about government agencies. Thus, I investigate whether news coverage of government agencies is politically biased. Political biases in coverage of agency regulations has implications for the information voters hold about regulations and, ultimately, for voter support or opposition of those regulations.

Scholars have found considerable evidence that the news is politically biased (e.g., Groseclose and Milyo 2005; Gentzkow and Shapiro 2010) and that political biases have affects on political behavior (DellaVigna and Kaplan 2007). However, we know little about the political behavior of news in the context of the coverage of regulation. First, is news coverage of regulation politically biased? If regulatory coverage is similar to general news coverage or political campaign coverage, then it is reasonable to expect regulatory coverage to also be politically biased. However, the nature of that bias is unknown. Is the political bias one of omission, where certain regulations are just not covered in the press? Does the bias manifest in tone and framing, with one ideological camp favoring negative coverage of regulations framed in a negative context, with the other camp favoring positive coverage framed in a positive context?

To study the political biases of news coverage of regulations, I collect thousands of newspaper articles about the Environmental Protection Agency over a twenty-one year period. I investigate two sources of bias that are often assessed in the communications and political behavior literature: the positive or negative tone of EPA coverage, and the frames used in
writing about the EPA. Given the challenges of comparing coverage to an objective measure of unbiased news, I adopt a relative comparison design (Druckman and Parkin 2005). In this design, I assess the relative differences in coverage of the same issue by two competing, ideologically-opposed newspapers: the New York Times and the Wall Street Journal. In addition, I compare coverage over four presidential administrations, allowing me to assess whether the political biases of the newspapers is moderated by the regulatory agendas of the administration.

I then assess the prevalence of frames commonly used in scientific writing: political frames and consequence frames (Bolson, Druckman and Cook 2014). These frames are important to study because of their ability to influence voter support for issues based on scientific findings, such as EPA regulation. I use a method called topic modeling to identify thematic topics that correspond to each of these frames. One empirical challenge is assessing how the distribution of thematic topics differs between the two newspapers. The particular topic model I adopt, Dirichlet Multinomomial Regression (DMR), estimates how the distribution of topics varies with different features of documents, such as the newspaper identity and the year of publication.

I find that the Wall Street Journal features significantly more negative news coverage of EPA rulemaking than the New York Times. I find this slant even when analyzing news coverage alone, omitting editorials or opinion writing. I also find that the degree of negative tone varies by presidential administration. For example, the liberal-leaning newspaper was more likely to use a negative tone during the Reagan administration, while the conservative-leaning newspaper was more likely to use a negative tone during the Clinton administration.

Regarding frames used on EPA coverage, I find that the conservative-leaning Wall Street Journal is more likely to focus on the negative economic consequences of EPA regulation, such as the cost and the burden on small businesses. The chapter’s emphasis on negative consequences is more prevalent across all administrations in the sample. I find mixed results
regarding the political framing. The *New York Times* is slightly more likely to feature politics in its coverage of EPA rulemaking, though the difference is greatest during the Clinton administration, where the *New York Times* focused coverage on congressional opposition to the Clinton regulatory agenda. I conclude by discussing how news coverage of agency rulemaking influences political behavior not through framing effects alone, but also by providing elite partisan cues about which political actors support or oppose agency policymaking.\(^1\)

\(^1\)Parts of this dissertation have been presented previously at several conferences: the Annual Meeting of the Midwest Political Science Association (2012), the Annual Meeting of the Southern Political Science Association (2013), and the Annual Meeting of the American Political Science Association (2013).
Chapter 2

Institutional Design and the Attribution of Presidential Control

A tenet of democratic governance is that policymakers should be politically accountable for their actions. Having unelected policymakers challenges norms of democratic representation. Yet federal agencies, which are major policymaking institutions in American government and responsible for thousands of regulations that affect nearly every sector of society, have no direct electoral check. One proposed solution to this democratic dilemma has been to increase the president’s formal controls over federal agencies, thereby ensuring that voters know the electorally-accountable figure ultimately responsible for the policies bureaucrats make. This presidential control model traces its roots to Alexander Hamilton, who argued that a strong, unified executive brings greater clarity of responsibility to government (Hamilton, *Federalist* #70).

However, does presidential control solve the democratic dilemma of unaccountable federal agencies? It is an open empirical question whether voters attribute responsibility when the president is in charge of an agency, and whether the voters withhold this attribution when the president is not primarily in charge. Two key challenges arise in answering these questions. The first challenge is finding a source of information about agencies that is readily available
to the public. The second challenge is that presidential control is not randomly assigned across agencies, so attribution may be confounded with the policy or mission of the agency.

To address the first challenge, I study agency political accountability using an original dataset of newspaper coverage of federal agencies. The news provides a source of information readily available to the public and serves a crucial watchdog role over agencies for both the public and Congress (Rosen 1998). Scholars across disciplines have studied the influence of news coverage on the accountability of elected officials (Arnold 2004; Snyder and Strömberg 2010), and, more broadly, they have studied the large amount of coverage journalists devote to presidential politics and its impact on voter evaluations of presidential performance (Miller and Krosnick 2000; Cohen 2009). Others have explored the connection between agencies and the news in the context of scandals or individual agencies (Gordon 2011), but a systematic empirical examination of the news and agency accountability is lacking.

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I use methods developed in the machine-learning literature to study newspaper articles about antitrust regulation. I classify articles into two broad classes: a political frame, which focuses on issues of political controversy surrounding an action, and a policy-focused frame, which focuses on specific cases, industries, or broader issues of antitrust policy. Scholars have shown that the political frame increases voter attribution of responsibility, while policy-focused frames divert voter blame away from elected officials (Iyengar and Kinder 1987). I
find a significant difference in the news coverage of the Justice Department and the Federal Trade Commission: news coverage of the Justice Department is significantly more likely to feature a political frame than news coverage of the FTC.

I then examine how this coverage affects voter attributions of responsibility to elected officials for agency policymaking. Using two survey experiments, I show that political frames, even without direct attributions of responsibility, such as “The president today ordered the Security and Exchange Commission to...”, can influence attributions of responsibility. I then show that information about agency design moderates attributions of responsibility, even when journalists’ sources directly attribute responsibility to the president.

Whereas previous scholarship focuses on institutional clarity of responsibility in the context of the legislative and executive branch (e.g., Powell and Whitten 1993; Rudolph 2003; Anderson 2000), or on the allocation of blame across local, state, and federal institutions (Gomez and Wilson 2008; Maestas et al. 2008; Malhotra and Kuo 2008), this chapter focuses on the institutional structures of independent regulatory commissions, which limit presidential formal authority over agencies. Studying these commissions is important because of their vast policymaking responsibilities (e.g., the powers of the Federal Reserve and the Securities and Exchange Commission) combined with an institutional design intended to insulate these agencies from the control of elected officials.

These insulating features have long been a concern in bureaucratic politics, where discussions often involve the tradeoff between delegation of policymaking authority to agencies and political accountability (Lowi 1979; Fiorina 1982; Maskin and Tirole 2004; Fox and Jordan 2011). My findings suggest that delegation to agencies is not a strategy that unconditionally allows Congress or the president to escape from public blame. Rather, news coverage both increases attributions of blame and, by highlighting agency independence and structure, insulates officials from blame. Both these media effects enhance democratic accountability by assigning blame where it is due and reducing blame when an official has little direct authority
over the action.

2.1 Institutions and Attributions of Responsibility

Greater accountability often requires greater knowledge. In an idealized setting, voters know which actors are responsible for which actions. If voters are to hold the president accountable for some agency policy or enforcement, voters should know when the president has authority over an agency and when the president does not. To make these determinations of presidential authority, voters need information about presidential power over agencies. Where do they find it? The most important source of political information for voters is the news.

I use arguments from the agency-design literature (detailed below) about the president’s formal power over agencies to examine the following hypothesis, which I informally label the design hypothesis. While this hypothesis does not derive from any explicit theory of agency design, it is a testable formulation of a conjecture frequently made in the public-law and bureaucratic-politics literature. That conjecture is that more presidential control increases political accountability of agencies by enhancing the institutional clarity of responsibility.

**Design Hypothesis:** News coverage of agencies should be more likely to feature the president and a political framing when the agency is formally under the president’s control than when the agency is formally insulated from the president’s control.

The design hypothesis focuses on the content of news coverage itself. It asks if the news portrays the institutional story about agencies correctly. Since the news provides voters with critical political information, the manner in which the news characterizes political control over agencies has implications for whom voters hold accountable for agency actions.

It is important to note that the null hypothesis is not that independent commission coverage never features the president. The president has power—albeit limited—over indepen-
dent commissions. Coverage of commissions includes, for example, coverage of presidential appointments, which clearly ties the president to the commission. Often the coverage mentions that the commission leader—even the chair of the Federal Reserve—is appointed by the president. However, the media muddles accountability when journalists treat independent commissions as though they are simply agencies in the executive branch and under presidential control. The patterns below show that, more often than not, journalists cover commissions as though they act independently of political control. The experiments below show why this matters in terms of attribution of responsibility.

But does this political coverage affect voter attribution? I now present two hypotheses that follow directly from the design hypothesis. Specifically, I examine two ways that political news coverage, as denoted in the design hypothesis, influences attributions of responsibility: news frames and direct attributions of control. Previous works have examined how news frames affect the assignment of blame (e.g., Iyengar and Kinder 1987). A frame is a contextual cue as to how an issue is presented. Different frames represent subtle changes in how a problem is presented and they can influence choices and outcomes (Iyengar 1991). There are, of course, many ways in which to frame a news story. The relevant frame for this study is a political frame. According to Iyengar (1991), a political news frame highlights the political controversy surrounding an issue. This frame increases attributions of responsibility to political officials, while news frames that focus on policy or broader societal issues do not increase attributions of responsibility. This past research motivates the framing hypothesis:

**Framing Hypothesis:** Voters should be more likely to assign blame to the president when exposed to news coverage of agencies with a political frame than when exposed to news coverage of agencies with a policy-focused frame.

I next examine whether information about institutional design moderates voters’ attributions of responsibility. Specifically, I ask whether information about a regulator’s independence from presidential control moderates how much voters blame the president for the
regulator’s action. Several scholars suggest that such information should moderate attributions. Edwards and Wayne (1997) claim that voters take institutional context into account when allocating blame. This insight is also argued in works on institutional context and the assignment of blame (Powell and Whitten 1993; Anderson 2000; Rudolph 2003; Duch and Stevenson 2008). In addition, scholars have found evidence that regulatory independence influences perceptions of regulatory quality, because independent regulators are structurally insulated from political interference (Bertelli and Whitford 2009). Combined, these insights suggest that individuals take institutional context into account when evaluating politicians and institutions:

**Insulation Hypothesis:** Voters should be less likely to blame the president when exposed to news coverage that features information about regulatory independence from presidential influence than when exposed to news coverage that features no information about regulatory independence from presidential influence.

Combined, these three hypotheses seek to examine 1) whether news coverage differs across agencies with varying levels of presidential control; 2) whether political news frames result in greater attributions of responsibility to elected officials; and 3) whether information about agency design moderates attributions of responsibility.

### 2.2 Empirical Strategy

A key methodological issue is limiting omitted-variable bias induced by studying agencies with different policy mandates. Isolating the relationship between attribution and institutional design is confounded with the policy because news coverage across agencies differs due to the constituencies and interest groups active in agency policymaking. Differences also arise due to agency mission, with some agencies in highly technical fields, such as nuclear energy, and others in more accessible fields, such as education. Comparing news coverage
of the Environmental Protection Agency to the Federal Communications Commission risks missing the institutional explanation, which is the pattern in the data explained by variations in institutional design.

I control for policy domain by analyzing two agencies with enforcement over the same policy. Justice’s Antitrust Division is a cabinet-level agency, which places it in close proximity to the president [Lewis 2003]. The president enjoys appointment and removal powers over the agency’s senior personnel, including the Assistant Attorney General for Antitrust. The FTC, in contrast, is an independent five-member commission, designed to be more insulated from politics and presidential control [Stewart, Anderson and Taylor 1982; Barkow 2010]. Table 2.1 summarizes each agency’s most salient institutional features responsible for the varying degrees of presidential control.

Agency structure either insulates or enhances presidential control. For cabinet departments such as the Justice Department, the president has control over budget proposal and review, agency personnel, and policy through regulatory review. Policies should hew to the president’s ideal; if the policies stray, the president can intervene or even remove the agency leadership.

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<thead>
<tr>
<th>Leadership</th>
<th>FTC</th>
<th>Justice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partisan Balance of Leadership?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>At-Will Removal of Leadership?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Fixed leadership term</td>
<td>Yes (7 years)</td>
<td>No</td>
</tr>
<tr>
<td>Director of Antitrust</td>
<td>Appointed by Chair</td>
<td>Appointed by President</td>
</tr>
</tbody>
</table>

Table 2.1: **Key Characteristics of FTC and Justice institutional design.** Each characteristic influences the degree of presidential control over the agency. Across all dimensions, the FTC is more insulated from presidential control.

In contrast, most regulatory commissions are designed to be independent from presidential control [Lewis 2003; Barkow 2010]. Commission members are removable only for cause and not simply at the president’s will. A commission is not required to submit signif-
ificant regulations to the Office of Information and Regulatory Affairs (OIRA) for executive-branch review. Moreover, a commission cannot be composed of commissioners from a single party; members serve staggered, fixed-length terms. These features limit presidential control over commissions, although presidents maintain some influence, including budgetary review shared with Congress and appointment power.

Scholars have previously exploited the overlapping jurisdiction of the FTC and Justice Department in the context of responsiveness to political principals (Moe 1982), or have noted the agencies’ similarities (Wood and Anderson 1993). Justice and FTC have concurrent statutory authority over Sections 2, 3, and 7 of the Clayton Act. FTC and Justice also have overlapping authority over merger enforcement, under the FTC and Sherman Acts. Due to the overlapping jurisdiction, the agencies have adopted extensive clearance procedures to avoid situations when both agencies pursue the same antitrust case.

Potential systematic differences in cases across the two agencies can arise from primarily two differences between the agencies. First, under authority from the Robertson-Patman Act, the FTC traditionally investigates and enforces price-discrimination complaints. Second, and perhaps more importantly, all criminal violations of antitrust laws are referred to Justice. Criminal cases, for example, may be more likely to receive press coverage and involve the intervention of political principals, causing a systematic bias in the differences across the agencies unrelated to agency design.

To interpret the results presented below as arising from differences in agency design, differences across each agencies’ press coverage must be robust to focusing on areas of overlapping jurisdiction. Outside of Robertson-Patman violations and criminal cases, the two

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1Presidents can influence the FTC through these channels, so the FTC is not completely insulated from presidential control. It is, however, representative of a typical regulatory commission. Some commissions, such as the Federal Reserve and the Consumer Financial Protection Bureau, are more structurally insulated from the president. News coverage of the FTC thus may understate the effect of agency design on news coverage and attributions of responsibility.

2See the Justice Department Division Manual, Chapter VII: Antitrust Division Relationships with Other Agencies and the Public.
agencies enforce the balance of the antitrust statutes concurrently. In particular, the agencies share enforcement over merger investigations under Section 7 of the Clayton Act and civil non-merger investigations under Sections 1 and 2 of the Sherman Act.

In the analysis below, I adopt multiple strategies to limit the press coverage to areas of overlapping jurisdiction between the agencies. Taking advantage of the concurrent jurisdiction of merger enforcement, I examine news coverage that focuses on merger and acquisition actions. To collect the corpus of articles discussed below, I search for articles that mention either merger or acquisition and that the newspaper librarians have subject-tagged as about antitrust, mergers or acquisitions. Then, to limit the number of articles about criminal cases, I exclude all articles that mention crime or criminal.

Further support for the assumption that the two agencies are comparable with regard to merger enforcement comes from disputes between industry, the agencies, and Congress. Historically, concurrent enforcement of merger activities has led to significant delays and duplication of effort. Congress has held hearings and has pressed the agencies to resolve duplication and delays. Industry has lobbied the two agencies and Congress to resolve delays in the clearance procedure resulting from agency conflict over which agency takes a case.

Consider a 2002 letter from several industry trade groups to FTC Chairman Timothy Muris advocating for reform of the clearance process. The letter reviews the “largely overlapping jurisdiction” of the two agencies, and claims that in far too many instances clearance disputes delay antitrust investigations. The letter notes that the dispute over the AOL/Time Warner case took over 45 days, while Pacific Enterprise/Enova lasted a full five months. The letter also asks the FTC to consider that “it is universally recognized...that this is not an example of good government.” Near the same time, the Washington Post wrote that “[W]hen a hot merger comes up, and the staff at each agency wants a piece of it, the [agency leader-

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ship] have to sort it out...there has been a lot of wrangling over who would get to review a merger.\textsuperscript{4}

One difference to consider in the results below is that the agencies have developed expertise in certain industries, which makes it more likely that certain types of cases will go to one agency. The FTC, for example, typically investigates energy, healthcare, and computer hardware mergers, while Justice investigates finance, media, and computer software mergers. These specialties, however, are not deterministic, and agencies often take cases outside of their expertise: consider the FTC investigation of AOL/Time Warner, which some argued should have been handled by Justice, that has expertise in media mergers.\textsuperscript{5}

The procedures used to create comparable cases for analysis above are intended to limit the possibility that cases across the agencies differ for systematic reasons that are unrelated to agency design.\textsuperscript{6} Two ideal, though infeasible, strategies to overcome this issue are to randomize cases across agencies or to study cases that both agencies have pursued. The latter strategy is infeasible due to the exceedingly rare occurrence of a case that both agencies pursue. The U.S. antitrust case against Microsoft, however, provides an illustrative example of how coverage differs across two agencies that are pursing the same case.

In July 1993, the FTC was deadlocked 2-2 on a vote to proceed with a case against Microsoft. Shortly after that news, the Justice Department, under the leadership of Clinton appointee Anne Bingaman, announced that it would take up the case. I examined news coverage of these decisions to determine whether the news media portrayed the two agencies differently regarding their connection to the president. I searched ProQuest and NewsBank

\textsuperscript{4}“Case Attracts Lawyers Like a Flame Attracts Moths, More than You can Shake a Stick at.” Grimaldi, James V. Washington Post, January 28, 2002.

\textsuperscript{5}An alternative strategy is to compare news coverage of the regulation of media industry mergers involving the Justice Department and the Federal Communications Commission. However, these two agencies are not strictly comparable. \textsuperscript{[Baker 2011]}

\textsuperscript{6}Systematically different cases may also occur as a result of agency design. For example, a bi-partisan commission may lack the votes to pursue a controversial case. Cabinet departments generally do not have this hurdle. This potential difference, however, follows from agency design and is thus part of the effect of design on press coverage.
articles that mention the agencies and Microsoft between July 1 1993 and August 31 1993, a period which includes approximately the month before and after each decision, and nearly all news coverage of these decisions.\footnote{These articles also illustrate the influence of the New York Times, the Washington Post, and the Wall Street Journal on antitrust coverage. Many of the smaller local papers that covered the decision adopted the articles written by these three papers.}

I read and coded each article to indicate whether it directly connected the agency with the president’s administration. I consider attribution direct if the article states that the agency’s actions are directly part of the policy of the president’s administration or the president’s appointees.

In coverage surrounding this case, journalists described the actions of the two agencies in markedly different ways regarding the elected officials responsible for the action. In 69% of articles, journalists directly attributed the Justice decision to pursue the Microsoft case to the more aggressive enforcement of the Clinton administration. In contrast, 12% of articles about the FTC attribute responsibility to the president. Most of the articles frame the FTC’s actions as a consequence of partisan gridlock on the commission. In the limited number of articles that mention the FTC and the president, the focus is on the president’s constrained ability to influence a commission still staffed with Republican appointees.

In this example, journalists appear well aware of the institutional differences between the two agencies. The FTC is a commission, and the president’s power is constrained by the partisan composition of its 5-member leadership. The Justice Department, in contrast, is part of the president’s cabinet. Its policies reflect the priorities and, ultimately, approval of the president. Justice’s action was covered as an extension of Clinton antitrust policy, while the FTC’s failure to take action was viewed as a consequence of partisan differences on the commission.
2.2.1. The Agency News Data

Newspapers are a major source of news for the public. Approximately 25% of U.S. adults use national newspapers for news, while 69% use local newspapers (Harris Interactive 2010). Editors and journalists at these local newspapers rely on papers such as the *Times* to set the agenda (Gans 1979; Wilhoit and Weaver 1991). With antitrust news, local papers are even more likely to use the *Times*, since many papers do not have staff in Washington or New York City where major antitrust battles are fought.

News coverage that varies along with formal presidential control is evidence in favor of the design hypothesis. To assess simple differences between Justice and FTC coverage, I calculate the share of all articles that mention the president’s name along with the agency. This simple count measure has been used frequently, including to document increasing news attention to the president (Cohen 2009). I conduct searches of the ProQuest Historical Newspapers archive, using, as noted above, several refinements in order to create a list of comparable coverage. I limit the results to articles subject coded as about merger and acquisition cases. I then omit articles with any mention of the words *criminal* and *crime* to remove discussions of criminal cases from the collection. I focus on three national newspapers with the overlapping periods of continuous news coverage of the agencies: the *New York Times*, the *Wall Street Journal*, and the *Los Angeles Times* over the period 1989-2012.

In Table 2.2, I report the share of antitrust articles that mention the president’s name. These basic statistics offer initial support for the expectation that coverage differs across agencies. In the *New York Times*, 11% of Justice articles mention the president, compared to 5% of FTC articles. Across each paper, the differences between agencies are almost identical. Each paper’s coverage of the Justice Department features more presidential news than coverage of the FTC. These differences are all statistically significant at the 0.05 level.8

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8One concern is that the *Times*, with a known ideological leaning, may feature more coverage focused on the president during liberal, as opposed to conservative, administrations (Puglisi 2011). Thus, the differences observed could be due to the *Times* writing about Clinton and the FTC, but ignoring Bush and the FTC (or vice versa). Separating the articles used to calculate the statistics in Table 2.2 by the years of four
Table 2.2: Share of FTC and Justice articles that mention the president. Sources are the New York Times, the Wall Street Journal, and the Los Angeles Times (1989-2012). Searches performed on ProQuest historical newspaper collection and include all articles that mention the agency, a president’s name, and exclude the other agency as well as the words criminal and crime. The results are further refined by using only ProQuest article subject tags that represent antitrust and mergers. Search results without using the subject tags are similar. All differences statistically significant at the 0.05 level.

<table>
<thead>
<tr>
<th>Source</th>
<th>Share Justice with President</th>
<th>Share FTC with President</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York Times</td>
<td>0.11</td>
<td>0.05</td>
</tr>
<tr>
<td>Wall Street Journal</td>
<td>0.10</td>
<td>0.02</td>
</tr>
<tr>
<td>Los Angeles Times</td>
<td>0.13</td>
<td>0.05</td>
</tr>
<tr>
<td>Article Count</td>
<td>1155</td>
<td>750</td>
</tr>
<tr>
<td></td>
<td>1595</td>
<td>1047</td>
</tr>
</tbody>
</table>

These statistics show that the FTC, despite its independent status, still receives coverage that associates it with the president. In some of this coverage, journalists accurately tie the commission to the president by mentioning that the president appoints the agency leadership. In other articles, however, the Times often attributes the FTC’s policies to the president’s administration without making it clear that the FTC is structurally independent from the executive branch. It is difficult to judge what is the right amount of coverage tying an independent regulatory commission to the president. An absence of coverage linking the agency to the president is inappropriate, given the president’s limited ex-post control over their policies. But too much coverage associating a commission with the president muddles accountability if it fails to differentiate a commission from an executive agency. Muddled accountability does occur, and the implications of this muddled accountability become clear in the survey experiments, which show how this coverage affects attributions of responsibility.

The statistics in Table 2.2 show differences in the share of articles that mention the president. However, this statistic provides a very coarse measure of differences in coverage. A more informative measure captures articles that increase attributions of responsibility to the president.

Specifically, articles that simply mention the president might not discuss politics in detail presidential administrations, I find that coverage patterns are similar for all three papers.
or may only mention the president incidentally in the article. Consider the statistics in Table 2.3. Using the same ProQuest search as in Table 2.2 I read all articles that mention the antitrust agencies along with the president. To reduce the corpus to a manageable number of articles, I focus only on the Obama administration. For most of the FTC articles that mention the president, journalists mention the president incidentally, or with no connection to the FTC. In contrast, for Justice, 67% of articles that mention the president make some connection between the agency and the president. Thus, counting simple mentions of the president’s name understates the difference between the two agencies and risks counting articles with little chance of increasing attributions of control among news consumers.

<table>
<thead>
<tr>
<th>Total Mentions President Obama</th>
<th>% Agency Tied to President</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTC</td>
<td>10</td>
</tr>
<tr>
<td>Justice</td>
<td>73</td>
</tr>
</tbody>
</table>

Table 2.3: **Number of FTC and Justice articles that mention President Obama.** Sources are the *New York Times*, the *Wall Street Journal*, and the *Los Angeles Times* (2009-2012). Also, percent of those articles that associate the president with the agency.

To identify articles that increase attributions of responsibility, I begin with the classification developed in Iyengar (1991). Two dominant news frames characterize news coverage of government actions: a political frame, which characterizes the political controversy surrounding an action, or a policy frame, where the focus is on the policy-implementation context of the action. Iyengar finds that the political frame increases attributions of responsibility to the president, while the policy frame does not.

One approach to identify these political articles is to search an online database, such as Lexis-Nexis, using keywords, and then to manually code the articles based on a coding protocol. This method certainly is effective, yet it offers no clear way to assess either the relative prominence of those articles or how non-political coverage varies. For example, imagine that 9% of both Justice and FTC articles are about politics. Despite each corpus having the same level of political content, they could differ in the relative prominence of that
political content. For Justice, the 9% political content may be the least prominent topic in the press coverage, while 9% may be the most prominent topic in the FTC corpus. An improved assessment of the differences between coverage of the two agencies would identify how prominent political content is relative to other content.

I adopt a method called *topic modeling* to create these measures. Topic models identify political articles and estimate the full distribution of topics in the corpus. The full distribution allows the relative assessment, and provides a robustness check by showing that coverage between the agencies is similar in content except with regard to politics.

The main data source is the *New York Times* corpus, which includes nearly every article published by the *New York Times* between 1987 through 2007 ([Sandhaus 2008](#)). For decades the *New York Times* has maintained its position as the country’s leading newspaper. Presidents, and national politics, receive extensive coverage in its stories. As such, scholars frequently use the *Times* to study presidential politics (see [Gilens, Vavreck and Cohen 2007](#), [Cohen 2009](#)).

I choose this 21-year period for two reasons. Primarily, the article collection includes years from four presidential administrations, including the complete Clinton administration and most of the George W. Bush administration. This coverage limits the potential for finding results idiosyncratic to a single president. Also, as I show in Figure 2.1, these years cover periods of both high and low corporate merger activity, which reduces the possibility that the coverage is idiosyncratic to particular economic conditions. Second, these years represent the range currently available in the digital archive used in this analysis.[9]

Finding articles about antitrust regulation requires several steps. First, I search the *Times* corpus for all articles that mention the Justice Department or the FTC, as well as the terms *merger* or *acquisition*. Second, I limit the collection to news sections of the paper

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9The *New York Times* corpus is used under license. Copyright prevents downloading, parsing, and preparing for analysis any articles from additional years.
10Wildcards are used to search for these terms. I also search *Justice Department* or *Department of Justice*. 

only and remove any article that mentions crime or criminal. Third, I subset the articles to include only those that the Times data librarians have subject coded as about mergers, acquisitions, or antitrust. The final corpus includes 1147 articles, 733 about the Justice Department and 414 about the FTC.\footnote{These document collections exclude articles that mention both the Justice Department and the Federal Trade Commission. I exclude these articles in order to focus on two mutually-exclusive document collections. Models estimated with a corpus that includes these articles obtain similar results. Articles that mention both agencies are often about appointments and are about broad agency or administration antitrust policy changes.}

Merger coverage in the New York Times generally follows merger activity in the economy. Figure 2.1 shows the number of merger articles per year (solid line, values on the left axis). I also plot the annual number of merger filings submitted to the agencies (dashed line, values on the right axis). The correlations for the FTC and Justice are .52 and .69, respectively. The large spike in merger activity in the late 1990s represents the high point of a cyclical merger wave of economic activity (Coate 2000).

More coverage for Justice could be evidence that it systematically takes on more “news worthy” cases. However, Justice is a larger agency than the FTC, so more coverage is expected simply due to greater agency output. For example, according to the US federal government budget in 2012, Justice Antitrust employed 851 full-time employees and had an operating budget of approximately $166,000,000. The FTC’s Bureau of Competition employed 546 full-time employees, with an operating budget of approximately $140,000,000, according to the FTC’s annual congressional budget justification.

\subsection*{2.3 Model and Estimation Results}

Probabilistic topic models have become popular statistical algorithms used to discover hidden thematic structures in document corpora (Blei 2011). Political scientists are using topic models to answer a variety of questions, such as how representatives communicate with their constituents (Grimmer 2010), how the focus of legislative debate changes over time (Quinn et al. 2010), and how the text of legislative bills adds meaningful dimensions to ideal point
Figure 2.1: **Articles and merger requests by year.** The number of articles is plotted on the left-side y-axis. Grey dashed line represents Justice and black dashed line represents the FTC. The number of merger requests is on the right-side y-axis. Figure extends to 2006 because the *Times* corpus only includes year 2007 months January through June.

Estimates (Gerrish and Blei 2012; Clark and Lauderdale 2013). Since these algorithms find the topics in a corpus, and label documents according to those topics, they provide the necessary information to compare Justice to FTC coverage.

I adopt a topic model called *Latent Dirichlet Allocation* (LDA). Blei, Ng and Jordan (2003) describe the full statistical model and inference algorithms for LDA, but I briefly sketch the intuition. LDA is a statistical model that describes the process generating a collection of articles. To generate an article, the LDA model assumes the following steps: 1) draw a probability distribution over topics; 2) for each word in the article, randomly choose a topic from this distribution; and 3) randomly choose a word from that topic. This probabilistic process builds the article collection.

Estimating the LDA model reverses this illustrative process of building article collections (Blei 2011). The estimates uncover the distribution of topics for every article in the corpus. This distribution is an ordering from most-likely topic to least-likely topic. For a simple, two-topic example, consider an article about the U.S. v. Microsoft case. Suppose the model
assigns this article a high Microsoft topic proportion equal to, say, .8, and a low proportion, such as .2, to an unrelated Healthcare Antitrust topic. In the process of building a corpus, this represents the first step: determine the topic proportions for the article (.8 and .2). Then, for each word in the article, draw a topic from this topic distribution. Since the Microsoft topic is .8, most words in the article will come from the Microsoft topic.

The second quantity is the topics themselves. Topics are defined as probability distributions over the entire vocabulary in the corpus. For each topic, the estimates reveal the words most likely associated with the topic. Again consider the U.S. v. Microsoft example. The estimated topic distribution would place high probability on the words Microsoft and Windows, and low probability on words like hospital and doctor.

We now have all the information needed to build an article collection. First, determine the topic proportions: .8 and .2. Then, for each word, draw a topic with .8 probability Microsoft topic and .2 probability Healthcare Antitrust topic. Once the topic is chosen, choose a word from the topic’s distribution over all words.

I choose LDA for several reasons. First, as previously mentioned, LDA is an unsupervised learning method, which suits the antitrust articles well. Unsupervised methods are preferred when the researcher does not know the topic categories ex-ante (Grimmer and Stewart 2013). The unsupervised model estimates the topics from the data, which the researcher then verifies post-estimation. The second reason to choose LDA is that it belongs to a class of mixed-membership models. LDA assumes that each article is a mixture of topics, meaning that an article can be clustered into multiple topics. This model is well suited for news articles, which are likely to cover multiple topics. A single article, for example, can focus on both Microsoft technology, international corporate competition, and the legal issues surrounding the antitrust case.

Finally, the performance of LDA on news articles, and the New York Times in particular, has been well-studied (Mimno and Blei 2011). Chang et al. (2009), for example, find
that LDA outperforms several competitors in identifying topics that correspond to human evaluations—a crucial benchmark for news articles in this analysis, since the most important question is how humans read and interpret these news articles about agencies and politics.

To estimate the topics and topic proportions, I use variational expectation maximization. Wainwright and Jordan (2008) offer an introduction to variational methods, and Grimmer (2011) introduces the methods with political science applications. I also estimate models that incorporate the hierarchical structure of the corpus: articles are nested within the agency. I focus on LDA here as it is the most common model and the results are easily interpretable.

I fit 45-topic LDA models to the corpus, first using common pre-processing steps such as removing infrequent words and running a stemming algorithm. I use both statistical and substantive criteria to choose the number of topics. One common statistical approach is to select the number of topics that leads to the most generalizable model, defined as having the highest predictive performance on a subset of the corpus that was held out from the estimation of the model (Blei, Ng and Jordan 2003). Substantive criteria, however, are also important considerations in the choice of a topic number. Topics should reflect themes and content that are easily and naturally interpretable to human readers. As Mimno and Blei (2011) and Blei (2011) argue, researchers should be concerned with more than the fit to held-out data in exploratory or descriptive text analysis. Moreover, as Chang et al. (2009) show, there is sometimes an inverse relationship between out-of-sample performance and human interpretation of topics.

Specifically, estimated topics should reflect known cases and issues in antitrust policy.

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12 I use the variational expectation maximization (VEM) algorithm implemented in Blei (2003), interfaced with R using the packages tm and topicmodels (Feinerer, Hornik and Meyer 2008; Grun and Hornik 2011).

13 I have also estimated results from a modified version of LDA, called the Dirichlet Multinomial Regression topic model (DMR), which models the document distribution of topics as a function of covariates, such as indicators for agency identity (Mimno and McCallum 2008). The results, which are substantively similar to the LDA model, increase confidence in the robustness of the LDA estimates and offer additional evidence in support of the Justice collection’s greater political content.
In addition, since my goal is to compare the distribution of similar topics across the FTC and Justice corpora, I require topics broad enough to allow comparability. Choosing too many topics results in overly fine-grained and idiosyncratic topics that are of little relevance to the theory and hypotheses. Consider a broad topic such as the judicial system. This topic includes words such as court, judge, district, supreme, and law. In contrast, consider an overly fine-grained legal topic, which may only feature the details of a single day of an antitrust trial.

With these considerations in mind, I split the data and perform five-fold cross validation, computing the perplexity of the model on held-out data to choose the number of topics (Blei 2011; Grun and Hornik 2011). The models perform best on the held-out data with topic counts between 40 and 50. I used the substantive criteria outlined above to choose 45 topics as the primary model, though the results are robust to variations in this choice. I estimate the models with several different topic-count specifications and decided that 45 topics produce both broad, comparable topics that also match substantive issues in antitrust (e.g., telecommunications, pharmaceuticals), and topics that represent specific antitrust cases (e.g., Microsoft/SAP and AOL/Time-Warner).

Table 2.4 shows the top ten words per topic for 5 of the 45 topics. I selected these five topics, and applied the topic labels, in order to illustrate the political topic, general policy topics, and two industry/case specific topics. In the columns, words are arranged in order from most likely to least likely in that topic. Note that the model has discovered sensible topics for the corpus. In the general merger topic, the most likely words are deal and competit. For the general legal topic, the most likely words are court and judg.

Column 2 in Table 2.4 represents a topic that places most emphasis on words related to political oversight of the agency.\(^\text{14}\) I label this topic the political topic, which identifies articles that place emphasis on the president or the politics surrounding an agency action.

\(^{14}\)Outside of the top ten words, this topic includes other key political terms such as the presidents’ names.
Post-estimation, I read each article classified as political, and confirmed that the articles meet the political frame definition.\textsuperscript{15}

One common metric used to summarize the content of articles, and the broader corpus, is to tabulate the distribution of high probability topics over articles. Recall that estimates of the LDA model produce, for each article, a probability distribution over all 45 topics. Topics with the highest probability for that article, relative to the other topics, provide an estimate of the content of that article. Specifically, if the Justice Department articles are, on average, more political, then a greater share of Justice articles should be most likely assigned to the political topic.

In the following estimates, I calculate the percentage of articles with the political topic within an article’s three highest probability topics. I use the top three in order to capture both articles that are very political such that the political topic is the highest probability topic, and those that feature significant political content, although politics is not the main focus of the article.\textsuperscript{16} Table 2.5 reports the percentage of articles that feature the political topic with high probability. With 11.9%, a greater share of Justice articles is likely to be assigned to the political topic, compared to the FTC, with 6.8%. Thus, the model

\textsuperscript{15}I also read articles not classified as political. This is discussed below.
\textsuperscript{16}The reported differences are not sensitive to variations in the choice of top three topics.
assigns cabinet-level coverage to the political topic 100% more frequently than independent commission coverage, providing strong evidence that Justice news coverage is more political.

<table>
<thead>
<tr>
<th>Political Topic</th>
<th>Justice Only</th>
<th>FTC Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amoco/Chevron Topic</td>
<td>2.7%</td>
<td>11.6%</td>
</tr>
<tr>
<td>Microsoft Topic</td>
<td>11.7%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Article Count</td>
<td>733</td>
<td>414</td>
</tr>
</tbody>
</table>

Table 2.5: **Results of 45-topic model fit to the corpus.** Column 2 presents results over articles that mention the Justice Department only. Column 3 presents results that mention the FTC only.

Table 2.5 includes differences for two other case/industry-specific topics. I display these topics in order to provide a robustness check for the model’s estimation and to gauge the relative prominence of the political topic. A topic model with accurate in-sample classification should assign articles about specific cases to the agency that pursued those cases. Consider the general *Microsoft* topic. The Justice Department repeatedly pursued merger and antitrust cases against Microsoft, so the relative prominence of the *Microsoft* topic (11.7% compared to 3.4%) in the Justice articles is reassuring. Similarly, the FTC pursued the merger activity of several oil and gas companies. Thus, the relative prominence of the Amoco/Chevron topic in the FTC articles also increases confidence in the validity of the model’s estimates.

Another question concerns the significance of the political topic, relative to other topics in the corpus. For instance, how substantively meaningful is a corpus that is 11.9% political? Is this a significant emphasis on politics, or such an insignificant percentage that it fails to impact news consumers? Comparing the political-topic prominence to other topics helps provide a relative measure of its importance. Table 2.5 shows that the political topic is similarly prominent to the coverage about two cases/industries: Microsoft (software industry) and Amoco/Chevron (oil and gas industry). Thus, political content is not an obscure, seldom-encountered theme of antitrust coverage: it rivals in magnitude some of the largest
antitrust cases in the period under study.

A more complete way to visualize the relative prominence of the political topic is to inspect the posterior distribution of topic probabilities across all articles. Figure 2.2 shows the log of the posterior mean of topic assignment probabilities over all articles. The distribution is bimodal, but I truncate the lower mode in order to focus the display on the more meaningful high-probability topic assignments, which are sufficient to assess the relative prominence of topics.

![Figure 2.2: Distribution of log probability of topics across articles in Justice and FTC corpora.](image)

Each panel shows two separate posterior distributions over articles for each agency: the posterior distribution of all 45 topics combined and, in bold, the posterior distribution over the political topic. In addition, I have plotted the value of the 95th percentile of each of these distributions. This percentile offers perspective on the share of articles that are assigned to a given topic with high probability. Specifically, a higher 95th-percentile value indicates that a greater share of articles is assigned to the topic with high probability.
Visual inspection of the density estimates suggests that the political topic for Justice articles is more prominent, relative to the posterior distribution of all topics. The 95th percentile for the Justice political topic is greater than the overall 95th percentile, suggesting the greater emphasis on politics in the Justice article collection. For FTC articles, the 95th percentile of the political topic is less than that percentile for all topics. Statistical results support this visual interpretation. A two-sample Kolmogorov-Smirnov test supports the alternative hypothesis that the Justice political distribution is greater than the overall distribution. For the FTC distributions, the same test cannot reject the null.

Unsupervised learning methods infer topics from the text without a researcher determining topics before estimation. Post-estimation validation is necessary to ensure that the topics are semantically meaningful and that article classification is accurate (Quinn et al. 2010). In the Ruder (2014), I show evidence of both external and internal validity of the results. I show that inferred topics have a high degree of coherence with human concepts (Chang et al. 2009) and that topic assignments correspond chronologically to real-world events (Grimmer 2010; Grimmer and Stewart 2013).

2.4 Experimental Evidence for the Framing and Insulation Hypotheses

The hypotheses in Section 1 describe two ways in which news coverage can influence attributions of responsibility to the president: using political frames or presenting specific information about agency political insulation. I conduct two survey experiments to test these hypotheses, using Amazon’s Mechanical Turk (MTurk) to recruit respondents.\footnote{The benefits and drawbacks of using MTurk in political science research are discussed in Berinsky, Huber and Lenz (2012).}

The first experiment examines the framing hypothesis by measuring how respondents’ attributions of responsibility to elected officials change after reading a politically-framed article. To design this experiment, I first select the politically-framed articles to present to
readers. I use estimates obtained directly from the LDA model to choose the articles. I select the most- and least-likely articles that the LDA model assigns to the political topic. This list includes articles with the political frame and articles with almost no political content.\(^{18}\)

The first experiment assigns respondents to one of two experimental conditions. In the control condition, respondents read a randomly-chosen article from the list of articles that the topic model identifies as political with low probability. In the treatment condition, respondents read a randomly-chosen article from the list of articles that the topic model identifies as political with highest probability. The chosen articles include both FTC and Justice articles.\(^{19}\)

After reading the article, respondents in both conditions respond to the following request: *Please indicate how much responsibility you think each of the following has for the antitrust agency mentioned in the article.* Respondents then choose *a lot*, *some*, *a little*, or *none* separately for the president, Congress, and the agency leadership. The hypothesis suggests that attributions increase in the treatment condition.

The second experiment tests the insulation hypothesis, which asks whether agency-design information moderates attributions of responsibility. The hypothesis suggests that voters are sophisticated in allocating blame. Presented with information about the political insulation of agencies, voters change their attributions accordingly. The null hypothesis is that agency-design information has no effect on attributions of responsibility. In other words, voters ignore institutional context and hold the president, as the chief executive, responsible for

\(^{18}\)I use the LDA estimates in order to test an implicit assumption of the topic model analysis in Section 3. Specifically, to test the design hypothesis, I use topic models to show that the Justice articles are more political than the FTC articles. This finding only has substantive meaning under the assumption that political articles increase voter attribution of responsibility to the president. But how valid is this assumption? How can we be certain that an unsupervised, computer-learning method identifies articles that increase attribution to the president? The experimental results show that the political topic corresponds to articles that increase readers’ attributions of responsibility.

\(^{19}\)By choosing articles with the highest and lowest probability political content, I am setting up the experiment to reveal the largest possible difference. This is intentional, as I am seeking to understand how much of an effect different article frames produce. Also, these are real news articles. If I were constructing fake news articles for treatment and control conditions, I would create similarly large differences in content.
any action taken by a federal agency.

I ask respondents to read a real news article from *USA Today* that discusses an FTC antitrust investigation against Intel corporation. After reading the article, respondents consider the degree of responsibility that the president, Congress, and the FTC Commissioners have for the commission’s action. Respondents again choose *a lot, some, a little,* or *none.*

The second experiment randomly assigns respondents to three experimental conditions. In the control condition, respondents read the article presented without any attribution of control or institutional design information. This condition provides a baseline measure of how much respondents hold the president responsible for the FTC, after reading a common policy-focused FTC article without any explicit political content. In the second condition, the attribution condition, I include a sentence from the original article that quotes a Wall Street strategist saying that the lawsuit represents “a clear shift in antitrust enforcement philosophy under the Obama administration.” This statement represents a direct association between the FTC’s actions and the president and should increase attributions of responsibility. In the final condition, the insulation condition, I present respondents with the same article as in the attribution condition, but I add information about the institutional structure of the FTC. Specifically:

The FTC, led by a 5-member bipartisan commission, is designed to function independently from presidential control. The commission’s current chairman was appointed by the president.

These two sentences each contain a key piece of information. The first sentence emphasizes the commission’s bipartisan structure, and its intended insulation from presidential

---

20 “Intel Digs in to Fight FTC Lawsuit Over Chip Competition.” Byran Acohido. *USA Today.* December 17, 2009. Article chosen to represent a major case about a corporation and product that should be familiar to readers. In addition, compared to *New York Times* articles, the *USA Today* article was a more accessible article for readers based on Flesch-Kincaid readability tests.
control. This information should decrease how much responsibility respondents attribute to the president. The second sentence includes another feature of design: the chairman of the commission is appointed by the president. I include this information in order to provide respondents with a reasonably accurate description of some major design features of an independent regulatory commission, while still clarifying that the president has some control over the agency, through the appointment processes.

The ordinal nature of the data in each experiment suggests two alternative strategies for statistical analysis. I use a simple non-parametric test for ordinal variables, the one-sided Mann-Whitney test, which tests the null hypothesis of equality of two groups of responses against the alternative hypothesis that one group is greater than the other. The second approach would be to use ordinal logistic regression, but I choose the non-parametric alternative since I include no pre-treatment covariates. The hypotheses in Section 1 are strictly about framing and design information that update voter priors about political control; they are not focused on heterogeneous treatment effects across groups.

I first present results in support of the framing hypothesis. In Figure 2.3, Panel a shows the distribution of responses regarding attribution to the president. Compared to the control condition, significantly more respondents in the treatment condition attribute more responsibility to the president. The shift is greatest from none to the other categories. Approximately 48% of respondents that read non-political articles believe the president has no influence over the antitrust agency. In the treatment condition, the percentage drops to just 2%. Moreover, the percentage that think the president has some influence over the antitrust agency climbs from 20% to 55% of respondents.

While attributions also increase for the other actors, the treatment effect exhibits a different pattern. Panel a, compared to Panels b and c, shows a greater percentage difference of respondents in the low-attribution responses (none and a little) and in the high-attribution responses (some and a lot.) For Congress, the treatment induces a small shift away from
Figure 2.3: Distribution of responses for treatment and control conditions. Panels show treatment and control responses for attributions of responsibility to president, Congress, and the agency leadership, respectively, for the experiment testing the framing hypothesis.

*a little* and *none to a lot* and *some*. Blame toward the agency, in contrast, shifts mostly from *some to a lot*. In summary, respondents have a higher level of blame for Congress and the agency leadership after reading the control article compared to the president, to whom respondents attribute mostly no blame. The treatment moves respondents from this relatively blameless state to beliefs that the president indeed is responsible for these agencies.

The visual display of responses offers a stark contrast between experimental conditions. Statistical tests confirm that these differences are likely not due to chance alone. Table 2.6 lists the median ordinal response (1 for *a lot*, 4 for *none*) for the treatment and control distributions as shown in Figure 2.3, as well as the p-value for the Mann-Whitney test statistic. For the president, Congress and the agency leadership questions, the difference between treatment group and control group is significant (*p* < .01). The difference between groups is largest, however, for the attribution to the president response. Recall that the Mann-Whitney rank-sum test statistic sums, for each value in the control group, the number of observations in the treatment group with greater attribution.\(^{21}\) By a large margin, the second column in Table 2.6 contains the highest value rank-sum value.

\(^{21}\)Ties reduce the value by 0.5.
The results from the second experiment are summarized in Table 2.7 and are organized by experimental conditions. In Panel a, I show results comparing the no-information control to the attribution treatment. Compared to no-information, the direct attribution significantly increases blame to the president. There is a 24-percentage point decrease for respondents choosing *none* and 23-percentage point increase for respondents choosing *some*. In other words, the direct attribution causes respondents to shift from no blame to some blame. The table shows the results from a Mann-Whitney test for ordinal data, accepting the alternative hypothesis that the distribution of responses in the treatment condition is greater. Differences in responses across experimental conditions in Panel a are highly significant.\(^\text{22}\)

Panel b presents evidence supporting the insulation hypothesis. While the results show that respondents in the treated group still blame the president more than respondents in the control group, the shift is much smaller. For example, in Panel a, there is a 23-percentage point difference in respondents choosing *some*, while in Panel b, that difference is nearly fourteen percentage points smaller, at 9%. The treatment produces a 24-percentage point decrease in the *none* category in Panel a, with only an 11-percentage point decrease in Panel b.

The differences reported in Panel b are also statistically significant, but only at the .10 level. Thus, attribution of responsibility still increases slightly in the Panel b treatment condition, although the size and nature of that increase is different. For example, fewer

\(^{22}\)A two-sided test, unreported here, was also conducted and is significant.
<table>
<thead>
<tr>
<th>Condition</th>
<th>A Lot</th>
<th>Some</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Information</td>
<td>6.3%</td>
<td>13.5%</td>
<td>41.7%</td>
<td>38.5%</td>
</tr>
<tr>
<td>Attribution</td>
<td>5.6%</td>
<td>36.7%</td>
<td>43.3%</td>
<td>14.4%</td>
</tr>
<tr>
<td>Difference</td>
<td>-0.7%</td>
<td>23.2%</td>
<td>1.6%</td>
<td>-24.1%</td>
</tr>
<tr>
<td>Mann-Whitney Test Statistic: W = 5684, p &lt; 0.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(a) Attribution

<table>
<thead>
<tr>
<th>Condition</th>
<th>A Lot</th>
<th>Some</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Information</td>
<td>6.3%</td>
<td>13.5%</td>
<td>41.7%</td>
<td>38.5%</td>
</tr>
<tr>
<td>Insulation</td>
<td>4.1%</td>
<td>22.7%</td>
<td>45.4%</td>
<td>27.8%</td>
</tr>
<tr>
<td>Difference</td>
<td>-2.2%</td>
<td>9.2%</td>
<td>3.7%</td>
<td>-10.7%</td>
</tr>
<tr>
<td>Mann-Whitney Test Statistic: W = 5217, p = 0.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) Insulation

Table 2.7: **Results from experiment testing insulation hypothesis:** percent respondents in each cell and percentage point differences across experimental conditions. Panel a shows the no information condition compared to the attribution condition. Panel b shows the no information condition compared to the insulation condition. One-sided Mann-Whitney test statistics and p-values shown. n = 283.

respondents blame the president. In Panel a’s treatment condition, 14% of respondents choose *none*, and 42% of respondents choose *a lot* or *some*. In Panel b’s treatment condition, 28% of respondents choose *none*, and only 27% of treated respondents select *a lot* or *some*.

I tested whether respondents in the attribution condition attributed significantly greater attribution to the president than respondents in the insulation condition. The difference between distributions of each treated group is large and statistically significant according to the one-sided Mann-Whitney test.

The experimental results, in summary, provide evidence in support of the framing and insulation hypotheses. The crucial takeaway from these results is that news coverage that highlights the institutional context of agency policymaking strongly affects attributions of responsibility to political officials. Journalists, in other words, can change these attributions simply by noting the basic structural features of agency design.
2.5 Discussion and Conclusion

This chapter seeks to advance the literature on agency design and political accountability as well as to provide a substantive account of how news coverage of agencies affects voter assignment of blame for agency policymaking. First, instead of examining agency records or interviews, which the public rarely sees, I study agency accountability by focusing on a source that is readily available to the public—the news. Second, I explicitly examine the role of agency design by studying two agencies with different levels of political insulation. Third, I use an experiment to test the relationship between agency design, news coverage, and attributions of responsibility. I demonstrate that news coverage, through frames and inclusion of details about agency design, shapes attributions of responsibility to the president.

Previous empirical studies examine the link between increased presidential control and enhanced clarity of responsibility, but the results are inconclusive. These studies show that more presidential control does not necessarily increase clarity of responsibility because presidential influence on agency policy is difficult to discern; influence comes from multiple sources, even from within the White House (Copeland 2005, Bressman and Vandenberg 2006). The news, moreover, rarely reports on White House influence over agency policymaking, which removes a key source of information for voters about presidential influence. The findings presented in this chapter suggest that news coverage does not have to report on direct presidential influence over a specific agency action in order to increase political accountability. Rather, journalists enhance accountability when they provide voters with information about the agency institutional context.

The findings also have implications for unitary executive theorists who make the normative claim that presidents should have greater authority over federal agencies. These theorists justify that claim with a conjecture: presidential control over agencies promotes the value of greater political accountability by increasing institutional clarity of responsibility (Lessig and Sunstein 1994, Calabresi 1995, Kagan 2001). I find that the conjecture is supported in
limited conditions where voters are given correct information about the formal structure of agencies.

At the same time, presidential scholars have argued that voters hold presidents responsible for nearly all agency actions (Moe and Wilson 1994). I find that voters can be sophisticated allocators of blame. Survey respondents are far less likely to blame the president for an agency’s action when informed that the agency is insulated from presidential control. Moreover, respondents are generally more likely to blame Congress and the agency leadership itself for agency actions.

Finally, a large literature in bureaucratic politics discusses the conditions under which legislatures delegate policymaking authority to agencies. The standard model of bureaucratic discretion frames delegation largely as a tradeoff between control and expertise: more discretion is given as preferences between principal and agent align or as policy complexity is increased (Bawn 1995; Epstein and O’Halloran 1996; 1999; Huber and Shapman 2002; Callander 2008). In this literature, extensions of the standard model explicitly include agency structure. For example, Volden (2002) shows that the executive and legislative branches are more likely to empower independent agencies under divided government.

More recent works, which discuss delegation in relation to representation and accountability (Maskin and Tirole 2004; Fox and Jordan 2011; Krause 2013), respond to scholars who are wary of the anti-democratic consequences of delegation (Lowi 1979; Fiorina 1982; Schoenbrod 1993). These scholars suggest that Congress delegates authority to agencies in order to avoid blame for the often controversial elements of policymaking. Many have criticized this stance, as it seems at odds with empirical observations of legislative attempts to control these agencies. Posner and Vermeule (2002), for example, explicitly state that democratic accountability is secure as long as media provides voters with information about elected officials and their bureaucratic agents.

Gailmard and Patty (2012) provide an excellent discussion of why less accountability, in terms of political control, induces agencies to acquire the very expertise that justifies delegation in the first place.
The results presented here show that elected officials must consider more than preferences and agency expertise when delegating policymaking authority to an agency. Delegation to executive agencies increases control, but at the cost to the president of greater attribution of responsibility for the agency’s actions. Less control may reduce the officials’ policy utility, but with the benefit of being shielded from electoral blame. These effects, however, depend largely on the accuracy of the information given to voters through sources such as the news.

The empirical evidence lays a foundation for future theoretical work on agency design and political accountability. Scholars such as Kagan (2001) often assume that presidential control leads to more political accountability because it opens the black box of agency policymaking, allowing voters to blame or reward a single elected official in charge of an agency. However, the manner in which voters acquire that information has been understudied. The news provides one crucial mechanism of information transmission. Future work should investigate additional ways that voters acquire information about agencies, and how elected officials and bureaucrats strategically act in this information environment. Delegation theorists, who model the benefits of delegation in terms of the use and acquisition of agency expertise, can extend models to account for the combined benefits of expertise and blame avoidance when voters have limited information about agency political control.
Chapter 3

Agency Design, the Mass Media, and the Blame for Agency Scandals

Government agencies are responsible for the regulation and enforcement of laws that affect nearly every aspect of society. Their responsibilities range from the implementation of major healthcare and financial reform to the criminal enforcement of antitrust laws and the collection of taxes. Yet democratic institutions rarely provide a direct electoral check on bureaucrats. Political accountability of agencies thus requires that voters credit or blame elected officials with formal authority over those agencies.

The process by which voters learn which elected officials are responsible for an agency is complicated by institutional structures that feature multiple political principals, layers of bureaucracy, and complicated decision-making procedures often hidden from public view. A large body of research has thus focused on institutional-design features that enhance the clarity of responsibility for agency actions (e.g., Kagan 2001). However, even with this research we know little about how these features moderate voter attribution of blame. Are responsibility attributions for agency actions influenced by the institutional clarity of responsibility?

Proper allocation of blame and credit is necessary for democratic governance. Voters learn
who is responsible for an action, form judgments about their performance in office, and then vote according to those judgments (Malhotra and Kuo 2008). Concerns about the proper allocation of blame motivates many scholars to advocate for more presidential control over agencies. However, in order for increased presidential formal authority to enhance political accountability, voters must actually know that the president wields that authority.

How do voters learn about the complex institutional details concerning government agencies? As scholars have argued in the context of legislative institutions, voters learn about the institutional context through the mass media (Rudolph 2003). Unlike lawmaking, which has tallied roll-call votes and often a formal signing statement given by the president, most agency policymaking occurs in a “black box” (Kagan 2001). Citizens, without media coverage, are unlikely to know which elected officials or bureaucrats are responsible for agency policymaking or performance.

The informational role of the media has been shown to enable accountability by increasing voter knowledge of elected officials which, in turn, creates incentives for those officials to be more responsive to their constituents (Snyder and Strømberg 2010; Prat and Strømberg 2011). In American politics, mass media provides voters with much information about political institutions and officials, such as Congressional actions (Arnold 2004) and the president’s public agenda (Barabas 2008). The media also serves Congress and voters as a crucial watchdog over the actions of government agencies (Rosen 1998).

One challenge facing observational studies seeking to identify the influence of agency institutional context on responsibility attributions is that agencies are different for reasons other than agency design. This fact introduces omitted-variable bias when comparing blame across agencies with different agency designs. In this chapter, I use a survey experiment to identify the effect of agency design information on attributions of responsibility for agency scandals. The survey experiment allows me to manipulate the information that respondents receive about agency design, while holding constant other potentially confounding details.
about the agency.

In the experiment, respondents read a real newspaper article about an agency scandal. Scandals provide an opportunity to study one of mass media’s most important functions—revealing government malfeasance to citizens. Officials themselves are unlikely to provide information to the public about misdoings in government. Absent these disclosures of wrongdoing, the mass media is the public’s only source of information concerning officials who are not representing their interests (Snyder and Puglisi 2011). Thus, out of all types of media coverage, coverage of agency scandals is arguably the most important place to convey information about political control of the bureaucracy. In addition, using news coverage allows me to manipulate an information source that is readily available to the public and is a primary source to voters about agency actions and institutional context.

In one experimental condition, I include agency-design information—the institutional context—that explains how the agency is structured to allow greater presidential influence over its operations. I provide respondents with agency-design details widely promoted by scholars as enhancing presidential control: presidential appointments and removal of agency leadership, the agency’s location in the president’s Cabinet, and centralized regulatory review by the White House Office of Management and Budget (OMB). The second experimental condition presents the same newspaper article but with no information on agency design.

I find that informing respondents about agency-design features that enhance presidential control significantly increases attributions of responsibility to the president. This result is consistent with presidential control theorists, who argue that increasing presidential formal authority over agencies enhances clarity of responsibility for voters.

Coverage of scandals, however, is only one part of the media’s role informing voters about public affairs. Simple media attention to the day-to-day activities of regulatory agencies enhances accountability by providing voters with crucial information about the numerous ways that agency activity influences themselves and society. To assess mass media attention to
federal agencies, I investigate how much opportunity voters have to learn about agencies through the news. I collect over 150,000 newspaper articles about a large sample of U.S. federal agencies and examine how coverage varies by agency, agency-design features, and regulatory activity. I match news coverage to data about agency-design characteristics from Lewis’s work and regulatory review activity from the Office of Management and Budget. The analysis presents a mixed assessment of how well the news enables accountability of federal agencies. I demonstrate a high degree of heterogeneity across agencies in both the attention they receive in the news and the frequency with which journalists mention the president along with the agency. Some agencies with vast regulatory powers—such as the Food and Drug Administration (FDA)—receive relatively little coverage that mentions the president, despite the president’s significant powers over that agency.

This chapter builds on work that examines the influence that institutional context and clarity of responsibility have on retrospective evaluations of elected officials. Many works in this literature study the relationship between institutional clarity of responsibility and economic voting; others focus more broadly on blame allocation given the institutional complexity of a multi-layered federalist government. There is a lack of empirical work that focuses on the comparative analysis of agency-design features that influence how voters perceive the relative influence of various elected officials. This absence is puzzling for several reasons. First, unitary executive theorists in public law argue that agency-design features that enhance presidential control over agencies also increase clarity of responsibility. Second, political battles over agency design often center on how much power over an agency the president wields relative to Congress. Third, a long tradition in bureaucratic politics posits that legislators delegate authority to agencies,
whose complex structure obscures responsibility, in order to mask their own involvement and avoid blame (Lowi 1979; Fiorina 1982). Fourth, one of the most significant developments in the expansion of executive power—increased centralized presidential control over agencies through regulatory review—is fundamentally an agency-design feature meant to enable the president to align agency policy with administration priorities. In summary, scholars pay much attention to agency-design features and their implications for clarity of responsibility, but we know little about how the public actually learns of or perceives these differences.

The chapter is organized into the following sections. Section 1 reviews the institutional context of government agencies, paying particular attention to design features that increase the president’s formal authority over agencies. Section 2 describes the theoretical motivation and hypothesis. Section 3 presents the experimental design and results. Section 4 places the experimental results in a broader context of press coverage of government agencies. Section 5 concludes.

3.1 The Institutional Context: Agency Design

When creating agencies, elected officials balance political control with agency performance (Epstein and O’Halloran 1999; Bawn 1995; Gailmard 2002; Huber and McCarty 2004). The fundamental tradeoff is that more political influence and control—through appointees rather than experts—reduce the autonomy of agencies to pursue what expert bureaucrats consider good public policy.

A second consideration is how much authority the president wields over an agency, relative to Congress and the agency bureaucrats (Moe and Wilson 1994; Volden 2002). Theorists suggest that Congress resists presidential control of agencies when the president is ideologically opposed to Congress. Other works suggest that Congressional control obscures responsibility for agency actions (e.g., Lowi 1979), and that greater presidential control enhances clarity.

West (2005), for example, calls regulatory review “arguably the most significant constitutional extension of executive power in decades.”
of responsibility and greater political accountability (Kagan 2001).

Battles over agency structure can lead to a variety of complex agency structures, but scholars simplify the empirical analysis of agency design by focusing on four broad categories of institutional design. Each category is defined by a set of institutional features that enhances or limits presidential control over the agency. In Table 3.1, I list the principal agency types identified by Lewis (2003; 2008), along with their design characteristics and examples of agencies.

These broad categories, of course, mask significant within-type heterogeneity. Given their prominence in the literature, however, they provide a useful starting point to analyze differences in coverage. Political battles over agency design often focus on these broad categories. For example, congressional Republicans have continued to challenge the powerful Consumer Financial Protection Bureau and call for a change in leadership structure from a single agency director to a bi-partisan regulatory commission. Another example involves the Federal Emergency Management Agency (FEMA), where critics, angered by perceived politicization of the agency, called for FEMA to be removed from the president’s Cabinet and made into an independent agency (Cilluffo et al. 2009).

Agencies located within the Executive Office of the President and the president’s Cabinet feature the highest levels of presidential control. For Cabinet departments such as Justice and Homeland Security, the president has significant control over budgets, personnel, and policy through regulatory review. Power over Cabinet departments extends to agencies that belong within the Cabinet departments. This sub-Cabinet level includes agencies such as the Food and Drug Administration (FDA) and FEMA.

The president also has these powers over executive agencies such as the Environmental Protection Agency (EPA). In terms of political insulation, executive agencies are not sub-

\footnote{I exclude government corporations since they are technically not regulatory or enforcement agencies, but independent corporations subsidized by the government.}

\footnote{See “Consumer Protection Bureau is Under Attack, but Working,” Keven McCoy, USA TODAY, June 6, 2013.}
stantially different than Cabinet-level agencies. The design feature that distinguishes these agencies is their budget line in the federal budget that is independent of any particular Cabinet department budget.

<table>
<thead>
<tr>
<th>Design</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Office of the President</td>
<td>Located within the White House, under the direct control of the president’s Chief of Staff</td>
<td>Council on Environmental Quality, Office of Management and Budget</td>
</tr>
<tr>
<td>Cabinet/Sub-Cabinet</td>
<td>Officials serve at president’s will; agencies within Cabinet face additional budgetary pressure from presidentially-appointed secretaries. Most regulations reviewed by the Office of Management and Budget</td>
<td>Homeland Security, Food and Drug Administration</td>
</tr>
<tr>
<td>Executive Agency</td>
<td>Located outside the Cabinet structure. Budget line independent of Cabinet departments. President can remove officials at will. Most regulations reviewed by the Office of Management and Budget</td>
<td>Environmental Protection Agency</td>
</tr>
<tr>
<td>Regulatory Commission</td>
<td>Led by multi-member, bi-partisan commission with staggered terms. For-cause removal of officials only. Most regulations not reviewed by the Office of Management and Budget</td>
<td>Securities and Exchange Commission</td>
</tr>
</tbody>
</table>

Table 3.1: **Insulation characteristics of different agency types.** Types are listed in increasing order of insulation, with regulatory commissions being the most-insulated from presidential control.

Regulatory commissions are the agencies most insulated from presidential control through several mechanisms (Barkow 2010). First, commission members are removable only for cause and not simply at the president’s will. Second, a commission is not required to submit significant regulations to the OMB for cost-benefit analysis and regulatory review. Third, a commission cannot be composed of commissioners from a single party; moreover, members serve staggered, fixed-length terms. All these factors reduce the president’s *ex-ante* and *ex-post* ability to control a commission’s policy and enforcement agenda.

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4Exemption from OMB review for independent regulatory agency rulemaking is stated in the Paperwork Reduction Act of 1980 (Public Law 96-511).
3.2 Theoretical Expectations

Arguments for greater political control often focus on the president and features of the executive branch that increase the clarity of responsibility for voters (Lessig and Sunstein 1994; Kagan 2001). Even the Judicial Branch, especially since the Supreme Court’s *Chevron* decision, justifies judicial deference to executive agencies due to their being under the direction of an electorally accountable executive. However, more presidential authority would have little effect on electoral accountability if voters were unaware of this control.

The implicit assumption in this literature is that voter knowledge of agency design moderates attributions of blame. In other words, voters adjust their attributions of blame to be consistent with the formal degree of control a president holds over an agency. This behavior is consistent with arguments that voters are sophisticated in allocating blame (Edwards and Wayne 1997), meaning voters consider factual details in order to form their opinions regarding presidential responsibility.

The literature of blame attribution suggests several reasons why institutional context moderates blame attribution. One prominent theme in this literature focuses on the clarity of responsibility provided by features of political systems. Responsible party government focuses on the ease with which voters can hold a single party responsible for government actions (Schattschneider 1942). Economic voting studies find that features of political institutions, such as a greater share of control by governing parties, periods of unified government, budgetary power, or proposal power, increase clarity of responsibility for economic outcomes (Powell and Whitten 1993; Alt and Lowry 1994; Rudolph 2003; Duch and Stevenson 2008, 2013). In comparative politics, the debate over presidential and parliamentary constitutions includes discussions of the clarity of responsibility provided by presidential systems, which feature a single elected official responsible for governmental outcomes (Mainwaring and Shugart 1997; Cheibub 2007).

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As Anderson (2000) shows, formal features of a political system moderate the strength of the relationship between economic conditions and blame or reward. This explanation of institutional complexity underlies more recent students of blame attribution in the wake of disaster, where scholars have focused on the complexity of responsibility attributions in a federalist system (Arceneaux and Stein 2006; Gomez and Wilson 2008; Maestas et al. 2008; Malhotra and Kuo 2008).

Many features of agency design are directly intended to increase or decrease the president’s responsibility over a given agency. Ruder (2014), for example, shows how bi-partisan commission structures insulate the president from attributions of responsibility. An open question, however, is how features that enhance presidential control provide greater clarity of responsibility to voters seeking to allocate blame in the wake of an agency scandal. Based on the discussions of agency design in Section 3.1 and institutional moderators of blame attribution in this section, I state the following hypothesis:

**Centralized Control Hypothesis:** Voters are more likely to blame the president when news includes information about formal institutional structures that give the president more control over an agency, compared to when news does not include information about formal institutional structures that give the president more control over an agency.

Section 1 suggests several features of agency design suitable to test the hypothesis. Commissions, for example, feature a bi-partisan structure and for-cause removal of officials, both of which reduce presidential control. An alternative approach is to focus on agency-design features that increase presidential control. The advantage of this approach is that it addresses a key argument in favor of increasing presidential control over agencies: the enhanced accountability derived through clarity of responsibility.

Executive and Cabinet agencies both feature several agency-design features that increase presidential control. In the analysis below, I focus on two features in particular: the appl-

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6In related work, I show that commission features do reduce attributions of responsibility in the context of antitrust cases.
pointment power and centralized control of presidential power through regulatory review. The appointment power is an Article II power granted to the president and remains one of the most important ways that the president manages the executive branch (Lewis 2008).

White House review of agency rulemaking is a feature of institutional design that has received considerable attention from presidential and public-law research (Kagan 2001; Croley 2003; West 2006; Acs and Cameron [forthcoming]). The OMB, serving the president, has been called a “gatekeeper” for agency regulations and annually reviews hundreds of significant agency regulations (Government Accountability Office 2003). The review of agency regulations allows the White House, through the OMB, to ensure that agency regulations “reflect Presidential priorities and...ensure that economic and other impacts are assessed as part of regulatory decision-making.”

3.3 Experimental Design and Results

To test the hypothesis regarding agency design and blame attribution, I conduct a survey experiment about the Minerals Management Service (MMS) oversight of the oil and gas industry, leading to the Deepwater Horizon explosion and oil spill in the Gulf of Mexico in April 2010. I choose this particular agency scandal for several reasons. Most importantly, the scandal represents a regulatory failure, with Congressional hearings, independent investigative reports, and media citing the agency’s lax regulatory approach and regulatory capture by the oil and gas industry. Scandals over regulatory failures address a core agency function with costly consequences for public health and safety. Furthermore, agency-design features are specifically structured to provide the president with more or less power over regulation, allowing for a more plausible examination of how these features moderate blame attribution.

The second reason I chose this incident concerns the widespread news coverage and public attention to the disaster. Less than a month after the Deepwater Horizon exploded, nearly
85% of U.S. adults knew “a lot” or “some” about the oil spill (60 Minutes/Vanity Fair 2010). Americans were watching the news to learn about the oil spill. News coverage of the spill’s aftermath also frequently included President Obama. In other words, the spill scandal is a situation in which the public was widely exposed to the scandal, the agency, and the president. This allows me to assess whether agency-design information can make any difference in attributions, given a media environment saturated with coverage of the president, agency officials, and state and local leaders trading blame for the disaster.

The saliency of the disaster also presents a potential weakness of this approach. Considering that so many individuals have knowledge of the disaster, pre-formed opinions regarding blame attribution may not respond to new information about agency design. Another potential weakness concerns the elapsed time since the disaster and its aftermath. Blame attribution may be most important to study as a scandal unfolds, not years after the event has occurred.

Even so, agency scandals and their aftermath often unfold over long periods of time. As recently as March 2014, articles are still being published about health consequences and regulatory decisions linked to the 2010 oil spill (Congressional investigations can drag on for months, and criminal investigations can take years to complete). Sources or newly discovered information can reveal previously unknown details that lead to new inquiries into a scandal. These factors contribute to keeping agency scandals in the news long after such large disasters occur, suggesting that press coverage has the potential to continue to influence blame attributions.

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8 A different approach is to study attribution in the context of less salient events where the public has little prior knowledge of the agency’s actions. Ruder (2014) takes this approach by focusing on routine agency actions and not scandals.

3.3.1. Experimental Design

An observational study would require the unrealistic ability to measure exposure of individuals to news coverage with agency-design information and, controlling for other factors, estimate its association with blame attributions. A more internally valid method is experimental manipulation of news articles, which has a long tradition in media research on framing effects.\(^{10}\)

I conduct the experiment using Amazon’s Mechanical Turk (MTurk) to recruit 202 respondents in early 2014.\(^{11}\) I take several standard precautions with regard to subject recruitment from MTurk. I warn subjects that they will not be paid for taking the survey more than once; I check respondent IP addresses to reduce the chance that anyone took the survey twice. I also warn respondents that they will not be compensated if they too quickly read the prompts and answer questions, which suggests guessing and not taking the experiment seriously. I also limit the survey to respondents with over a 97.5% task approval rate, which is an indicator of the reliability and quality of the MTurk respondent. The average survey completion time was five minutes and twenty-eight seconds. After respondents completed the survey, they received sixty cents compensation.

To gauge attribution of blame, I first ask respondents to read a real news article about the resignation of MMS Director Elizabeth Birnbaum amid criticism of the agency’s lax industry oversight.\(^{12}\) After reading the article, I ask respondents to “Please indicate how much responsibility you think each of the following has for the U.S. Minerals Management Service’s role in the Deepwater Horizon disaster.” I present respondents with a list of four entities: the Obama administration, the Bush administration, Congress, and the agency

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\(^{10}\)See Druckman (2004) for a review and critique of framing-effects research.
\(^{11}\)Berinsky, Huber and Lenz (2012) discuss the benefits and drawbacks of the MTurk subject pool. They show that the MTurk subject pool is comparable to other student and adult convenience samples and is often more representative of the U.S. adult population. However, the samples tend to be younger, more educated, and more liberal than U.S. population averages. Sample size determined through power analysis that incorporated a range of effect sizes found in my previous work.
leadership. Respondents select A Lot, Some, A Little, or None.

I include both the Bush and Obama administrations since the disaster happened only sixteen months into the Obama administration; reasonably, individuals could conclude that Bush administration policies led to the disaster. In fact, polling conducted at the time suggests that individuals felt Bush administration policies were a more likely contributor of the regulatory failure. Among U.S. adults, 18% blame the policies of the Bush Administration for the conditions that led to the spill, compared to only 3% for the Obama Administration. This difference between Bush and Obama is particularly large among Democrats and Independents, but even Republicans were more likely to blame the Bush Administration.

I randomly assign respondents to one of two experimental conditions. In the first condition, which I call the No Presidential Control condition, respondents read an article that makes no mention of elected officials or agency design information. It simply discusses the resignation and the agency’s poor enforcement record. In the second condition, the Presidential Control condition, I add the following sentences near the beginning of the article:

MMS is under the direction of Secretary of the Interior Ken Salazar, who has led the Cabinet-level department as part of the Obama administration. According to the U.S Office of Management and Budget, since 2009 alone the Obama administration has reviewed and approved several MMS regulations related to deepwater oil exploration.

In addition, the article includes the following text: Elizabeth Birnbaum, who was appointed director of the Minerals Management Service in June 2009, submitted her resignation to Interior Secretary Ken Salazar. In the second condition, I add by President Obama after ...

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The second condition includes three factors related to the hypothesis stated in Section 3.2: the president appointed the leader, MMS is a Cabinet-level agency under the direction of a Cabinet secretary, and the OMB reviews and approves the agency’s regulations related to offshore drilling. The theoretical expectation is that this added information increases attributions of responsibility by clarifying the degree of the president’s responsibility over the agency. 14

3.3.2. Results

The ordinal nature of the data in the experiment suggests two alternative strategies for statistical analysis. I use a simple non-parametric test for ordinal variables, the one-sided Mann-Whitney U test, which tests the null hypothesis of equality of two groups of responses against the alternative hypothesis that one group is greater than the other. The second approach would be to use ordinal logistic regression, but I choose the non-parametric alternative since I include no pre-treatment covariates. The hypothesis in Section 2 is strictly about agency design information; it is not focused on heterogeneous treatment effects across groups, which I leave for future research. The results presented below are robust to different empirical strategies, such as a chi-square test or transforming the data into dichotomous “high” and “low” attribution groups and performing a equality of proportions test.

The results presented in Table 3.2 show the percent of respondents in each response category across the two experimental conditions. In Panel a, I show results from respondent attributions to the Bush Administration. The one-sided Mann-Whitney U test cannot reject the null hypothesis, that attribution levels are the same in both experimental conditions. The information about agency design had no effect on increasing the attributions to the Bush Administration. Unexpectedly, attributions appear slightly higher in the No President-

14 The experiment also has a third condition. In the third condition, respondents receive neither a news article nor any other information. They simply answer the question about allocating blame to the actors they hold responsible for the disaster. This condition serves as a control group. The results presented below, however, focus only on the first two conditions, as the hypothesis concerns how agency institutional context in news influences blame attributions, relative to news coverage with no agency institutional context. Results with the control group included are substantively similar.
Table 3.2: Results from experiment testing the centralized control hypothesis: percent respondents in each cell by experimental condition. Panel a shows results from the Bush Administration response. Panel b shows results from the Obama Administration response. One-sided Mann-Whitney test statistics and p-values shown. n = 202, with 101 respondents assigned randomly to each experimental condition.

The results for the Obama Administration provide a stark contrast to the results for the Bush Administration. The difference in responses across Presidential Control and No Presidential Control conditions is large and statistically significant. In the No Presidential Control condition, 16% of respondents said the Obama Administration had None as a degree of responsibility. In the Presidential Control condition, only 5% of respondents chose None. Moreover, only 11% of respondents chose A Lot in the No Presidential Control condition, while 23% chose A Lot in the Presidential Control condition.

One way to simplify the presentation of these results is to recode the four attribution levels into two attributions levels, with one level representing low attribution and the other level representing high attribution. For example, 51% of respondents in the No Presidential Control condition believed that the Obama Administration had A Lot or Some responsibility, while 71% of respondents in the Presidential Control condition assigned those levels of blame to the Obama Administration. According to a one-sided test of quality of proportions, this

<table>
<thead>
<tr>
<th>Condition</th>
<th>A Lot</th>
<th>Some</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Presidential Control</td>
<td>17%</td>
<td>48%</td>
<td>29%</td>
<td>7%</td>
</tr>
<tr>
<td>Presidential Control</td>
<td>18%</td>
<td>37%</td>
<td>27%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Mann-Whitney Test Statistic: U = 5651, p = 0.91

<table>
<thead>
<tr>
<th>Condition</th>
<th>A Lot</th>
<th>Some</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Presidential Control</td>
<td>11%</td>
<td>40%</td>
<td>33%</td>
<td>16%</td>
</tr>
<tr>
<td>Presidential Control</td>
<td>23%</td>
<td>48%</td>
<td>25%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Mann-Whitney Test Statistic: U = 3765, p < 0.01
20 percentage-point difference is significant at the 0.01 level.

The results provide support for the centralized control hypothesis: information about the president’s centralized control over the agency increases attributions of blame to the president. What explains the absence of an effect with regard to the Bush Administration? The most likely explanation involves the sophisticated allocation of blame for the conditions that led to the disaster. Without a clear understanding of presidential formal authority over the agency, respondents were more likely to blame eight years of Bush Administration regulatory policy. However, once informed about the influence the Obama Administration wields over the agency—through appointment of the agency leadership, removal of the agency leadership, and regulatory review—respondents were more likely to allocate a share of the blame to the Obama Administration.

The results also suggest that partisan rationalizations influence how respondents allocate blame. As noted above, national polls at the time report that Democrats and independents were far more likely to blame the Bush Administration than the Obama Administration. The MTurk subject pool is known to be disproportionally composed of Democrats and independents. Results from respondents drawn from this pool reveal the same pattern of blaming the Bush Administration after reading a news article with no information about presidential formal authority. Nearly 65% of respondents in the No Presidential Control condition place A Lot or Some responsibility with the Bush Administration. Only 51% of respondents in that condition attribute the same level of responsibility to the Obama Administration.

This suggestive pattern of blaming the out-party is in line with previous research finding that partisan rationalizations influence blame attributions (e.g., Peffley and Williams 1985, Rudolph 2003). However, that the Presidential Control treatment can induce even

\[\text{\textsuperscript{15}}\text{See Berinsky, Huber and Lenz 2012.} \]

Also, in other surveys, I find only 10-15% of MTurk respondents identify as Republican. Unfortunately, the current survey does not ask for party ID. Future work will explore this question in depth.
sympathetic co-partisans to allocate more blame to the Obama Administration suggests the significant influence of agency institutional context. The institutional context of agencies appears to damper the influence of partisan rationalizations. This point will be explored in future work.

In summary, more information about presidential control clarifies for respondents how much responsibility the Obama Administration had for the regulations; before respondents were exposed to the agency design information, they possibly had a vague or inaccurate notion of presidential responsibility for the agency. Knowledge of the institutional context, in other words, enhanced clarity of responsibility. Regarding Congress and the agency leadership, I find no evidence that the centralized control information increases attributions of blame. Rather, the results suggest that blame for these two entities is reduced in the No Presidential Control condition, though the results for a one-sided Mann Whitney U test are not statistically significant at conventional 0.05 levels (\( p = .054 \) for Congress, \( p = .058 \) for the agency leadership).\[16\]

### 3.4 News Attention to Government Agencies

Federal agencies are responsible for vast policymaking authority and regulate nearly every aspect of society. Citizens, however, cannot vote agency appointees or bureaucrats out of office should they disagree with agency policy. Citizens can only sanction the elected officials who oversee the agency and set its policy agenda. Before allocating blame for the agency action, citizens must learn which elected officials are actually responsible for the agency. News coverage of agencies can be an important provider of this information. If news coverage does not make the connection between an agency and an elected official, then citizens are likely to incorrectly allocate blame for agency policymaking. How well does the

\[16\]The results do not identify which factor of agency design is causing the increased attribution of blame. My interest here is on the effect of basic information about agency design, which journalists could include in many stories about agencies. I am not focused on the relative impact of, for example, information about appointments versus information about regulatory control.
news fulfill this information-providing function?

While scholars have assessed the extent and trends in press coverage of Congress and the president (Arnold 2004; Snyder and Strömberg 2010; Snyder and Puglisi 2011; Cohen 2008), there is little knowledge of even basic trends of press coverage of government agencies. Given the importance of agencies in American government and the significant regulations that they promote, this lack of knowledge is unfortunate.

The results in Section 3.3.2 show that news coverage that emphasizes the agency institutional context increases attributions of responsibility to the president. These results lead to broader questions about the role of the news in enabling accountability of government agencies. Specifically, the most basic question is whether agencies receive a degree of coverage in the press that is commensurate with their influence. In other words, because agencies are involved in such extensive policymaking and regulation, is that activity communicated to voters through the press? A second concern is information given to voters about political oversight of agencies. Does the press inform voters about which elected officials are responsible for the agencies, or does it present agencies as though they operate independent of political influence?

I now present patterns of newspaper coverage of U.S. federal regulatory agencies. I show that considerable heterogeneity exists in the extent to which journalists cover agencies and in the frequency that journalists mention the president along with the agency—a minimum requirement to connect the agency’s policies to the president. I then focus on regulators whose regulations are subject to presidential oversight through OMB regulatory review. I find that even the nation’s largest regulators rarely receive coverage that features the president. The goal of this analysis is not to explain the variation in coverage, but to provide descriptive patterns of media coverage of federal agencies. The knowledge of these patterns itself is an important step toward understanding accountability of these agencies and toward formulating questions for future research.
3.4.1. Newspapers and the Bureaucracy

Newspapers are a major source of news for the public. Approximately 25% of U.S. adults read national newspapers for news, while 69% read local newspapers (Harris Interactive 2010). Editors and journalists at these local newspapers rely on influential papers such as the New York Times to set the agenda (Gans 1979; Wilhoit and Weaver 1991).

The data source for this analysis is the New York Times (Times) corpus, which includes nearly all articles published by the Times between 1987 through 2007 (Sandhaus 2008). Unfortunately, the corpus is limited to these years, but its coverage spans four presidential administrations, including the complete Clinton administration and seven years of the George W. Bush administration. This coverage limits the potential for finding results that are idiosyncratic to a single president or biased by time-period specific events, such as a presidential election.\[^{17}\]

The Times, given its influence and focus on politics and regulation, is ideally suited to study agencies. Scholars have frequently used the Times to study presidential politics (see Gilens, Vavreck and Cohen 2007). For decades, the Times has maintained its position as the country’s leading paper. Presidents and national politics receive extensive coverage in the Times (Cohen 2008). In my own content analysis of agency news coverage, I find that major newspapers around the nation often reprint Times coverage of agencies\[^{18}\]. I also find that the Times is not unique in its extensive coverage of regulatory agencies. Other major papers, such as the Wall Street Journal and the Washington Post, devote similar amounts of coverage to federal agencies.

I create a list of nearly every agency in the U.S. federal government using three sources: the U.S. Government Manual, the official website of the White House, and Lewis’s agency-design datasets.\[^{19}\] To identify sub-Cabinet agencies, I use two sources. First, I use the OMB’s

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\[^{17}\] The New York Times corpus is used under license. Copyright issues prevent me from downloading, parsing, and preparing for analysis any large number of articles from additional years.

\[^{18}\] See Chapter 4.

\[^{19}\] I use two datasets from Lewis’s work. The Politicization Over Time data includes all agencies included
database on rulemaking activity. This list identifies every sub-Cabinet agency or office that has issued a rule or regulation. I supplement this list with Lewis’s dataset. While this list misses some obscure sub-Cabinet agencies or offices, it still includes over 200 entities and all entities that are engaged in regulatory activity.

After creating the list of agencies, I search the *Times* corpus for news articles that mention any of these agencies. I then organize the articles into five separate document corpora corresponding to institutional design of the agency. I organize by the broad categories of agency design, rather than substantive policy area, to highlight how coverage varies across different institutional contexts. The number of articles and agencies collected is listed in Table 3.3.

<table>
<thead>
<tr>
<th>Institution Type</th>
<th>Agencies</th>
<th>Articles</th>
<th>First Quartile</th>
<th>Median</th>
<th>Third Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>EOP</td>
<td>8</td>
<td>8,822</td>
<td>4</td>
<td>19</td>
<td>78</td>
</tr>
<tr>
<td>Cabinet Department</td>
<td>15</td>
<td>55,047</td>
<td>61</td>
<td>110</td>
<td>195</td>
</tr>
<tr>
<td>sub-Cabinet Agency or Office</td>
<td>205</td>
<td>58,934</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Executive Agency</td>
<td>15</td>
<td>19,483</td>
<td>1</td>
<td>11</td>
<td>50</td>
</tr>
<tr>
<td>Regulatory Commission</td>
<td>21</td>
<td>47,325</td>
<td>2</td>
<td>20</td>
<td>88</td>
</tr>
</tbody>
</table>

Table 3.3: Number of articles that mention department, agency, or office by agency type. The number of department, agency, or office within each type is also listed. Last column reports the first, second, and third quartile of the number of articles published annually for all entities within type.

Table 3.3 shows that agencies, at this aggregate level, receive extensive coverage in the newspaper. Three categories—Cabinet departments, sub-Cabinet agencies, and regulatory commissions—each contain nearly 50,000 articles published. The table also shows considerable variation in coverage across agency type. The last column reports the first, second, and third quartile of the number of articles published about agencies within each agency type.

in the Office of Personnel Management Central Personal Data File, which includes nearly all agencies in existence. See Lewis’s dataset codebook for the few exceptions, available on Professor Lewis’s website. For additional coverage, I also use Lewis’s *Administrative Agency Insulation* data, which includes all agencies created during 1946-1997, as listed in the U.S. Government Manual. I exclude the military branches, primarily because the Constitution places these agencies under presidential control, which reduces the ambiguity of control and the public’s reliance on media for knowledge of who is in charge.

The corpora are not mutually exclusive.
For example, the median article count for Cabinet departments is 110. That high value is a stark contrast to the sub-Cabinet, where 50% of annual agency observations have a value of zero. Many of these sub-Cabinet agencies and offices are small (measured by staff and budget) and have a minimal regulatory impact on society (measured by regulations issued), which is one explanation for the limited news coverage. In addition, coverage of the sub-Cabinet agencies often refers only to the parent Cabinet department, although the action was taken by a sub-Cabinet agency. Thus, there are fewer opportunities for these agencies to receive press coverage.

Table 3.3 counts articles from a wide variety of agencies. Some of these agencies have neither regulatory nor enforcement authority. Thus, the aggregate numbers in Table 3.3 mask how coverage varies by an agency’s regulatory impact on society. An alternative approach is to focus on regulatory agencies only; that is, focus on agencies that promote social and economic regulations on American businesses and individuals. Accountability of regulatory agencies is particularly important given the significant benefits and costs associated with agency regulations. In 2013, the president’s regulatory budget eclipsed 58 billion dollars; those funds pay salaries of over 290,000 agency personnel (Dudley and Warren 2012). Also in 2013 alone, the OMB reviewed 418 proposed agency regulations; 104 of those regulations OMB deemed economically significant. Since 1987, OMB has received over 28,000 agency regulations.

Figure 3.1 shows boxplots of annual newspaper coverage of a large sample of U.S. regulatory agencies. The figure shows high variation in press coverage across and within agencies. The Federal Reserve, the Securities and Exchange Commission, and the Food

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21 According to Executive Order 12866, any rule that meets the following criteria is economically significant: 1) has an annual economic impact of over $100 million; 2) creates a serious inconsistency with other agency policy; 3) alters the budgetary impact of entitlements; and 4) raises novel legal or policy issues.


23 I include all regulatory agencies used in Lewis (2008). Lewis obtained the list, which I independently verified, from the Washington University at St. Louis’ Weidenbaum Center on the Economy, Government, and Public Policy at wc.wustl.edu/regulatory_reports.
and Drug Administration receive the most coverage. Other agencies, such as the Consumer Product Safety Commission, the Interstate Commerce Commission (abolished in 1995), and the Transportation Security Administration receive relatively little attention in the news.

Figure 3.1: **Number of annual articles by regulatory agency.** Agencies sorted by median annual number of articles.

When journalists cover agencies, they enable the public to learn about agency actions. An additional step toward political accountability involves journalists connecting agencies’ actions to the elected officials who oversee those agencies. Given the large size of the dataset, and the research focus on general media attention to the president and the agency, I limit the analysis to a simple measure: the share of articles about an agency that mentions the president and the agency together. This measure captures media attention to the broad range of issues that involve the president and federal agencies: appointments, political con-
troversy, public discussions of agency policy, and journalists’ attributions of responsibility. The advantages to this approach are ease of replication and low cost in terms of human coding. The principal disadvantages are a lack of context and a risk of counting incidental mentions of the president’s name that make no connection between the president and the agency.

In Figure 3.2 I show first, second, and third quartiles of the annual share of articles about each regulatory agency that mentions the president’s name. Observations are weighted by the annual number of articles that feature the agency. Agencies that receive the most coverage do not necessarily receive the most coverage that mentions the president. The agencies with the greatest share of articles that mention the president are the Federal Election Commission and the Energy Department. The EPA has the fourth highest share of articles that mention the president, making it prominent in both the total coverage it receives and the share of articles that mention the president. In contrast, the Securities and Exchange Commission and the National Transportation Safety Board receive relatively little coverage that features the president.

Political accountability requires accurate attributions of responsibility. Figure 3.2 reveals one potential way that the accurate assignment of blame can be undermined by news coverage of agencies. Specifically, even some agencies that are relatively insulated from presidential control receive a large share of articles that mention the president. The Federal Reserve, for example, is arguably the most politically-insulated regulatory commission, but news coverage of the Federal Reserve still mentions the president in over 20% of articles per year. Approximately 5% of these articles that mention the Federal Reserve and the president suggest presidential influence to readers by mentioning appointments. However, many of these articles are about general economic policy; the president and the Federal Reserve wield significant influence in economic policy and are likely to appear in articles together.

To be able to calculate the quartiles, I remove agencies with less than 4 observations.
simply due to the politically-salient nature of economic policy. If journalists exclude agency-design information from articles about these independent agencies, then they may fail to increase the institutional clarity of responsibility for readers. Readers may then misjudge the president’s authority over the agency and, ultimately, improperly allocate blame for the agency’s action.

Figure 3.2 includes agencies whose regulations are not subject to formal OMB review. One of the main justifications for OMB review is that voters, when seeking to assign blame, will know that the president has set an agency’s regulatory agenda. The White House itself seems to accept this view, stating, as quoted in Section 3.2, that OMB review is intended to
ensure that regulations “reflect Presidential priorities.” However, for OMB regulatory review to enable accountability, voters must know which regulations are subject to OMB review and thus reflect presidential priorities.

How well does the news fulfill this function of informing voters about the president’s control over regulatory agencies? One possibility is that every news article about a rule or regulation mentions that the president (or White House) has review authority. At the other extreme, news could never mention the president’s centralized control powers and instead focuses on the policy details and interest group activity surrounding the rule. To assess the actual coverage patterns, I use OMB regulatory reports to calculate the ten agencies with the most economically significant regulations reviewed between 1981 and 2007. I focus on the top ten regulation producers in order to simplify the presentation of results and focus on the agencies with the largest regulatory impact on society. In addition, to more accurately represent coverage that focuses on regulations, I limit the news collection to articles that mention rule, regulation, or rulemaking. I list these agencies and the share of articles that mention the president’s name in Figure 3.3.

Once again, the figure reveals considerable heterogeneity in coverage across agencies. Coverage patterns match neither of the extreme conditions stated above. For seven of these agencies, less than 50% of news coverage mentions the president. Only three regulators—the Department of Health and Human Services, the Small Business Administration, and the Centers for Medicare and Medicaid Services—receive coverage that mentions the president more than 60% of the time. Meanwhile, coverage of the powerful FDA mentions the president approximately 25% of the time. Voters are thus often reading about many prominent regulators as though they operate independently from the president and his influence.

251981 is the first year available in OMB’s .xml reports at time of access. Also, I collapse two sub-Cabinet agencies within the Agriculture Department to just the Agriculture Department. Also, while the Centers for Medicare and Medicaid Services (established 2001) and the FDA are part of the Department of Health and Human Services, I list them separately because OMB lists those sub-Cabinet agencies issuing the regulations and they receive prominent press coverage, independent of the parent Cabinet department.
Figure 3.3: **Average annual share of published articles that mention the president, by regulatory agency.** Only ten agencies with the most economically significant rules proposed are shown. Agencies sorted by median share of articles that mention the president. Observations weighted by annual number of articles that mention the agency. A chi-squared test rejects equality of groups at the 0.01 level.

It is notable that agencies such as the FDA receive such a low frequency of coverage that mentions the president. FDA regulations and decisions on drug approvals have significant consequences for industry and personal health and well-being. The White House maintains authority over the FDA, including the power to overrule approvals of drugs and medical devices. Despite these controls, the media infrequently associate this agency with the president and, as Carpenter ([December 13, 2011](#)) noted in a *New York Times* op-ed, presidents infrequently interfere with it. Only once in FDA history has a presidential administration overruled an FDA decision. Therefore, the infrequent appearance of the president in FDA agency news may reflect a hesitancy to politicize technocratic agency decision-making (see [Bawn 1995](#)). That power to overrule the agency, however, is always present and almost certainly influences the agency’s actions at least at some level.
3.5 Discussion

In this chapter, I show that agency-design features that enhance formal presidential authority can also lead voters to increase attributions of responsibility for an agency’s actions to the president. The findings suggest that these agency-design features lead to greater institutional clarity of responsibility. Informing voters of the institutional context, or the formal structures that enhance or insulate the agency from the president, allows voters to form more accurate retrospective judgments and assign responsibility correctly.

These results highlight the need for scholars in executive and bureaucratic politics to consider an important point when discussing the increasing trend of centralized presidential control: voters lack perfect information about the president’s formal authority. Thus, White House approval or disapproval of an agency regulation can lead to greater accountability only if voters know that the agency’s regulations are subject to review. The news, as a key source of political information for voters, is but one way voters can learn about the institutional context when forming retrospective judgments.

The results add an additional consideration to discussions of blame attribution in the wake of a scandal. Certainly a complex federal system, a multi-layered bureaucracy, and elites shifting blame, all obscure responsibility; but the institutional context of agencies themselves can enhance the clarity of responsibility during an agency scandal. Formal authority resolves some of the ambiguity regarding responsibility.

My findings on media effects build on previous research that demonstrates how news frames after a natural disaster influence attributions across a federalist system [Maestas et al. 2008]. News coverage that reveals the institutional context of federal agencies can reduce the muddled accountability that occurs between executive and legislative branches.

One line of future research should consider how the president’s internal staff manages agency crises in the wake of a scandal. Previous work that studies presidential involvement in scandals and their lasting impact on the president (e.g., Hacker, Giles and Guerrero 2003...
Rottinghaus and Berenznikova (2006) can be expanded to consider how presidents manage blame when agencies are insulated from their influence.
Chapter 4

Partisan Bias in Media Coverage of the Environmental Protection Agency: An Empirical Analysis

Government agencies are responsible for the regulation and enforcement of laws that affect nearly every aspect of society. Their responsibilities range from the implementation of major healthcare and financial reform to the criminal enforcement of antitrust laws and the collection of taxes. Agencies’ regulations can have significant consequence for public health and the economy. The Environmental Protection Agency’s program to address climate change is a prominent example.

At the same time, public opinion about government regulation is highly polarized by ideology (Gallup 2012). Conservatives generally favor a more restrained approach towards regulation, while liberals advocate a more activist governmental role in regulatory matters. For voters of all ideologies, the mass media is a primary source of information about government agencies. Thus, I investigate whether news coverage of government agencies is politically biased. Political biases in coverage of agency regulations has implications for the
information voters hold about regulations and, ultimately, for voter support or opposition of those regulations.

Scholars have found considerable evidence that the news is politically biased (e.g., Grose and Milyo 2005; Gentzkow and Shapiro 2010) and that political biases have affects on political behavior (DellaVigna and Kaplan 2007). However, we know little about the political behavior of news in the context of the coverage of regulation. First, is news coverage of regulation politically biased? If regulatory coverage is similar to general news coverage or political campaign coverage, then it is reasonable to expect regulatory coverage to also be politically biased. However, the nature of that bias is unknown. Is the political bias one of omission, where certain regulations are just not covered in the press? Does the bias manifest in tone and framing, with one ideological camp favoring negative coverage of regulations framed in a negative context, with the other camp favoring positive coverage framed in a positive context?

To study the political biases of news coverage of regulations, I collect thousands of newspaper articles about the Environmental Protection Agency over a twenty-one year period. I investigate two sources of bias that are often assessed in the communications and political behavior literature: the positive or negative tone of EPA coverage, and the frames used in writing about the EPA. Given the challenges of comparing coverage to an objective measure of unbiased news, I adopt a relative comparison design (Druckman and Parkin 2005). In this design, I assess the relative differences in coverage of the same issue by two competing, ideologically-opposed newspapers: the New York Times and the Wall Street Journal. In addition, I compare coverage over four presidential administrations, allowing me to assess whether the political biases of the newspapers is moderated by the regulatory agendas of the administration.1

I adopt automated content analysis methods from the text mining and machine learning

1Puglisi (2011) finds that the political behavior of the New York Times is moderated by the party affiliation of the president.
fields to analyze a large collection of newspaper articles. To study newspaper slant, I compare the text of EPA news coverage to a dictionary of negative words specifically developed for texts about finance and economic concerns (Loughran and McDonald 2011). The use of this dictionary increases validity by coding words in a manner consistent with the context of writing about finance and the economy.

I then assess the prevalence of frames commonly used in scientific writing: political frames and consequence frames (Bolson, Druckman and Cook 2014). These frames are important to study because of their ability to influence voter support for issues based on scientific findings, such as EPA regulation. I use a method called topic modeling to identify thematic topics that correspond to each of these frames. One empirical challenge is assessing how the distribution of thematic topics differs between the two newspapers. The particular topic model I adopt, Dirichlet Multinomial Regression (DMR), estimates how the distribution of topics varies with different features of documents, such as the newspaper identity and the year of publication.

I find that the Wall Street Journal features significantly more negative news coverage of EPA rulemaking than the New York Times. I find this slant even when analyzing news coverage alone, omitting editorials or opinion writing. I also find that the degree of negative tone varies by presidential administration. For example, the liberal-leaning newspaper was more likely to use a negative tone during the Reagan administration, while the conservative-leaning newspaper was more likely to use a negative tone during the Clinton administration.

Regarding frames used on EPA coverage, I find that the conservative-leaning Wall Street Journal is more likely to focus on the negative economic consequences of EPA regulation, such as the cost and the burden on small businesses. The paper’s emphasis on negative consequences is more prevalent across all administrations in the sample. I find mixed results regarding the political framing. The New York Times is slightly more likely to feature politics in its coverage of EPA rulemaking, though the difference is greatest during the Clinton
administration, where the New York Times focused coverage on congressional opposition to
the Clinton regulatory agenda. I conclude by discussing how news coverage of agency rule-
making influences political behavior not through framing effects alone, but also by providing
elite partisan cues about which political actors support or oppose agency policymaking.

4.1 Theoretical Motivation

Research into the partisan bias of news has largely focused on two goals: quantifying the
existence of bias and placing news outlets onto an ideological scale (Groseclose and Milyo
2005; Gentzkow and Shapiro 2010), and identifying the manner in which partisan biases
distort the news. More broadly, bias in the news manifests both in explicit and implicit
ideological positions. Explicit biases are found, for example, in a newspaper’s editorial
pages, where editors write opinions to explicitly support or oppose government policies (Ho
and Quinn 2008). Explicit biases of editors can lead to implicit bias in news coverage.
Editors, for example, slant coverage in order to appeal to the ideological biases of their
readers

These implicit biases can distort the news—i.e., the information given to voters about
public affairs—in a number of ways. Research on agenda-setting has shown that news outlets
both emphasize and cover issues favorable to candidates that are ideologically similar to the
news outlet (Puglisi 2011; Larcinese, Puglisi and Snyder 2011; Snyder and Puglisi 2011). Research
also has shown that partisan bias manifests in the slant of the news, which has
been defined as both the space given to issues and the degree of positive, negative, or neutral
tone of the coverage (Druckman and Parkin 2005). Another prominent manner of bias is in
framing of the news, where partisan news outlets give weight to considerations that benefit
elected officials who share similar ideologies (Levendusky 2013). Scholars have found evidence
of partisan bias in agenda-setting, slant, and framing, and have documented the effect of
these biases on voter opinion and behavior (e.g., Druckman and Parkin 2005; DellaVigna
and Kaplan, 2007).

This chapter focuses on the latter two forms of partisan bias in the news: slant and framing. For the analysis of slant, I examine whether a conservative-leaning newspaper features relatively more negative coverage of EPA rulemaking than a liberal-leaning newspaper. Then, to analyze partisan bias in framing, I examine whether a conservative-leaning newspaper employs different frames to describe EPA rulemaking. Using different frames will have consequences when the frame used reduces voter support for the rulemaking activity and the agency.

4.1.1. Slant and Framing in the News

Few observers would question the presence of slant on a newspaper’s editorial or opinion pages. The slant in editorials is generally not regarded as a challenge to norms of objectivity in journalism; consumers of news are usually aware of the biased perspective of transparently opinion pieces. Scholars have sought to identify whether editors’ political bias influences the news itself. As opposed to biased editorials, biased news challenges norms of objective journalism and potentially interferes with the mass media’s function of informing the electorate about public affairs.

Several studies have documented that political bias influences the slant of news coverage. For example, Kahn and Kenney (2002) find that the editorial page’s candidate endorsements influence the degree of positive, negative, or neutral tone of news coverage of the candidates. Lott and Hassett (2004) document how the tone of economic news coverage varies across major newspapers and by the party of the incumbent president. Crucially, more recent work has investigated the political effects of news slant, finding that slant has a strong influence on voters’ decisions (Druckman and Parkin, 2005).

There is some ambiguity in the literature in the use of these terms. Slant has been used to denote the more general partisan distortions in media (Gentzkow and Shapiro, 2010) and the general tone of news coverage (Druckman and Parkin, 2005). In addition, scholars have also noted that “framing” has come to mean many things in media studies scholarship (see Bolson, Druckman and Cook, 2014).

News slant can lead to less information given to voters if news outlets selectively underreport certain issues.

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Following Druckman and Parkin (2005), my focus is on relative slant: I compare coverage of a single agency’s regulatory activity by competing and ideologically-opposed newspapers. As Druckman and Parkin discuss, media researchers have long argued that no objective measure of slant exists. In other words, analysis of slant should not focus on comparing newspapers to a non-existent objectively neutral standard. Rather, the best way to assess slant is to study relative comparisons of coverage (see also Gilens and Hertzman 2000).

I examine whether the tone of EPA regulation coverage in the conservative-leaning newspaper is more negative than in the liberal-leaning paper. Negative coverage of regulation can include, for example, more emphasis on the costs, the economic and social burden, or the contentious debates surrounding regulation. This negative sentiment about regulation would be based on a conservative political orientation that is skeptical of centralized regulation. This skepticism traces its origins at least back to the New Deal, which was strongly opposed by an American right motivated by dislike of centralized state, big government, and bureaucracy (Peele 2011).

The general conservative stance on regulation is captured in Reagan’s Executive Order 12291, which required federal agencies to submit regulations to the Office of Management and Budget for pre-publication review. The order instructed agencies to include a “regulatory impact analysis” that details the projected costs and benefits of each major regulation. Moreover, the order focused attention on the economic costs of regulations. Its general requirements include that the net benefits to society must exceed the net costs to society, and that the agency choose the regulatory approach with the least net cost to society.

Conservative skepticism about regulation is found outside of U.S. political institutions, as well. Prominent conservative research institutes issue frequent reports that focus on the costs of regulation. Conservative legislators also have a track record of promoting bills that rein-in agency regulatory activity, such as H.R. 2804 (2014), the Achieving Less Excess in

\[\text{Footnote:} \text{The Mercatus Center, for example, features an online Regulatory Cost Calculator that lets businesses examine the projected costs of any proposed major regulation.}\]
Regulation and Requiring Transparency Act of 2014.

I examine relative partisan bias in the framing of news stories about EPA regulation. A frame is a contextual cue as to how an issue is presented. Different frames represent subtle changes in how a problem is presented; these differences, far from being mere changes in wording, influence political outcomes such as evaluations of public officials (Iyengar 1991). There are, of course, many ways in which to frame a news story. However, scholars have identified certain frames about scientific issues that, when presented to citizens, undermine or enhance support for the science or issue.

Summarizing research on the public understanding of science, Bolson, Druckman and Cook (2014) state that three key frames are frequently used in writing about science: the political frame, the consequence frame, and the evidence frame. The political frame highlights the political disagreement over the scientific issue itself and the scientific evidence that supports or undermines a position on the issue. The consequence frame focuses on the positive or negative consequences of the issue, such as health benefits of a clean air regulation or the projected cost increases for energy prices for the same clean air regulation. The evidence frame presents consensus about a scientific body of evidence on an issue.

I focus mostly on the political frame and the consequence frame, because they have important implications for political behavior. Druckman and Holmes (2004), for example, find that the use of the political frame and the negative consequence frame reduce support for nuclear energy.

I examine whether the political behavior of major newspapers manifests in the framing journalists use to report on the EPA. Specifically, does political ideology influence the newspaper’s use of the political frame to build or undermine support for regulations? Does political ideology influence the relative use of the consequence frame, with conservative-leaning papers focusing more on the negative consequences and liberal-leaning papers focusing more on the positive consequences?
The expectation regarding the political frame is less clear. If the newspapers use (intentionally or unintentionally) the political frame to undermine support for a given regulation, then newspapers would use it when they disagree with the EPA regulatory agenda. For example, the Wall Street Journal uses the political frame to discuss regulation under the Clinton administration to undermine the support for aggressive EPA regulation. However, an alternative expectation involves newspaper use of political frames as elite partisan cues for their readers. If newspapers use political frames largely to provide elite partisan cues, then we may observe no difference in the rate of political frames between papers. For example, for a given regulation that promotes aggressive environmental protection, both newspapers would frame it around politics in order to provide their readers with the partisan cues that offer guidance on whether to support or oppose the regulation. I expand the cues and frames discussion in Section 4.5.

4.2 Agency Rulemaking in Perspective

Agency rulemaking has been characterized as central to the implementation of public policy in the United States [Kerwin 2003]. Agency rulemaking creates regulations that affect nearly every domain of public policy, from Securities and Exchange Commission rules to regulate financial markets, to Food and Drug Administration rules to regulate public health. Regulatory agencies are a significant component of U.S. government. These agencies required a budget of over $58 billion in 2013 alone to enforce and promulgate regulations; 81% of that budget is allocated for administering and enforcing social regulation alone [Dudley and Warren 2012]. In 2013, agencies published over 2500 interim or final rules in the Federal Register; seventy-eight of those rules were categorized as economically significant.

Agency rulemaking is a highly technical and political process. For instance, agencies must

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5Rules are classified as economically significant, or “major”, when they are likely to result in 1) an annual effect on the economy of $100 or more; 2) a significant increase in costs for consumers or businesses; or 3) significant adverse effects on business competition. Source of rulemaking totals: Government Accountability Office Federal Rules Database; Accessed June 04, 2014.
rely on the input of highly trained specialists to issue rules that apply to complex policy
domains. For example, the EPA requires “expertise in toxicology, epidemiology, and the eti-
ology of diseases to establish the national primary ambient air quality standards” (McGarity
1991). This expertise includes assessing the concentration of well-mixed greenhouse gases in
the atmosphere and evaluating their effect on public health. Other regulatory agencies use
staff expertise in fields such as economics, transportation, or medicine to develop standards
and issue regulations.

Given the high costs, benefits, and redistributive consequences of agency rules, it is no
surprise that rulemaking is also a highly political process. Political battles over rules can
occur at any stage in the rulemaking process and involve a variety of players, including
actors within the executive branch (e.g., Bressman and Vandenbergh 2006, Sunstein 2013),
the executive branch and Congress (Balla 2000, Parks 2003), or interest groups and the
agency (Balla 1998, Yackee 2006). The politics of rulemaking often extends to the courts,
where judges review regulations and interest groups challenge their rulings.

4.2.1. Focus on the Environmental Protection Agency

In fiscal year 2013, seventy-six federal agencies issued rules for the regulation of private
sector activities (Dudley and Warren 2012). In this analysis, I focus on newspaper coverage
of one agency—the EPA. I choose the EPA for several reasons. First, environmental policy
is a crucial focus on modern politics. Public support or opposition for environmental policy
has significant implications for both public health, communities, and natural ecosystems.
Understanding the formation of opinions about scientific policy has thus received significant
attention in media and scientific communication studies. In particular, understanding how
science is communicated to the public, and how communication frames about science affect
public opinion about scientific policy, is an important step toward understanding public
opinion on environmental policy and EPA policy in particular.

Furthermore, the EPA is one of the nation’s largest regulators in terms of regulatory
budget (over 5.3 billion dollars), staff (over 16,000 full-time staff), and significant regulations published in the Federal Register. Its activity generates a large volume of press coverage relative to other federal agencies. In addition, the nature of its activity—both highly political and highly technical—provides journalists with the opportunity to use political, consequence, and evidence frames when writing articles.

The EPA is perhaps the most politically controversial regulator. The White House and the Office of Management and Budget change or revise more EPA rules than any other agency (Government Accountability Office 2003; Copeland 2005). Public opinion is politically polarized both over the scope of regulation itself and over the findings of environmental science (Gallup 2012, 2014). Its coverage thus provides an opportunity to assess whether partisan biases in the news influence the choice of frames and the slant of the news for one of the largest and most significant regulators in US government.

If partisan biases are not evident in press coverage of the EPA, then it would be unlikely to find the biases in coverage of agencies that issue regulations in less politicized policy domains. In addition, opinion about environmental regulation maps well onto the conservative and liberal ideological scale. Ideologically-distinct beliefs about regulation are not as clear for, say, Food and Drug Administration regulation.

The same polarized debates over the environment and EPA regulation occur in other major policy domains, such as finance and the Consumer Financial Protection Bureau, or social policy and the Department of Education. Nevertheless, I focus on the EPA in this article because its high volume of major regulations and the environmental science that supports its regulations gives journalists ample opportunity to choose different news frames that are discussed in the science communication literature.
4.3 Newspaper Data and Methodology

To compare the relative slant and frames of newspapers, I study how two similar newspapers with different ideological leanings cover the regulatory activity of the Environmental Protection Agency. This agenda-setting is particularly noticeable in coverage of federal regulatory agencies, where smaller papers lack the staff and capacity to provide extensive coverage of regulation. These smaller papers rely on wire services to provide summaries of major regulatory actions. In other cases, they directly use syndication services to license articles written by journalists at major national papers. For example, in a search of newspaper articles about the Federal Trade Commission antitrust case against Microsoft Corporation, I find that five of twenty-nine articles about a case were duplicates of articles originally written in major newspapers or the Associated Press.

I use two data sources to build the collection of newspaper articles. The first data source is the *New York Times* corpus, which includes nearly every article published by the *New York Times* between 1987 through 2007 (Sandhaus 2008). I obtain *Wall Street Journal* articles over the same time period from ProQuest Historical Newspapers archive. I search each newspaper collection for news articles that mention “Environmental Protection Agency.” I specifically omit editorials and opinion from the analysis and focus only on news stories, as news, rather than opinion, is central to policy debates and as a source of public information about government (Gentzkow and Shapiro 2010). The article collection includes years from

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6 Newspapers are a major source of news for the public. This relative design follows Druckman and Parkin (2005), who study the relative slant of competing newspapers covering the 2000 Minnesota Senate campaign. It allows for straightforward comparison of differences in coverage without requiring the researcher to define any supposed objective measures of slant-free news.

Only two U.S. major newspapers are suited for this analysis, given their similar size, coverage of the EPA, and opposing ideologies. The *New York Times* and the *Wall Street Journal* represent two major newspapers on opposite ends of the conservative and liberal spectrum. The ideological polarization between the two papers is found on the editorial pages (Ho and Quinn 2008) and the news pages (Gentzkow and Shapiro 2010). They are also the nation’s two newspapers with the highest circulation. Most importantly, each newspaper devotes extensive coverage to the Environmental Protection Agency. Approximately 25% of U.S. adults use national newspapers for news, while 69% use local newspapers (Harris Interactive 2010). Editors and journalists at these local and regional newspapers rely on papers such as the *New York Times* to set the agenda (Gans 1979; Wilhoit and Weaver 1991).
four presidential administrations, including the last two years of the Reagan administration, the complete George H.W. Bush and Clinton administrations and most of the George W. Bush administration. This coverage limits the potential for finding results idiosyncratic to a single president.

4.3.1. Assessing Newspaper Slant

The first assessment of partisan bias involves the relative slant of EPA coverage. To assess slant, I focus on the tone of news coverage, anticipating that the liberal-leaning *New York Times* features more positive coverage of regulation than the conservative-leaning *Wall Street Journal*. A common method to measure sentiment is a dictionary-based approach (Grimmer and Stewart 2013). With the dictionary-based approach, I calculate the proportion of words in each news article that are also contained in a reference set of negative-toned words (the dictionary). The negative sentiment of articles can then be compared based on the relative frequency of negative words.

As Grimmer and Stewart (2013) emphasize, the most important consideration when using dictionary methods is the validity of the dictionary for the research project. Validity can be compromised when the coding of the words in sentiment dictionaries applies to a different context than the words in the research texts. For example, the word “recall” has different connotations in a consumer product safety context versus a clinical psychology context. Given the emphasis in regulation over costs versus benefits, I adopt a dictionary developed for the analysis of financial texts (Loughran and McDonald 2011). The finance-specific dictionary allows for more accurate classification of negative sentiment than standard sentiment dictionaries by focusing on words that have a negative context in discussions about finance and the economy.

To provide a summary of this dictionary in the context of EPA regulation, I present the most frequently used negative word stems for the *New York Times* and the *Wall Street Journal*. The word stems in Table 4.1 reveal that while each paper emphasizes roughly the
same negative words in its writing, subtle differences exist. For the *Wall Street Journal*, the most frequently used negative word stem is *cost*. The *Wall Street Journal* also frequently uses *forc*, which may suggest that regulations are being *forced* on individuals and businesses, as in the following *Wall Street Journal* article:

The measure, approved 14-2, would cost about $20 billion a year, according to the Environmental Protection Agency. Environmentalists hailed the action, while business groups protested that its cost would hurt the competitiveness of many U.S. plants and force some to close.\footnote{“Senate Unit Clears Measure to Tighten Clean Air Controls.” Robert E. Taylor. *Wall Street Journal*, October 23, 1987.}

Once I calculate the frequency of negative words in each article, I assess whether the negative word usage rate is higher in the *Wall Street Journal* than in the *New York Times*. I estimate a series of regression models for overdispersed count data where the dependent variable is the total count of negative words per article relative to the total number of words in the article. The predictors of interest are simply indicator variables for the identity of the newspaper.

<table>
<thead>
<tr>
<th>New York Times</th>
<th>wast, problem, cost, concern, close, critic, question, cut, hazard cost, wast, problem, cut, concern, hazard, forc, limit, investig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall Street</td>
<td>Journal</td>
</tr>
</tbody>
</table>

Table 4.1: **Ten most frequently used negative word stems by newspaper.** The frequency counts are normalized by the total number of negative word stems used in each paper.

I also include indicator variables for the presidential administration in office, as research suggests that the party of the incumbent president moderates the biases of major newspapers \cite{Puglisi2011}. Moreover, the identity of a presidential administration may moderate the political bias of regulatory coverage if Democratic presidents pursue more aggressive regulatory agendas than Republican administrations. The moderating effect occurs if the
liberal-leaning paper reacts more negatively to EPA rulemaking under Republican presidential administrations than Democratic presidential administrations.

The opposite moderating effect occurs for conservative-leaning papers. For example, president Reagan ran for office on a platform that included the elimination of regulations that were excessively costly to business and consumers. During the Reagan administration, significant steps were taken to reduce EPA rulemaking authority and revise EPA regulations to be more friendly toward business. The Wall Street Journal may be relatively less negative, on average, during the Reagan administration’s oversight of EPA rulemaking than during the Clinton administration’s oversight, when a more aggressive EPA agenda was implemented.

4.3.2. Assessing Newspaper Frames

One approach to identify frames in news articles is to search an online database, such as Lexis-Nexis, using keywords, and then to manually code the articles based on a coding protocol. This method is effective, yet it is infeasible for large text collections when human resources for coding are limited.

I adopt a method called topic modeling to measure the relative prominence of news frames in the New York Times and the Wall Street Journal. Probabilistic topic models have become popular statistical algorithms used to discover hidden thematic structures in document corpora. Political scientists are using topic models to answer a variety of questions, such as how representatives communicate with their constituents, how the focus of legislative debate changes over time, and how the text of legislative bills adds meaningful dimensions to ideal point estimates.

I use a topic model called Latent Dirichlet Allocation (LDA). LDA is a statistical model that describes the process generating a collection of articles. To generate an article, the LDA

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9As noted above, Reagan’s Executive Order 12291 created OIRA review of regulations and imposed rigorous cost-benefit criteria. Also during the Reagan Administration, more EPA regulations were changed during OIRA review than any other federal agency. (Copeland. 2005)

10Blei, Ng and Jordan (2003) describe the full statistical model and inference algorithms for LDA.
model assumes the following steps: 1) draw a probability distribution over topics; 2) for each
word in the article, randomly choose a topic from this distribution; and 3) randomly choose
a word from that topic. This probabilistic process builds the article collection.

Estimating the LDA model reverses this illustrative process of building article collections
(Blei 2011). The estimates uncover the distribution of topics for every article in the corpus.
This distribution is an ordering from most-likely topic to least-likely topic. For a simple, two-
topic example, consider an article about the the Clean Air Act. Suppose the model assigns
this article a high environment topic proportion equal to, say, 0.95, and a low proportion,
such as 0.05, to an unrelated Healthcare topic. In the process of building a corpus, this
represents the first step: determine the topic proportions for the article (0.95 and 0.05).
Then, for each word in the article, draw a topic from this topic distribution. Since the
environment topic proportion is .95, most words in the article will come from the environment
topic.

The second quantity is the topics themselves. Topics are defined as probability distribu-
tions over the entire vocabulary in the corpus. For each topic, the estimates reveal the
words most likely associated with the topic. Consider the Clean Air Act example again. The
estimated topic distribution would place high probability on words like air and standard,
and low probability on words like hospital and doctor.

We now have all the information needed to build an article collection. First, determine
the topic proportions: 0.95 and 0.05. Then, for each word, draw a topic with 0.95 probability
environment topic and 0.05 probability healthcare topic. Once the topic is chosen, choose a
word from the topic’s distribution over all words.

I am particularly interested in topics that correspond to the frames identified by Bolson,
Druckman and Cook (2014) as characterizing writing about science. As such, I classify topics
as representing a political frame if the topic places highest probability on words associated
with politics and political actors. Example words are Clinton, Senate, and Congress. I
classify topics as representing the consequence frame if the topic places highest probability on words that connote health risks, such as cancer, and economic benefits and costs, such as burden and million. Finally, for the evidence frame, I seek words such as science and consensus, which highlight broad scientific agreement about the issue.

The topic model presents several advantages over other automated content analysis approaches. First, it infers the words that define different topics from the text rather than requiring the human coder to define the topics in advance of the study. Second, it summarizes the thematic content of the article collections (Blei 2011) by estimating the distribution of multiple topics in the text. This is important since journalists may use variations on political, evidence, or consequence frames that may be difficult to define in advance.

The main advantage of the topic model is that it models the topics of a document as a probability distribution over all topics. Thus, this mixture form of topic model shows, for each article, the probability it features the political frame, and the probability it features all other frames. The mixture model, by allowing multiple frames in each document, more closely responds to real word news articles, where an article may discuss politics, science, and consequences. Estimates of the topic model reveal which competing frame is more prominent for a given article, since the estimates include the per-article probability distribution over all topics.

The next step involves assessing whether the relative prominence of different frames varies across newspapers and presidential administrations. To include article-level covariates in the model, I estimate a particular topic model that incorporates document-level covariates into the analysis. I present results from a modified version of LDA, called Dirichlet Multinomial Regression topic model (DMR), which models the document-level distribution of topics as a function of covariates, such as indicators for the newspaper of publication (Mimno and McCallum 2008).

I fit a 35 topic DMR model to the corpus of EPA articles, first using common pre-
processing steps such as removing infrequent words, numbers, punctuation, and running a
stemming algorithm. I use both substantive and statistical criteria to guide the choice of
topic number.

Statistical methods provide a robust way of choosing the number of topics that produces
the most flexible model such that the out-of-sample performance is highest. Substantive
criteria, however, are also important considerations in the choice of a topic number. Topics
should reflect themes and content that are easily and naturally interpretable to human
readers. As Mimno and Blei (2011) argue, often in exploratory data analysis researchers
should be concerned with more than the fit to held-out data. Moreover, as Chang et al.
(2009) show, there is sometimes an inverse relationship between out-of-sample performance
and human interpretation of topics. Specifically, estimated topics should reflect known cases
and issues in environmental science and regulation. Choosing too many topics results in
overly fine-grained and idiosyncratic topics that are of little theoretical interest to the theory
and research questions.

With these considerations in mind, I split the data and perform 5-fold cross validation,
computing the perplexity of the model on held-out data to choose the number of topics
(Blei 2011; Grun and Hornik 2011). The models perform best on the held-out data with
topic counts between 35 and 40 topics. I used the substantive criteria outlined above to
choose 35 topics as the primary model, though the results are robust to variations in this
choice. I estimate the models with several different topic-count specifications and decided
that 35 topics produce both broad, comparable topics that also match substantive issues in
environmental regulation.

I choose LDA for several reasons. First, as previously mentioned, LDA is an unsupervised
learning method, which suits the antitrust articles well. Unsupervised methods are preferred
when the researcher does not know the topic categories ex-ante (Grimmer and Stewart 2013).
The unsupervised model estimates the topics from the data, which the researcher then verifies
post-estimation. The second reason to choose LDA is that it belongs to a class of mixed-membership models. LDA assumes that each article is a mixture of topics, meaning that an article can be clustered into multiple topics. As stated above, this model is well suited for news articles, which are likely to cover multiple topics. For example, a single article may focus on both the Clean Air Act, the economy, and politics.

Finally, the performance of LDA on news articles, and the *New York Times* in particular, has been researched (Mimno and Blei 2011). Chang et al. (2009), for example, find that LDA outperforms several competitors in identifying topics that correspond to human evaluations—a crucial benchmark for news articles in this analysis since the most important question is how humans read and interpret these news articles about agencies and politics.

### 4.4 Results

#### 4.4.1. Sentiment Analysis

I now present the results of the regression analysis. Table 4.2 reports the estimated predicted probability of using a negative word in an article, by newspaper and presidential administration. The predicted probabilities can be interpreted as the probability that the newspaper uses a word in a given article with negative sentiment, conditional on the president in office and the total number of words used in the article.

<table>
<thead>
<tr>
<th>Newspaper</th>
<th>Reagan</th>
<th>George H.W. Bush</th>
<th>Clinton</th>
<th>George W. Bush</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York Times</td>
<td>0.068</td>
<td>0.064</td>
<td>0.057</td>
<td>0.054</td>
</tr>
<tr>
<td>Wall Street Journal</td>
<td>0.055</td>
<td>0.064</td>
<td>0.064</td>
<td>0.058</td>
</tr>
</tbody>
</table>

(a) Predicted Proportion of Negative Vocabulary

Table 4.2: **Predicted probability of using a negative term, by newspaper and presidential administration.** Results from an estimated negative binomial regression model. Standard error of prediction in parentheses, showing whether the hypothesis test rejects the null hypothesis that the predicted probability is zero. Predicted probabilities are generated using estimates from the unrestricted model in Table 4.3.

The results partially support the expectation that the conservative-leanining *Wall Street*
Journal uses more negative sentiment to describe EPA regulation. The difference between the two papers, however, depends on the presidential administration. For example, during the Reagan administration the New York Times was thirteen percentage points more likely to use negative words than the Wall Street Journal. The sign of that difference is reversed during the Clinton administration, when the Wall Street Journal was seven percentage points more likely to use negative words than the New York Times.

The Wall Street Journal was also more likely to use negative words during the George W. Bush administration. This finding suggests that more than partisan dynamics alone are driving these differences. The newspapers are not simply looking to the party of the president in office; rather, they are likely reacting to the actual regulatory agenda of the EPA under the president’s administration. Reagan was known for his harsh impositions on EPA regulation, while Clinton is known to have enlivened the agency. George W. Bush, while conservative, was perhaps more moderate than Reagan in his EPA regulatory agenda. This is one explanation for the finding that there is no significant difference between the two papers for the George H.W. Bush administration. This could occur if, for example, the George H.W. Bush administration pursued an EPA regulatory agenda that was not as politically polarizing as other administrations.

Column 2 in Table 4.3 reports the regression results used to calculate the predicted probabilities in Table 4.2. The base group is New York Times coverage of George H.W. Bush administration. The differences across papers and administrations are statistically significant except for differences during the George H.W. Bush administration. The coefficient on WSJ is -0.001 and statistically indistinguishable from zero. Column 1 reports the restricted version of the model, constraining the interaction coefficients to be zero. The models provide statistical evidence that the partisan behavior of the paper varies across presidential administration. A likelihood ratio test strongly rejects the null hypothesis that the unrestricted model does not provide a better fit.
### Table 4.3: Results from negative binomial regression

<table>
<thead>
<tr>
<th></th>
<th>Restricted Model</th>
<th>Unrestricted Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>$-2.697^{***}$</td>
<td>$-2.682^{***}$</td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
<td>(0.011)</td>
</tr>
<tr>
<td>WSJ</td>
<td>0.039***</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
<td>(0.018)</td>
</tr>
<tr>
<td>W. Bush</td>
<td>$-0.152^{***}$</td>
<td>$-0.181^{***}$</td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td>(0.016)</td>
</tr>
<tr>
<td>Clinton</td>
<td>$-0.076^{***}$</td>
<td>$-0.128^{***}$</td>
</tr>
<tr>
<td></td>
<td>(0.012)</td>
<td>(0.016)</td>
</tr>
<tr>
<td>Reagan</td>
<td>$-0.016$</td>
<td>0.060**</td>
</tr>
<tr>
<td></td>
<td>(0.016)</td>
<td>(0.020)</td>
</tr>
<tr>
<td>WSJ x W. Bush</td>
<td>0.085**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.027)</td>
<td></td>
</tr>
<tr>
<td>WSJ x Clinton</td>
<td>0.126***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.024)</td>
<td></td>
</tr>
<tr>
<td>WSJ x Reagan</td>
<td>$-0.228^{***}$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.034)</td>
<td></td>
</tr>
<tr>
<td>Deviance</td>
<td>42702.480</td>
<td>42081.444</td>
</tr>
<tr>
<td>N</td>
<td>8938</td>
<td>8938</td>
</tr>
</tbody>
</table>

***$p < 0.001$, **$p < 0.01$, *$p < 0.05$***

#### 4.4.2. News Frames

Before estimating a topic model, it is useful to study descriptive patterns in the texts. If the two newspapers are indeed different in terms of the frames used, then that difference should be apparent using relatively straightforward text-mining methods such as word frequencies and word correlations.

Figure 4.1 displays the most frequently used words in each newspaper. To allow for comparability across newspaper collections, I normalize the word counts by the total number of words in each newspaper collection. The expectation is that the conservative-leaning *Wall Street Journal* is more likely to feature articles that use a consequence frame focusing on negative consequences, such as costs on business and individuals.
Figure 4.1: Twenty most frequently used words in the New York Times and Wall Street Journal. Word counts are normalized by the total number of words in each newspaper collection.

The counts in Figure 4.1 support this expectation. The most frequently used word in the Wall Street Journal is million, while cost is the sixteenth most frequently used word and billion is the twentieth most frequently used word. The New York Times uses the term million, though it is only the fourth most frequent word; cost and billion do not appear in the top twenty most frequently used words. The Wall Street Journal is slightly more likely to use words consistent with a political frame: administr, presid, govern, and hous.

Another useful text-mining method is to calculate word correlations, defined as the set of words that occur a given percent of the time together with another word. In Table 4.2, I report the words that appear at least twenty percent of the time with regulation.\footnote{The twenty percent threshold is arbitrary. Higher numbers would only reduce the number of words presented, while a lower threshold introduces such low correlations that any meaning is hard to infer.} I choose regulation because it is the fundamental issue that is politically polarizing.\footnote{As cited above, polls consistently show wide ideological divides with regard to attitudes about government regulation.}

Figure 4.2 reports the correlations. Several of the correlated words are suggestive of
Figure 4.2: Correlations with the word regulation. The figure shows all words that are mentioned in the same article with regulation at least twenty percent of the time.

differences in the consequence framing. For example, the term costbenefit has the fifth highest correlation with regulation in the Wall Street Journal collection, while burden has the seventh highest correlation.

Differences in the political frame are ambiguous. The New York Times features a higher correlation between regulation and administr. The Wall Street Journal, however, shows a high correlation between regulation, critic act, and argu, which together can be evidence of political debate over legal matters related to regulation.

One concern is that words such as million do not necessarily refer to economic concepts, but to other concepts, such as environmental science (e.g., parts per million). This phenomenon of a word having multiple meanings is referred to as polysemy (Steyvers and Griffiths 2007). The word correlations and topic models presented in this chapter are able to distinguish the different senses in which words are used. For example, in the Wall Street Journal, the five words with the highest correlation with million are billion, spend, rise, fiscal, and total. Topic models reduce the ambiguity of a word’s meaning by identifying other words that are
probabilistically more likely to appear along with it.

In summary, the text-mining methods offer suggestive evidence that patterns in political and consequence framing differ across the two newspaper collections. I now present the DMR topic model results in Tables 4.4 - 4.7. Recall that the DMR regression model estimates a topic distribution for each unique combination of covariates. For example, Table 4.4 shows the most likely topics, by newspaper, for articles written during the Reagan Administration. Each table shows the top ten topics in EPA coverage, by newspaper and administration. Each column in the tables shows the top five words that define the topic. I highlight in bold topics that correspond to political and economic consequence frames.

<table>
<thead>
<tr>
<th>New York Times</th>
<th>Wall Street Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 time make people work thing</td>
<td>time make people work thing</td>
</tr>
<tr>
<td>2 regul rule administr industri propos</td>
<td>regul rule administr industri propos</td>
</tr>
<tr>
<td>3 group plan issue meet week</td>
<td>group plan issue meet week</td>
</tr>
<tr>
<td>4 studi dr health cancer risk</td>
<td>investig depart report violat offic</td>
</tr>
<tr>
<td>5 investig depart report violat offic</td>
<td>california texa san counti los</td>
</tr>
<tr>
<td>6 citi build develop counti yor</td>
<td>market million stock share price</td>
</tr>
<tr>
<td>7 site cleanup contamin wast clean</td>
<td>plant power pollut emiss util</td>
</tr>
<tr>
<td>8 people day home live hous</td>
<td>studi dr health cancer risk</td>
</tr>
<tr>
<td>9 bill senat republican house democrat</td>
<td>billion budget program spend million</td>
</tr>
<tr>
<td>10 beach ocean dump oil spill</td>
<td>oil gasolin fuel gas price</td>
</tr>
</tbody>
</table>

Table 4.4: DMR ranked topics by newspaper: Reagan Administration

<table>
<thead>
<tr>
<th>New York Times</th>
<th>Wall Street Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 time make peopl work dont</td>
<td>regul rule administr industri propos</td>
</tr>
<tr>
<td>2 plan group issu meet week</td>
<td>time make peopl work dont</td>
</tr>
<tr>
<td>3 regul rule administr industri propos</td>
<td>plan group issu meet week</td>
</tr>
<tr>
<td>4 studi dr health cancer risk</td>
<td>investig depart report violat offic</td>
</tr>
<tr>
<td>5 investig depart report violat offic</td>
<td>california texa san counti los</td>
</tr>
<tr>
<td>6 peopl day live home hous</td>
<td>market stock million share price</td>
</tr>
<tr>
<td>7 air pollut emiss standard clean</td>
<td>air pollut emiss standard clean</td>
</tr>
<tr>
<td>8 bush presid clinton administr wht</td>
<td>california texa san counti los</td>
</tr>
<tr>
<td>9 site cleanup contamin wast clean</td>
<td>site cleanup contamin wast clean</td>
</tr>
<tr>
<td>10 citi build develop counti yor</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.5: DMR ranked topics by newspaper: George H.W. Bush Administration
### Table 4.6: DMR ranked topics by newspaper: Clinton Administration

<table>
<thead>
<tr>
<th>New York Times</th>
<th>Wall Street Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. time make peopl work dont</td>
<td>regul rule administr industri propos</td>
</tr>
<tr>
<td>2. plan group issu meet week</td>
<td>time make peopl work dont</td>
</tr>
<tr>
<td>2. plan group issu meet week</td>
<td>plan group issu meet week</td>
</tr>
<tr>
<td>3. regul rule administr industri propos</td>
<td>regul rule administr industri propos</td>
</tr>
<tr>
<td>4. peopl day live home hous</td>
<td>plan group issu meet week</td>
</tr>
<tr>
<td>5. studi dr health cancer risk</td>
<td>investig depart report violat offic</td>
</tr>
<tr>
<td>6. citi build develop counti york</td>
<td>california texa san counti los</td>
</tr>
<tr>
<td>7. investig depart report violat offic</td>
<td>studi dr health cancer risk</td>
</tr>
<tr>
<td>8. air pollut emiss standard clean</td>
<td>billion budget program spend million</td>
</tr>
<tr>
<td>9. bill senat hous republican democrat</td>
<td>air pollut emiss standard clean</td>
</tr>
<tr>
<td>10. school student univers children program</td>
<td></td>
</tr>
</tbody>
</table>

### Table 4.7: DMR ranked topics by newspaper: George W. Bush Administration

<table>
<thead>
<tr>
<th>New York Times</th>
<th>Wall Street Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. time make peopl work dont</td>
<td>time make peopl work dont</td>
</tr>
<tr>
<td>2. plan group issu meet week</td>
<td>regul rule administr industri propos</td>
</tr>
<tr>
<td>3. regul rule administr industri propos</td>
<td>plan group issu meet week</td>
</tr>
<tr>
<td>4. peopl day live home hous</td>
<td>investig depart report violat offic</td>
</tr>
<tr>
<td>5. studi dr health cancer risk</td>
<td>california texa san counti los</td>
</tr>
<tr>
<td>6. citi build develop counti york</td>
<td>studi dr health cancer risk</td>
</tr>
<tr>
<td>7. investig depart report violat offic</td>
<td>billion budget program spend million</td>
</tr>
<tr>
<td>8. bush presid clinton administr white</td>
<td>bill senat hous republican democrat</td>
</tr>
<tr>
<td>9. bill senat hous republican democrat</td>
<td>busi tax cost insur small</td>
</tr>
<tr>
<td>10. school student univers children program</td>
<td>market stock million share price</td>
</tr>
</tbody>
</table>

The results support the expectation of finding different consequence frames used across papers. However, unlike the findings on slant, there is little variation across presidential administrations: the topic distribution is fairly constant across administrations, while primarily differing between newspapers.

Across all administrations in the sample, the *Wall Street Journal* is more likely to focus on economic consequences with the topics (*market*, *million*, *stock*, *share*, *price*), (*billion*, *budget*, *program*, *spend*, *million*), and (*busi*, *tax*, *cost*, *insur*, *small*)\(^{13}\).

During the administrations of George H.W. Bush, Clinton, and George W. Bush, the *Wall Street Journal* was more likely also more likely to focus on regulation and rulemaking.

\(^{13}\) The *busi*, *tax*, *cost*, *insur*, *small* is just outside the top ten topics in the Reagan administration.
activity (regul rule administr industri propos), while during the last two years of the Reagan administration, the two papers were equally likely to focus on regulation. The results suggest that the conservative-leaning Wall Street Journal is more likely to focus on regulation itself, as well as the economic consequences of regulation, compared to the liberal-leaning New York Times.

The New York Times, in contrast, is more likely to write articles about negative environmental topics: (site, cleanup, contamin, wast, clean); (beach, ocean, dump, oil, spill); and (air, pollut, emiss, standard, clean) are all more prominent in the New York Times. By highlighting the negative environmental consequences, these articles suggest that the positive effect of regulation is to reduce these negative consequences.

<table>
<thead>
<tr>
<th></th>
<th>busi, tax, cost, insur, small</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New York Times</td>
</tr>
<tr>
<td>Reagan</td>
<td>26</td>
</tr>
<tr>
<td>H.W. Bush</td>
<td>15</td>
</tr>
<tr>
<td>Clinton</td>
<td>12</td>
</tr>
<tr>
<td>W. Bush</td>
<td>19</td>
</tr>
<tr>
<td>Average</td>
<td>18.0</td>
</tr>
</tbody>
</table>

Table 4.8: **Topic rank for economic consequences topic that is focused on the costs for small business.** Each number indicates the rank of the political topic, where rank is based on the probability of selecting that topic per article.

For further illustration about differences in economic consequence frames, Table 4.8 shows differences across newspapers in the topic rank for the busi, tax, cost, insur, small economic consequences topic. The last row in the table shows the average topic rank across the four administrations. The New York Times articles, on average, feature busi, tax, cost, insur, small as the eighteenth most-likely topic, while it is the eighth most-likely topic for the Wall Street Journal. Considering these ranks in relation to the generative process of the topic model described in Section 4.3.2, these results mean that, for a given word in a New York Times article, that word is more likely to be sampled from seventeen topics before being sampled from this economic consequence topic. For a given word in the Wall Street Journal,
only seven topics are more likely to be sampled from. Differences in the other economic consequence topics lead to similar substantive conclusions.

Regarding articles with a political frame, the DMR results reveal two topics that fit the proposed definition of the political frame: *bush, presid, clinton, administr, white, house* and *bill, senat, republic, hous, democrat*. Each topic reveals a different aspect of political institutions; the first topic focuses more on the executive branch, while the second topic focuses more on the legislative branch.

<table>
<thead>
<tr>
<th><em>bush, presid, clinton, administr, white, house</em></th>
<th>New York Times</th>
<th>Wall Street Journal</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reagan</td>
<td>14</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>H.W. Bush</td>
<td>8</td>
<td>20</td>
<td>-12</td>
</tr>
<tr>
<td>Clinton</td>
<td>15</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>W. Bush</td>
<td>8</td>
<td>15</td>
<td>-7</td>
</tr>
<tr>
<td>Average</td>
<td>11.3</td>
<td>14.3</td>
<td>-3.0</td>
</tr>
</tbody>
</table>

Table 4.9: **Topic rank for political topic that is focused on executive branch.** Each number indicates the rank of the political topic, where rank is based on the probability of selecting that topic per article.

<table>
<thead>
<tr>
<th><em>bill, senat, republic, hous, democrat</em></th>
<th>New York Times</th>
<th>Wall Street Journal</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reagan</td>
<td>9</td>
<td>12</td>
<td>-3</td>
</tr>
<tr>
<td>H.W. Bush</td>
<td>11</td>
<td>13</td>
<td>-2</td>
</tr>
<tr>
<td>Clinton</td>
<td>9</td>
<td>15</td>
<td>-6</td>
</tr>
<tr>
<td>W. Bush</td>
<td>9</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Average</td>
<td>9.5</td>
<td>11.8</td>
<td>-2.3</td>
</tr>
</tbody>
</table>

Table 4.10: **Topic rank for political topic that is focused on legislative branch.** Each number indicates the rank of the political topic, where rank is based on the probability of selecting that topic per article.

To illustrate the prominence of the political topics in the two newspapers, I present the topics along with the topic ranks, by newspaper, in Tables 4.9 and 4.10. Rather than being prominent components of EPA coverage, the political topics range from the eighth to the twentieth most prominent topics in the newspapers.
The results for the executive branch topic reveal no clear pattern of one newspaper highlighting the executive branch more than the other newspaper. The *New York Times* was more likely to focus on the executive branch during the H.W. Bush and W. Bush administrations, while the *Wall Street Journal* was more likely to focus on the executive branch during the Reagan and Clinton administrations.

The *New York Times* is more likely to write about the legislative topic in all administrations except the W. Bush administration. However, the differences in topic rank between the papers are not large except for the Clinton administration. For the Clinton administration, the legislative topic was in the top ten topics for the *New York Times*, while it was only the fifteenth most likely topic for the *Wall Street Journal*.

### 4.5 Discussion

The political frame is defined as a frame that highlights political conflict over an issue. The topic model results show two different aspects of politics; the executive and the legislative branch both are featured in EPA articles. How do these topics represent political conflict, and how does that conflict affect public opinion over EPA regulation?

The EPA is an independent agency, but it is formally under the president’s authority. Thus, newspaper articles mentioning the executive branch can simply refer to the executive branch’s oversight of EPA policymaking. These articles can discuss appointments or general statements of administration policy.

The *Wall Street Journal*, for example, is more likely to highlight the executive branch during the Reagan and Clinton administrations. These two administrations are widely regarded for their aggressive EPA regulatory agendas, so the prominence of presidents in the news simply reflects, in part, coverage of presidential management of the agency.

Articles that mention the legislative branch, however, suggest either tension or agreement between the executive and the legislative branch. Visual inspection of these articles confirms
that they are likely to highlight Senate or House of Representatives political opposition or support of executive branch environmental policy. This type of story most clearly matches the definition of political frame used by [Bolson, Druckman and Cook (2014)].

The *New York Times* is more likely to use the legislative political topic in all administrations except the second Bush administration. However, the differences across newspapers in topic rank are generally small: for example, the ninth versus the twelfth topic rank during the Reagan administration. In contrast, the differences in topic ranks for the economic consequence topics are large, with the *Wall Street Journal* being much more likely to use the negative economic consequence topics.

The exception to the closeness in rank for the legislative topic is during the Clinton administration. The political context of that period is the major Republican electoral successes in Congress, where the Republican party gained a majority in the House for the first time in over forty years. Republican opposition to Clinton policy was vigorous. The *New York Times*, as a liberal-leaning newspaper, is more likely to emphasize this legislative topic in its coverage.

The important aspect of framing is how it affects political behavior. Framing articles around the negative consequences has been shown to reduce support for policy [Bolson, Druckman and Cook (2014)]. Thus, the *Wall Street Journal*’s emphasis on the negative economic consequences of EPA regulation can undermine support for those regulations and the agency. The emphasis of the *New York Times* on negative environmental consequences, however, can increase support for those policies by highlighting the benefits of regulation.

The political frame in scientific writing reduces support by highlighting the political conflict over the scientific issue. With EPA regulation, this conflict manifests in disagreement over the economics and the science behind EPA decisions. Newspaper articles that highlight this disagreement can lead to reduced support for EPA rulemaking. However, as the political topics show these articles are not simply mentioning disagreement over an issue;
they discuss particular political actors, such as a senator or the president, in the context of EPA policymaking. In other words, voters are receiving more information than disagreement alone—they are also receiving partisan cues over EPA policymaking.

Given the existence of cues, the political framing results must be considered in the context of the partisan behavior of mass media. Since the *New York Times* is a liberal-leaning newspaper, the use of frames to reduce support for environmental policymaking seems at odds with the liberal preference for more aggressive environmental regulation. Rather, highlighting Republican opposition to the EPA in a political frame may increase support for EPA policymaking among liberal-leaning voters by providing elite partisan cues (see Druckman 2001). Likewise, the conservative-leaning *Wall Street Journal* emphasizing Democratic opposition to a Republican administration’s regulatory agenda cues conservative voters to support the administration.

Both effects—framing and cuing—can work to increase or decrease support for EPA regulation, though in different ways. However, given that partisan cues reduce the influence of frames on political choices (Druckman 2001), the partisan cues given in news coverage of agency rulemaking can have significant effects.
Chapter 5

Conclusion

This dissertation seeks to advance the literature on agency design and political accountability as well as to provide a substantive account of how news coverage of agencies affects voter assignment of blame for agency policymaking. I ask several questions about the role of agency institutional design, media coverage, and how citizens allocate blame for the actions of federal regulatory agencies. First, does news coverage of federal agencies enable political accountability by presenting to voters details about agency institutional context? Second, how do agency design features that insulate the president from political control moderate voter attributions of responsibility? Third, how do agency design features that increase presidential formal authority over agencies help, or hurt, the president during an agency scandal? Fourth, does the mass media exhibit partisan bias in information provided to voters about federal agencies and, if so, what is the form of that bias?

To examine answers to the first two questions, I use methods developed in the machine-learning literature to study newspaper articles about antitrust regulation. I classify articles into two broad classes: a political frame, which focuses on issues of political controversy surrounding an action, and a policy-focused frame, which focuses on specific cases, industries, or broader issues of antitrust policy. Scholars have shown that the political frame increases voter attribution of responsibility, while policy-focused frames divert voter blame away from
elected officials (Iyengar and Kinder 1987). I find a significant difference in the news coverage of the Justice Department and the Federal Trade Commission: news coverage of the Justice Department is significantly more likely to feature a political frame than news coverage of the FTC.

I then examine how this coverage affects voter attributions of responsibility to elected officials for agency policymaking. Using two survey experiments, I show that political frames, even without direct attributions of responsibility, such as “The president today ordered the Security and Exchange Commission to...”, can influence attributions of responsibility. I then show that information about agency design moderates attributions of responsibility, even when journalists’ sources directly attribute responsibility to the president.

To explore the third question, I use a survey experiment to identify the effect of agency design information on attributions of responsibility for agency scandals. The survey experiment allows me to manipulate the information that respondents receive about agency design, while holding constant other potentially confounding details about the agency.

I find that informing respondents about agency-design features that enhance presidential control significantly increases attributions of responsibility to the president. This result is consistent with presidential control theorists, who argue that increasing presidential formal authority over agencies enhances clarity of responsibility for voters.

To study the political biases of news coverage of regulations, I collect thousands of newspaper articles about the Environmental Protection Agency over a twenty-one year period. I investigate two sources of bias that are often assessed in the communications and political behavior literature: the positive or negative tone of EPA coverage, and the frames used in writing about the EPA.

Given the challenges of comparing coverage to an objective measure of unbiased news, I adopt a relative comparison design (Druckman and Parkin 2005). In this design, I assess the relative differences in coverage of the same issue by two competing, ideologically-opposed
newspapers: the *New York Times* and the *Wall Street Journal*. In addition, I compare coverage over four presidential administrations, allowing me to assess whether the political biases of the newspapers is moderated by the regulatory agendas of the administration.

I then assess the prevalence of frames commonly used in scientific writing: political frames and consequence frames (Bolson, Druckman and Cook 2014). These frames are important to study because of their ability to influence voter support for issues based on scientific findings, such as EPA regulation. As in Chapter 2, I use a method called topic modeling to identify the thematic topics that correspond to each of these frames. One empirical challenge is assessing how the distribution of these thematic topics differs between the two newspapers. The particular topic model I adopt, Dirichlet Multinomial Regression (DMR), estimates how the distribution of topics varies with different features of documents, such as the newspaper identity and the year of publication.

I find that the *Wall Street Journal* features significantly more negative news coverage of EPA rulemaking than the *New York Times*. I find this negative slant even when analyzing news coverage alone, omitting editorials or opinion writing. I also find that the degree of negative tone varies by presidential administration. For example, the liberal-leaning newspaper was more likely to use a negative tone during the Reagan administration, while the conservative-leaning newspaper was more likely to use a negative tone during the Clinton administration.

Regarding frames used on EPA coverage, I find that the conservative-leaning *Wall Street Journal* is more likely to focus on the negative economic consequences of EPA regulation, such as the cost and the burden on small businesses. The chapter’s emphasis on negative consequences is more prevalent across all administrations in the sample. I find mixed results regarding the political framing. The *New York Times* is slightly more likely to feature politics in its coverage of EPA rulemaking, though the difference is greatest during the Clinton administration, where the *New York Times* focused coverage on congressional opposition to
the Clinton regulatory agenda. I conclude by discussing how news coverage of agency rule-
making influences political behavior not through framing effects alone, but also by providing elite partisan cues about which political actors support or oppose agency policymaking.

Taken together, the dissertation presents a series of results that highlight the important role of agency design and the mass media when enabling accountability of federal agencies. The findings suggest that news coverage does not have to report on direct presidential influence over a specific agency action in order to increase political accountability. Rather, journalists enhance accountability when they provide voters with information about the agency institutional context. They influence attributions of responsibility by including or omitting details about formal political controls over federal agencies, or by attributing responsibility to elected officials when those officials are actually responsible for the agency’s actions. Finally, journalists can potentially influence support for federal agency rulemaking by allowing political biases to affect the slant or frames of news coverage.

The dissertation suggests that elected officials must consider more than preferences and agency expertise when delegating policymaking authority to an agency. Delegation to executive agencies increases control, but at the cost to the president of greater attribution of responsibility for the agency’s actions. Less control may reduce the officials’ policy utility, but with the benefit of being shielded from electoral blame. These effects, however, depend largely on the accuracy of the information given to voters through sources such as the news.

These findings relate to a large literature in bureaucratic politics that discusses the conditions under which legislatures delegate policymaking authority to agencies. The standard model of bureaucratic discretion frames delegation largely as a tradeoff between control and expertise: more discretion is given as preferences between principal and agent align or as policy complexity is increased (Bawn 1995; Epstein and O’Halloran 1996, 1999; Huber and Shipan 2002; Callander 2008). In this literature, extensions of the standard model explicitly include agency structure. For example, Volden (2002) shows that the executive and legisla-
tive branches are more likely to empower independent agencies under divided government.

The empirical evidence lays a foundation for future theoretical work on agency design and political accountability. Scholars such as Kagan (2001) often assume that presidential control leads to more political accountability because it opens the black box of agency policymaking, allowing voters to blame or reward a single elected official in charge of an agency. However, the manner in which voters acquire that information has been understudied. The news provides one crucial mechanism of information transmission. Future work should investigate additional ways that voters acquire information about agencies, and how elected officials and bureaucrats strategically act in this information environment. Delegation theorists, who model the benefits of delegation in terms of the use and acquisition of agency expertise, can extend models to account for the combined benefits of expertise and blame avoidance when voters have limited information about agency political control.
Appendix A

Conditions for Testing the Framing Hypothesis

This appendix shows all conditions for the testing of the framing hypothesis. The first two articles represent the political frame, while the latter two articles represent the articles with the least political content as identified by the topic model.
Informed Consent

Important Note:

This survey contains a real news article about a U.S. government agency in charge of antitrust regulation. In the following survey, you will read the news article and be asked one question about its contents.

Please only take this survey once.

CONSENT FORM FOR ONLINE SURVEYS

TITLE OF RESEARCH: Antitrust Regulation
INVESTIGATOR: Alex Ruder

The following informed consent is required for any person invited to participate in a research study conducted at Princeton University. This study has been approved by the University’s Institutional Review Board for Human Subjects (IRB case #[5755]).

For this study, you will be completing a short survey about regulation. If you have any questions before you complete this survey, please email me, Alex Ruder, at aruder@princeton.edu. All survey responses you provide for this study will be completely confidential. When the results of the study are reported, you will not be identified by name or any other information that could be used to infer your identity.

By clicking “Yes” below you acknowledge that you have read and understand that:

Your participation in this survey is voluntary. You may withdraw your consent and discontinue participation in the project at any time. Your refusal to participate will not result in any penalty.

You do not waive any legal rights or release Princeton University, its agents, or the investigator from liability for negligence.

You have given consent to be a subject of this research.

Do you wish to participate in this study?

For answers to any questions you may have about your rights as a research subject, please contact:

Joseph Broderick
Secretary, Institutional Review Board
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☐ Yes, I will participate
☐ No, I will not participate

News

INSTRUCTIONS: Please read the article completely before moving on.

Business Pages
Leadership Change at the FTC

Timothy J. Muris, the new chairman of the Federal Trade Commission, watched with his newly assembled staff from the back of the crowded room last week as his predecessor, Robert Pitofsky, delivered his valedictory address after six years leading the agency.

““What is it about this small agency that attracts superstars from law schools, Supreme Court clerks, partners at great law firms?” Mr. Pitofsky asked hundreds of officials and friends gathered for the occasion. “There is at this agency a willingness to challenge the most powerful companies in the world, when those companies have done wrong, in the name of the less powerful.” Mr. Pitofsky, after a tenure widely viewed as one of aggressively enforcing antitrust and consumer laws, appeared to be delivering a subtle message to Mr. Muris.”
Many Democrats and Republicans, consumer groups and corporate chieftains see the change in leadership at the commission as a case study in the differences between the Clinton and Bush administrations on fundamental areas of regulation. Mr. Muris, a senior trade commission official for five years during the Reagan administration, criticized the agency during the Pitofsky era for not being sympathetic enough to the economic benefits of large corporate mergers and for bringing monopoly cases like the ones the agency filed against the Intel Corporation and Visx, a maker of laser vision correction equipment.

But in his first days in office, Mr. Muris has been criticized for giving top positions to two former economists who worked for the tobacco industry as it came under legal attack by the Clinton administration. In addition, Mr. Muris has appointed as general counsel a law professor who once said that three of the current trade commissioners were a “national embarrassment.” He has changed the agency’s direction on online privacy. Under Mr. Pitofsky, the commission asked Congress for a law giving the agency more authority to police privacy violations. Mr. Muris says he needs more time to study the issue. And shortly before joining the agency, he argued on behalf of a credit rating agency that the Fair Credit Reporting Act, which has been used by the trade commission to challenge the sale of confidential information for marketing purposes, was unconstitutional, a view rejected two months ago by the United States Court of Appeals here.

Mr. Muris’s initial decisions have raised concerns inside the agency and among consumer and other groups that he will be returning the agency to the ideology of an earlier era. The fears among consumer advocates and some longtime staff members have been stoked in part by the senior staff assembled by Mr. Muris. The new head of the consumer protection bureau, for instance, is J. Howard Beales III, an economist who has asserted that there is no link between cigarette advertisements and smoking among teenagers. Agency officials said they thought that Mr. Beales would be the first nonlawyer to head the consumer protection bureau and that his background would bring a more market-oriented approach to the job.

David Scheffman, another economist who has worked for the tobacco industry, has been appointed to head the agency’s bureau of economics. Mr. Scheffman has testified on behalf of the tobacco industry that cigarette makers never conpired to suppress the development of healthier products. Internal turmoil over the timing of the hearing of the case surfaced in a memorandum circulating late last week that was written by the agency’s two Democratic commissioners, Sheila F. Anthony and Mozelle W. Thompson. Mr. Muris had planned to have the five-member commission vote last week on the new appointments. But he put it off after becoming concerned that the vote would be 3 to 2, an inauspicious beginning since staff appointments typically are approved without dissent. A close vote, officials said, might have been seen as troubling by Senator Ernest F. Hollings, Democrat of South Carolina, the new chairman of the Senate Commerce Committee, which oversees the commission.

Officials said Ms. Anthony and Mr. Thompson, the two Democrats, ultimately agreed not to vote against the appointments after extracting commitments from the new staff members to cast aside their previously held views on certain issues, which the commissioners described in the memo as “inconsistent with the consumer protection mission” of the agency. The Democratic commissioners were also described as being troubled that Mr. Muris had selected William E. Kovacic as general counsel. Mr. Kovacic, a law professor from George Washington University, said in an interview in 1998 with Bloomberg News Service that he viewed three commissioners appointed by President Clinton — Ms. Anthony, Mr. Thompson and Orson G. Swindle III, who fills one of the Republican positions on the panel — as a “national embarrassment” for not knowing enough about antitrust law and for being “three smart people who are learning on the job.” Defending his appointments, Mr. Muris insists that he will continue most of the policies put in place by Mr. Pitofsky and that there are few issues at the agency that are truly partisan.

“Ralph Nader used this agency to make his case that the difference between Bush and Gore was like the difference between Tweedledum and Tweedledee,” said Mr. Muris, who during the campaign and in the first few months of the new administration had been an economic adviser to President Bush. But he has also acknowledged that he will be more sympathetic to the economic efficiencies used to justify large corporate mergers, and that he is less inclined to bring some of the monopolization cases brought by the Clinton administration. Mr. Muris has said, for example, that he would not have challenged the proposed merger that would have reduced the number of baby food makers from three to two because it also presented significant benefits for consumers. His view of that case, which was shaped both out of his antitrust views and as a lawyer working for one of the companies, was rejected two months ago by a unanimous three-judge panel of the United States Court of Appeals for the District of Columbia.

“Conservatives and some business executives say Mr. Muris, bringing a far more limited vision of the agency and greater reliance on the marketplace, will play a more constructive role than Mr. Pitofsky in helping companies attract capital. ‘Muris is less quick to jump to the conclusion that markets have failed,’ said Randolph J. May, a senior fellow at the Progress and Freedom Foundation, a conservative research organization. ‘He would sooner sit back and wait and see whether regulation is really needed more as a last resort rather than a first resort.’ But others say that vision could be detrimental to consumers. Gene Kimmelman, co-director of the Washington office of Consumers Union, said the appointments “send a signal that large corporate entities don’t have to worry too much about tough enforcement by the Federal Trade Commission and that’s a significant concern.” “It appears to be a green light,” Mr. Kimmelman said, “to the business community that the cop is not actively policing the beat.” Mr. Muris said that his views on cigarette advertising were not significantly different from those of Mr. Pitofsky’s, producing a 1977 article by Mr. Pitofsky in which he said that advertising fraud cases require reliable data, not some “theoretical effort to achieve truth.” He also said Mr. Beales would not be involved in cigarette advertising cases.

After the commission, under Mr. Pitofsky, filed a complaint asserting that R. J. Reynolds was engaged in deceptive
advertising, the company agreed to retire Joe Camel and his brethren cartoon characters, which include Buster, Max and Floyd. Mr. Muris said that the agency now spent very few resources on tobacco matters and the issues, while important, were a relatively minor part of the agency’s portfolio. But Mr. Myers of the Campaign for Tobacco-Free Kids said that the agency had a complaint before it challenging claims by Reynolds Tobacco that its new Eclipse cigarettes might be less of a health risk. “This is precisely the kind of issue,” he said, “that the F.T.C. should be weighing in on.”

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Business Pages

Justice Department and Competition

A panel of the American Bar Association has drawn up an unusually blunt critique of the Justice Department’s enforcement of Federal antitrust laws, saying budget cuts and lack of official interest make it increasingly likely that some of those laws cannot and will not be enforced. In a report scheduled to be made public Wednesday, the panel said its members “uniformly believe that the Antitrust Division’s core mission - to preserve competitive markets - cannot be carried out at the current reduced levels” of staff and money allotted by the Justice Department.

The panel also urged the department to stop suggesting publicly that many antitrust laws are outmoded and need not be enforced. “Further reliance on this rhetoric,” it said, “will undermine self-policing and voluntary compliance with the law.”

Disent on Most Critical Section

The report was compiled by a 14-member panel of a division of the bar association that monitors and recommends changes in antitrust policies and laws.

Irving Scher, a New York lawyer who heads the antitrust section, said the report did not represent official bar association policy but would be submitted to the its antitrust law section for approval. Two members of the panel, Lawrence J. White and J. Paul McGrath, dissented from portions of the report that were most critical of the Justice Department. Mr. McGrath was Assistant Attorney General for antitrust and Mr. White was chief economist in the Antitrust Division in part of the Reagan Administration.

A Justice Department spokeswoman, Amy Brown, said the agency had no immediate comment on the report.

The critique comes after eight years of contentious change in Federal antitrust policies, the rules by which the Government seeks to promote healthy competition in industries as diverse as airlines and auto parts.

Reagan Relaxed Constraints

Past Administrations often sought to break up industries dominated by a few large companies and to restrain mergers, pricing agreements and other actions that companies used to increase or maintain their share of markets. But the Reagan Administration relaxed many of those constraints, arguing that bigness was not necessarily bad and that the natural competition in free markets would discipline most industries more effectively than would Federal lawsuits. In its report, the bar association panel generally agreed that past antitrust policies were too strict and that the more relaxed written guidelines issued under the Reagan Administration should remain in force. But it implied that the Administration had failed to enforce even those guidelines, especially in the area of mergers and monopolistic practices, and that what enforcement existed had been aimed mostly at local companies and not regional or national ones.

Anticompetitive Mergers Seen

For example, the report said, the Department allowed “a significant number” of mergers that under its own statistical guidelines worked against competitiveness except “in extraordinary cases.” Similarly, deregulated industries like trucking and airlines were to be closely watched so that competition prevailed once Federal controls were lifted, but “this has not always been the case,” the report said. The panel recommended that the Bush Administration should intervene in deregulated industries “where market power has been created or enhanced through non-competitive means.” It also recommended that the Antitrust Division study the military procurement and health care industries, where Government regulation may have inadvertently promoted monopolistic practices.

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At stake then was an estimated $100 million in annual revenues, but there is now $3 billion in the pot, and, through a bizarre twist of politics and economics, the rival News, owned by the Gannett Company, has become his ally. To maximize profits, the nation's two largest newspaper chains want to combine all of their business operations in Detroit to create the biggest linkup of metropolitan dailies in American history. They are fighting a scrappy, but growing, band of readers and advertisers, plus a small newspaper - all struggling to derail those efforts. If Gannett and Knight-Ridder succeed, the outcome of the Detroit case could accelerate the newspaper industry's transformation from one of the most competitive sectors of American business to one of the most monopolized outside of the utility industry.

"Every industry would like to operate monopolistically," said Stephen R. Barnett, a law professor at the University of California at Berkeley who has followed newspaper mergers.

But suddenly the rules changed. In 1986, Gannett bought the Evening News Association. Testimony presented during hearings on the application for a joint operating agreement indicated that Gannett was willing to gamble that the Justice Department would go along with the idea of a merger. Less than two months after Gannett took over the Evening News Association, the News signed a contract with the Free Press to ask for an antitrust exemption. For Gannett, as for Knight-Ridder, joint operating agreements were nothing new. Gannett participated in seven, more than any other publisher. They included some of the oldest combinations in existence, in El Paso, Nashville and Tucson, all formed before World War II, even before the Newspaper Preservation Act made them legal. Knight-Ridder has a joint operating company in Miami with Cox Enterprises Inc. and in Seattle with the Hearst Corporation. Gannett's pockets are among the deepest in the industry.

With USA Today, it has shown itself willing to absorb years of losses to establish a market. Underlying the dispute over the qualifications of the Free Press as a failing newspaper is the decision last month by Attorney General Meese. Mr. Meese waited until just before he left office last month to approve the application for a joint operating agreement. He said he accepted all of the findings of the administrative law judge he had appointed to consider the case, but he came to the opposite conclusion about them. The hearing officer had found no evidence that the Free Press would fold if the application were denied. Mr. Meese ruled that it would. The coalition of opponents - Michigan Citizens for an Independent Press - filed a suit to stop the combination, calling the Meese decision "arbitrary and capricious." Last week, Judge George H. Revercomb of Federal District Court in Washington dismissed their complaint. Opponents sought an appeal, and the United States Court of Appeals on Thursday ordered that the two papers delay combining their operations while the judges study the case. That stay carried no expiration date. If the courts rule against the combination, Mr. Chapman would be left with an ugly choice. Without the linkup, he has vowed, he would close the Free Press, the 10th-largest newspaper in the country, an elegant, 157-year-old chronicler of the life of Michigan from its days as a frontier state. His company has never closed one of its newspapers, but then Knight-Ridder has never had to fight this long to win control of one of its markets. Mr. Chapman had used the threat of closure to win the support of his reluctant unions, which then helped him in an intense lobbying campaign aimed at Mr. Meese.

He also enlisted some of Michigan's most influential politicians and Washington lobbyists. He could, of course, sell the Free Press, but having declared it to be a failing newspaper in a two-newspaper town, he would probably not receive an offer for more than $150 million, according to newspaper brokers. The Free Press had managed to lose nearly that much in its futile, eight-year attempt to dominate the town. The tax advantages of closing it might be worth more than keeping it alive long enough to sell it. Finally, he might keep it running, regardless of cost. His other papers would provide enough profit to underwrite losses a bit longer. But such competition would run counter to almost every trend in the industry. Clearly for Mr. Chapman, the stakes are high. If he loses the appeal, he faces tough decisions. But if he wins, he could retire next year, knowing that he had left his successor a string of well-respected, monopoly newspapers that would gush profits well into the next century. The long battle would have been worth it all.
Business Pages

Distributors Square Off

DRIVE around this exceptionally hot and thirsty place in midsummer, when the mercury regularly tops 100 but people still have to sell watermelons from their trucks and take their places on the production lines at Lone Star Steel and get their chores done along the plain-looking downtown streets, and you begin to understand why it turned into prime territory for the latest skirmish in the cola wars. It was here, in the state courthouse off Route 259, that lawyers for nine bottlers and distributors of Royal Crown Cola squared off this spring against the Coca-Cola Company and its largest bottler, Coca-Cola Enterprises.

The trial took place six years after the Royal Crown group sued Coke and its bottler. The plaintiffs contended that Coke, working with Coca-Cola Enterprises, had tried unfairly since the early 90's to squeeze them out of supermarkets and convenience stores. Coke, they said, had exhorted store owners to sign increasingly restrictive marketing agreements that benefited it at the expense of other brands. The carrot for the store owners was the prospect of making money from popular Coke products. The stick: the fear of having to pay higher wholesale prices than the store down the road. One supermarket chain got a $2 million signing bonus from Coca-Cola Enterprises, a publicly traded company of which Coke owns 40 percent. The chain promised, among other concessions, that Coke products would usually be advertised exclusively.

On June 21, after a six-week trial that detailed the intense competition along the front lines of the soft-drink business, the jury found Coke and Coca-Cola Enterprises guilty of breaking Texas antitrust laws through their demands for exclusive advertising, displays, signs and vending machines. The Coke companies were ordered to pay a total of $15.6 million, and plaintiffs' lawyers want the judge to force Coca-Cola Enterprises to sell its Dr Pepper franchises -- a stiff penalty indeed. (PepsiCo and its local bottler had been named as co-defendants, but they settled earlier this year under undisclosed terms.)

A spokeswoman for Coca-Cola, Polly Howes, called the verdict, which Coke may appeal, "incorrect." She added: "I don't think they presented a case that there was a lack of competition. There was competition." The case provides a vivid glimpse at the way Coke, already the world's best-known brand, battles for an ever bigger slice of the market. To keep growing, court documents show, it has developed a variety of tactics intended to make sure that rival brands remain all but invisible. Coke says the deals it makes with stores are typical in the industry. Plaintiffs counter that they keep rivals from having a fair shot. For consumers, it can mean limited variety, and in some cases, higher prices. And the situation in and around Daingerfield, an East Texas town with a population of about 2,700, is repeated around the country, other bottlers say.

A Federal Trade Commission study, released in December, concluded that the acquisition of other soft-drink brands by the big industry powers often resulted in higher prices and lower volume, and that when concentrate companies controlled their bottlers, prices were 4.3 percent lower. Still, "further study of these types of bottle acquisitions may be warranted," the study added. Watching the Texas case unfold, many people in the industry say it is a "wake-up call" for the FTC. It felt that as long as the price of soda was cheap, it didn't matter who was left," Mr. Kalil said. "Now we get into a situation where the margins are coming back," which might spur the trade commission to act, he added. "I just wish the competition would get back to the basics of service, price and fair play." A spokesman for the FTC said, "We are not currently looking into this issue, and have no plans to do so."

Coke's chairman and chief executive, Douglas N. Daft, has said he wants the company to become a better corporate citizen, and play by the "house rules" in all of the countries where it does business. Selling more high-margin soft drinks is a cornerstone of Coke's strategy worldwide. It is particularly intense in the United States, considered a mature market where people already consume so many soft drinks that it takes work to get them to guzzle more. Investing in equipment that dispenses ice-cold drinks, ranging from refrigerators to vending machines to ice barrels, has been crucial to Coke's efforts. The company has committed hundreds of millions of dollars to buying such equipment over the last four years, exhorting its bottlers to do the same and spending more to support their efforts. This year in supermarkets, the company began a "Shop Refreshed" program, installing hundreds of vending machines and refrigerator cases. In 1996, according to Coke's annual report, the company paid $120 million to Coca-Cola Enterprises to promote investment in cold-drink equipment by the bottler. By last year, the amount had almost tripled, to $338 million. In its own 1996 annual report, Coca-Cola Enterprises said half of its $622 million capital-expenditure budget would be used for "the high-margin cold drink, or immediate consumption, channel." Noting that the company had focused its spending on this area for the last three years, the report added: "This investment has contributed to our success in recent years by increasing our share of this high-margin channel." Mr. Hackett sees it in starker terms. "The guy with the biggest checkbook is the one that wins," he said. "Once they become the only one in the stores, you'll pay whatever they want you to pay. It will be $3 a can."
Appendix B

Conditions for Testing the Insulation Hypothesis

This appendix shows all conditions for the testing of the insulation hypothesis. The first article represents the no-information condition, the second article represents the attribution condition, and the third article represents the insulation condition.
F.T.C. Says Intel Stifles Competition

By DAN GORGEN

The Federal Trade Commission on Wednesday slammed Intel with a lawsuit seeking to impose wide-ranging restrictions on how the chipmaker competes against rivals AMD and Nvidia. Intel said it would defend itself vigorously. In a conference call, Robert Patry, Intel's general counsel, warned that the FTC's proposed remedies would hinder Intel's "product improvement and innovation" and be "a very dangerous turn for U.S. law."

A protracted legal battle is expected. Microsoft's war with U.S. antitrust regulators spanned a decade, culminating in 2001 with a consent decree restricting its dealings with PC makers and software rivals. Then, as now, federal oversight could adjust the course of the tech sector.

The FTC followed Europe, Japan and South Korea in concluding that inducements Intel uses to get PC makers to use its chips over AMD's amounted to an illegal use of its market power. Intel supplies 80% of the processing chips used in PCs. Since 1999, Intel has pursued "exclusionary" strategies "detrimental to competition and consumers," says Richard Feinstein, director of the FTC's bureau of competition.

The FTC's lawsuit underscores "a clear shift in antitrust enforcement philosophy," says Bill Cameron, senior managing director of JSL Group. The filing sets forth 26 specific remedies roughly in two groups. The first restricts practices Intel uses to exclude PC chip rival AMD. Last month, Intel agreed to pay AMD $1.25 billion, and curb some of these practices in exchange for AMD dropping a long-standing civil antitrust lawsuit. "The FTC's requested relief goes much further," says C. Scott Smith, antitrust professor at Columbia Law School.

AMD and the FTC's lawsuit will protect consumers.

Nine proposed restrictions would limit how Intel may compete against Nvidia and AMD's ATI unit in supplying GPUs, or graphic processing units, the high-end chips that display photos, video and graphics. "More and more tasks, like rendering videos and 3D graphics, are done better on the GPU, and this poses a threat to Intel," says Vince Barnes, senior vice president at Nvidia. He says Intel has been using its market power "to keep our innovation from consumers."

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The FTC, led by a 5-member bipartisan commission, is designed to function independently from presidential control. The commission’s current chairman was appointed by the president.

A protracted legal battle is expected. Microsoft’s war with U.S. antitrust regulators spanned a decade, culminating in 2001 with a consent decree restricting its dealings with PC makers and software rivals. This, in turn, federal oversight could adjust the course of the tech sector.

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Appendix C

Conditions for Testing the
Centralized Control Hypothesis

This appendix shows all conditions for the testing of the centralized control hypothesis. The first article represents the no-information control, while the second article represents the experimental treatment.
Informed Consent

Important Note:

This survey contains excerpts from a real news article from a digital news archive. In the following survey, you will read the news article and be asked a couple questions about its contents.

Please only take this survey once.

CONSENT FORM FOR ONLINE SURVEYS

TITLE OF RESEARCH: Regulation
INVESTIGATOR: Alex Ruder

The following informed consent is required for any person invited to participate in a research study conducted at Princeton University. This study has been approved by the University's Institutional Review Board for Human Subjects (IRB case #5755).

For this study, you will be completing a short survey about oil and gas. If you have any questions before you complete this survey, please email me, Alex Ruder, at aruder@princeton.edu. All survey responses you provide for this study will be completely confidential. When the results of the study are reported, you will not be identified by name or any other information that could be used to infer your identity.

By clicking “Yes” below you acknowledge that you have read and understand that:

Your participation in this survey is voluntary. You may withdraw your consent and discontinue participation in the project at any time. Your refusal to participate will not result in any penalty.

You do not waive any legal rights or release Princeton University, its agents, or the investigator from liability for negligence.

You have given consent to be a subject of this research.

Do you wish to participate in this study?

For answers to any questions you may have about your rights as a research subject, please contact:

Joseph Broderick
Secretary, Institutional Review Board
Princeton University
609-258-3976 or irb@princeton.edu

☐ Yes, I will participate
☐ No, I will not participate

News

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May, 2010

Minerals Management Service Director Resigns

The head of the agency charged with overseeing offshore oil drilling resigned last week in the wake of the Deep water Horizon oil rig explosion off the Gulf of Mexico.

Elizabeth Birnbaum, who was appointed director of the Minerals Management Service in June 2009, submitted her resignation. Bob Abbey, Bureau of Land Management director, will serve as acting director of MMS.

The agency has faced blistering criticism for lax oversight of offshore drilling in the wake of the explosion. Birnbaum resigned "on her own terms and on her own volition."

"She helped break through tough issues, including offshore renewable development, and helped us take important steps to fix a broken system," reported an official statement.

Birnbaum's resignation came days after the release of an inspector general’s report that revealed that MMS employees overseeing drilling operations in the Gulf of Mexico accepted gifts from oil and gas companies, used illegal drugs and viewed pornography on their work computers.

The violations occurred between 2000 and 2008 but appeared to decline after a supervisor in another district office was fired in January 2007 for accepting a gift from an oil company, the IG concluded.

Officials announced that they have asked the IG to update its investigation to determine if similar conduct has occurred since he became secretary in January 2009 and installed new ethics rules.

Officials also said the report bolstered his earlier decision to restructure MMS to address potential conflicts of interest between MMS regulators and industry.

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Elizabeth Birnbaum, who was appointed director of the Minerals Management Service by President Obama in June 2009, submitted her resignation to Interior Secretary Ken Salazar. Salazar appointed Bob Abbey, Bureau of Land Management director, to serve as acting director of MMS.

MMS is under the direction of Secretary of the Interior Ken Salazar, who has led the Cabinet-level department as part of the Obama administration. According to the U.S Office of Management and Budget, since 2009 alone the Obama administration has reviewed and approved several MMS regulations related to deepwater oil exploration.
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Block 7

How personally important to you is regulatory oversight of the oil and gas industry?

- Very Important
- Somewhat Important
- Not at all Important

Please indicate how much responsibility you think each of the following has for the U.S. Minerals Management Service’s role in the Deepwater Horizon disaster

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Block 3

In terms of the agency’s political independence, would you consider the Minerals Management Service more like the Cabinet-level Department of Education and the Department of Justice, or more like an independent regulatory agency such as the Securities and Exchange Commission and the Federal Communications Commission?

- More like the Securities and Exchange Commission or the Federal Communications Commission
- Not enough information to know
- More like the Department of Education and the Department of Justice
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Gallup. 2014. “One in Four in U.S. are Solidly Skeptical of Global Warming.” Poll conducted April 22.


