Does White House Regulatory Review Produce a Chilling Effect and "OIRA Avoidance" in the Agencies?

Alex Acs
Princeton University
Charles M. Cameron
Princeton University

What effect does regulatory auditing by OIRA have on the production of regulations in the agencies? In particular, does targeting an agency for heavy regulatory auditing inhibit its production of regulations, a "chilling" effect? Does heavy auditing encourage it to substitute multiple small regulations in place of single large one, "OIRA avoidance"? We present an early empirical analysis of these questions by estimating regulation production functions for federal agencies, using data from the Unified Agenda from 1995 to 2010. We attempt to distinguish the differential effects of regulatory auditing from appointments into the agencies, leveraging off exogenous variation created by independent regulatory commissions. Our data uncover no evidence of a chilling effect in the production of economically significant regulations due to the Bush Administration's regulatory auditing, relative to the Clinton or early Obama Administrations. Nor do we find any evidence of OIRA avoidance. We do find some evidence that the Bush Administration reduced the production of non-economically significant regulations overall. However, the effect appears to be due to appointments in the agencies. Overall, the results raise questions about the efficacy of presidential efforts to control the regulatory state, and how best to evaluate those efforts.

Introduction

With the expansion of the federal government in the 20th century, presidents became increasingly involved in managing the administrative state and its myriad regulatory agencies. Acting as "Manager-in-Chief," presidents devised two methods for gaining control over the agencies: politicization and centralization (Moe 1985b). Politicization involves appointing politically loyal subordinates not only at the top of the

agencies but deep within them as well (Lewis 2008). Centralization manifests itself in an expansive role for the White House, attempting to manage or even micro-manage the agencies directly. Obvious examples include centralized budgeting (Tomkin 1998), the formulation of a unified legislative program (Rudalevige 2002), and direct command via executive orders (Howell 2003; Mayer 2002).

One of the newest and most dramatic examples of centralization is the Office of Information and Regulatory Affairs (OIRA), located in the Executive Office of the President. OIRA is empowered to review nearly all rules proposed by federal agencies, excepting the independent regulatory commissions (IRCs). OIRA gives presidents a powerful vantage point from which to scrutinize, delay, and effectively remand and revise proposed rules. Sometimes dubbed "the most powerful office no one has heard of," OIRA is the point of the president's spear in his battle to control the content of federal regulations (Anonymous 2011). In many respects, the agency is an exemplar of the centralizing tendencies of the American presidency. In considering the operation and impact of OIRA, three questions stand out:

- Targeting: Which regulations does OIRA target for regulatory review?
- Revisions: What happens to the regulations after OIRA selects them for review?
- Incentives: What incentives does OIRA's auditing regime create in the agencies? In particular, does a hostile OIRA damp down the production of significant rules in the agencies—in other words, does OIRA's auditing create a chilling effect on the production of regulations? Does regulatory auditing induce agencies to engage in "OIRA avoidance," substituting several smaller regulations for a single big-

ticket one in order to escape regulatory review? Does it slow down the production of regulations, an "ossifying" effect?

In this paper, we present an early empirical analysis of the "incentives" question. To do so, we examine biannual data on the production of regulations in 18 executive agencies and 7 independent regulatory commissions, between 1995 and 2010, as well as newly collected data on OIRA auditing rates by agency. We examine economically significant regulations (ones with a price ticket over $100 million) as well as other regulations.

Uncovering OIRA-induced effects on the production of important regulations is not easy. Part of the problem is that one needs a baseline for comparison: what would have happened, absent OIRA targeting of the agency? The baseline we consider comes from estimating "regulation production functions" for agencies, relating the volume of regulations produced to theoretically plausible covariates. The state-of-the-art in empirically estimating regulation production function remains rudimentary (we review relevant studies below). Nonetheless, we estimate empirical regulatory production functions for 25 executive and independent regulatory agencies, focusing on the volume of economically significant regulations.

But another knotty problem is that presidential direction of OIRA and presidential control of agency appointments are completely collinear. In other words, "centralization" and "politicization" (in Moe's terminology) go hand-in-hand. Hence, even if one finds a change across Democratic and Republic administrations in the volume of regulations issued by an agency, it is difficult to know whether the effect was due to OIRA's auditing

regime or to the president's appointments in the agency. In short, there is a difficult identification problem in estimating the effect of OIRA auditing on regulation production. We address this identification problem by exploiting the presence of independent regulatory commissions, in which the president can make appointments but cannot undertake regulatory auditing.

Somewhat surprisingly, whether we employ simple regression analysis or instrumental variables, we find no evidence of a chilling effect from OIRA review. In particular, the Bush Administration's targeting of liberal agencies like the EPA and Department of Education for intense auditing—a targeting which is very clear in the auditing data—did not depress the production of economically significant regulations in those agencies. Nor do we find evidence of "OIRA avoidance," a topic of some speculation in the legal academy (Anonymous 2011; Nou 2013). On the other hand, we do detect some decrease in the overall production of non-economically significant regulations during the Bush Administration.

The paper is organized as follows. Section II provides background on OIRA and its uses by the President. We discuss recent theoretical arguments that suggest tough regulatory review should engender chilling effects. We also note the possibility of "OIRA avoidance," a phenomenon much-discussed of late. We also review the state-of-the-art in estimating regulation production functions, and identify some plausible hypotheses and covariates. Section III reviews the data we use in the empirical analysis. Section IV outlines our identification strategy, estimates regulation production equations for presidential and independent regulatory agencies and discusses the results. Section V concludes. An appendix provides several robustness checks on the empirical results.

OIRA, the Agencies and Rule Production

Origins of OIRA

The management problem for presidents posed by the growth of the regulatory state is well-conveyed by Figure 1, which shows the annual number of pages published in the Federal Register from 1935 to 2010 As shown, the number of pages soared over time, from an average of about 10,000 pages annually in the 1950s to about 70,000 in the 1970s to the present. The avalanche of regulations behind those numbers is astounding, constituting a hallmark of modern government.

The Office of Information and Regulatory Affairs (OIRA) emerged from presidential efforts to exert some control over this flood of regulations (Harris and Milkis 1996). As Nixon's White House Chief of Staff H.R. Haldeman explained in an interview, "By 1971 Nixon had realized he was virtually powerless to deal with the bureaucracy in every department of the government" (Seidenfeld 2009). Nixon responded with an institutional innovation, the Quality of Life Program, located within OMB.[1] The program sought to increase presidential influence over rules issued by the new regulatory agencies, especially the EPA and OSHA (Conley 2006). Gerald Ford retained the program, albeit in modified form, as part of his efforts to reduce inflation. Perhaps surprisingly, the Carter Administration continued OMB's program of regulatory review. In fact, in 1978 Carter issued Executive Order 12044, "Improving Government Regulations," requiring agencies to provide a regulatory analysis for large-ticket regulations.

In early 1981 the Reagan administration institutionalized the program in a new office, OIRA, under Executive Order 12291, lodged within OMB.[2] The move reflected

Reagan's skeptical stance toward regulation and his desire to constrain the growth of government. OIRA represented the most muscular mandate for regulatory review yet.

The contemporary era of OIRA's regulatory review began in 1993 when President Clinton issued Executive Order 12866. The new order significantly reduced the number of pending regulations in OIRA's review docket. Prior to EO 12866, OIRA reviewed all regulations, irrespective of their costs, resulting in over 2,000 audits per year. Clinton's new order developed a more focused approach by allowing OIRA to select which regulations to devote its resources to review. Under the new rule, agencies were required to submit a list of their planned regulatory actions to OIRA detailing some information about the regulation, including whether it imposed over $100 million in annual costs (dubbed "economically significant"). From the list of submitted regulations, OIRA selected regulations for agencies to submit for detailed review, irrespective of costs. According to the administrator's implementing memorandum when EO 12866 was introduced, a central purpose of the new order was "greater selectivity in the regulations reviewed by OIRA" (Croley 2003). The Bush Administration continued the program in essentially this form, as did the Obama Administration.

(Figure 1 about here)

The Uses of Regulatory Review

The Republican innovators of regulatory review made no secret of their desire to create a tool for halting "over-regulation," encouraging de-regulation, and forcing agencies to consider the social costs of their actions as well as the social benefits (DeMuth 2011; DeMuth and Ginsburg 1986).

On the other hand, prominent Democrats with experience working at OIRA, including OIRA administrators Cass Sunstein and Sally Katzen as well as Clinton legal advisor Elena Kagan, have all argued that OIRA is more than an anti-regulatory force in government (Kagan 2001; Katzen 2007; Sunstein 2012). Expert observers in the legal academy, notably Richard Revesz and Michael Livermore, agree (Livermore and Revesz 2012), as do Freeman and Rossi (2012). Together, these analysts suggest that OIRA can support a number of good-governance goals, such as inter-agency coordination, intra-agency coherence, regulatory efficiency and "smart" government—and, of course, assuring that agency actions comport with broader presidential objectives. Civil servants from OIRA stress the importance of the latter role, noting how OIRA has worked with each Administration to bring dis-jointed and myopic agency initiatives into compliance with overall administration priorities (Arbuckle 2008). Some former OIRA administrators are candid about the importance of this activity, noting as well that some Administration priorities enforced via OIRA review have been quite partisan and even electoral in orientation.[3] The fact that every President since Nixon, whether Republican or Democrat, has retained some form of centralized regulatory review suggests that all have found it valuable.

It is demonstrably the case that Republican and Democrat presidents have used OIRA in different ways, as manifest in OIRA's auditing rates for different agencies. Acs and Cameron (2011), in the first systematic empirical study of OIRA targeting decisions, find that the Bush Administration tended to target large economically significant regulations from "liberal" agencies (as measured by Clinton-Lewis scores, explained below). In contrast, the Clinton and early Obama Administrations seemed to eschew

ideological targeting; in addition, the early Obama Administration focused its reviews almost exclusively on economically significant regulations.

The Incentive Effects of Regulatory Review

How should one evaluate the impact of the White House's regulatory review? Recent work in Political Economy, Political Science, and Organization Economics highlights the systematic incentives created by regulatory review (see *inter alia* Tiller and Spiller (1999), Bueno de Mesquita and Stephenson (2007)). Most of this literature focuses on the incentive effects of judicial review of agency rules. But the same logic applies (*mutatis mutandis*) to White House review of regulations.

This theoretical literature points to two effects. The first is the debilitating effect on agency effort from a principal's vetoes, over-ruling, revisions, and meddling (Aghion and Tirole 1997). The logic is easy to understand: Why work hard when one's effort will be blotted out by a hostile overseer? In short, (this line of reasoning suggests) regulatory auditing may have a chilling effect on agency production of regulations. In this view, agencies may simply give up on regulatory policy-making, or wait until there is a more favorable overseer in place.

The second effect is avoidance or diversion. That is, the agency may shift policymaking effort into venues that raise the cost of review or escape it all together (Tiller and Spiller 1999; Nou 2013). Indeed, this effect of OIRA has been the subject of interest in the legal academy (and oral tradition among OIRA "desk officers"). Recent articles hypothesize that OIRA review may stimulate "OIRA avoidance." Agencies have multiple ways to avoid OIRA, including understating the cost of a rule or breaking one large regulation into multiple smaller ones, in the hopes OIRA will pass over these "small

fry." (Anonymous 2011). Another possibility is bunching regulations into the closing days of an Administration in order to overwhelm a distracted or debilitated OIRA (Nou 2013).

A closely related literature in administrative law discusses "regulatory ossification," combining both the "chilling" and "avoidance" perspectives with a concern that judicial and presidential review may slow down the production of regulations or lead to (see, e.g., Yackee and Yackee (2010), and O'Connell (2008) and the references therein). We defer consideration of the speed and timing of the production of regulations, so we do not directly address "regulatory ossification" or the "bunching" possibility.

The incentive perspective on OIRA suggests that its reach may extend much farther than revisions in a relative handful of regulations. Rather, through a multiplier effect engendered by agency anticipatory response, OIRA's impact might be much larger.

How should one evaluate the impact of the White House's regulatory review? One approach emphasizes piecemeal action. For example, former OIRA administrators often note titanic battles in the bureaucracy over particular rules, as OIRA tried to curb unreasonable costs or burdens (DeMuth 2011). In a similar way, but from an opposite normative stance, pro-regulatory critics of OIRA typically focus on the agency's treatment of specific regulations (often environmental regulations). For instance, a recent NGO report attributes OIRA review and modification of specific regulations to meetings with industry groups (Steinzor, Patoka and Goodwin 2011). In a similar vein, OMB issues an annual report to Congress, toting up the costs and benefits of major rules.[4]

An alternative perspective, rooted in political economy, political science, and organization economics, focuses on the systematic incentive effects of regulatory review

(see, e.g.,Tiller and Spiller (1999), Bueno de Mesquita and Stephenson (2007)). Most of this literature focuses on judicial review of agency rules, but the same logic applies (*mutatis mutandis*) to White House review of regulations.

This theoretical literature points to two effects. The first is the debilitating effect on agency effort from a principal's vetoes, over-ruling, revisions, and meddling (Aghion and Tirole 1997). The logic is easy to understand: Why work hard when one's effort will be blotted out by a hostile overseer? In short, (this line of reasoning suggests) regulatory auditing may have a chilling effect on agency production of regulations. In this view, agencies may simply give up on regulatory policy-making, or wait until there is a more favorable overseer in place.

The second effect is avoidance or diversion. That is, the agency may shift policymaking effort into venues that raise the cost of review or escape it all together (Spiller and Tiller 1999). Indeed, this effect of OIRA has been the subject of speculation in the legal academy (and oral tradition among OIRA "desk officers"). One recent article hypothesizes that OIRA review may stimulate "OIRA avoidance." Agencies have multiple ways to avoid OIRA, including understating the cost of a rule or breaking one large regulation into multiple smaller ones, in the hopes OIRA will pass over these "small fry" (Anonymous 2011).

A closely related literature in administrative law discusses "regulatory ossification," combining both the "chilling" and "avoidance" perspectives with a concern that judicial and presidential review may slow down the production of regulations (see, e.g.,Yackee and Yackee (2010), and O'Connell (2008) and the references therein). We

defer consideration of the speed of production of regulations, so we do not directly address "regulatory ossification."

The incentive perspective on OIRA suggests that its reach may extend much farther than revisions in a relative handful of regulations. Rather, through a multiplier effect engendered by agency anticipatory response, OIRA's impact might be much larger.

Agency Production of Rules

Evaluating the impact of OIRA on the agencies' production of regulations requires a baseline for comparison. One obtains a baseline by estimating "regulation production functions." These explain the volume (and, one might imagine, the stringency and timing) of agency regulations as a function of theoretically plausible covariates. Given an empirical regulation production function, one can examine the impact of these covariates, including OIRA targeting, on regulatory output.

In contrast to the extensive and well-established empirical literature on agency enforcement levels (see inter alia Weingast and Moran (1983), Moe (1985a), Wood (1988), Wood and Waterman (1991), Gordon and Hafer (2005)), only a very small literature addresses the empirical estimation of regulation production functions. Of course, descriptive and case-study materials on rule-making and administrative procedures are abundant and essential for understanding the complex processes involved (see inter alia Breyer et al. (2006), Hamilton and Schroeder (1994), Derthick (2011)).

O'Connell (2008) and Yackee & Yackee (2009) provide extremely useful overviews of the production of regulations. The former also estimates regulation production functions for 10 agencies, including seven presidential agencies and three IRCs, for 1983-2003. O'Connell's innovative and important analysis focuses on all

notices of proposed rule-makings (NPRMs), and relates their number to the party of the President, the party of Congress, unified government, first and last year dummy variables, and agency fixed effects (Table 2 p 942). She finds no effect of Republican presidents on the number of NPRMs in presidential agencies, but some increase in regulatory activity in the three IRCs she studies. O'Connell (2011) and Stiglitz (2011) further examine the timing of agency regulations, especially so-called midnight regulations issued in the final hours of an administration. Magat, Krupnick and Harrington (1986), an early study examining the determinants of regulatory stringency at the EPA, remains nearly unique in considering in detail the content of regulations.

What are reasonable theoretical expectations for regulation production functions? First, an important driver of regulation production is surely the scope of the agency's regulatory mission. Some agencies (such as the EPA) are designed by Congress to be heavy regulators; others (like the DOD) are not. Hence, agency fixed effects (as in O'Connell 2008) or controls for regulatory mission, such as the number of issued regulations lagged a decade, are essential.

Second, and closely related to the scope of the regulatory mission, is agency ideology. It is at least plausible that agencies with a "liberal" orientation are inclined—by congressional design, preferences of agency personnel, and proclivity of supporting interest group coalitions—to be more activist as regulators than "conservative" agencies. Recent efforts to measure agency ideology make this expectation empirically implementable (Clinton and Lewis 2008; Bertelli and Grose 2011).[5]

Third, presidential hostility to the agency may plausibly affect regulatory activity. When the President appoints administrators who are hostile the agency's mission or

distrustful of its professional personnel, the appointees may well restrain the agency's regulatory activity. In practice, presidential hostility is apt to mean, liberal agencies during Republican Administrations.

Fourth, congressional hostility to the agency may well suppress regulatory activity. The enactment of the Congressional Review Act of 1996 made it somewhat less onerous for Congress to overturn regulations, though it is unclear that it has made any practical difference. In practice, congressional hostility to federal agencies is apt to mean, Republican control of Congress.

Finally, for the reasons elaborated in the previous section, one might expect OIRA auditing to depress the production of regulations, particularly the economically significant, major regulations so important to OIRA.

Data

Counting Rules: The Unified Agenda Data

Our empirical study focuses on the promulgation of rules under Clinton's Executive Order 12,866 and its successors from 1995 to 2010.[6] We rely primarily on data from the Semi-Annual Unified Agenda of Federal Rulemaking (Unified Agenda), which is a record of nearly all on-going and completed rulemaking activities in the federal government. The Unified Agenda contains summary information about regulations regardless of what stage of the rulemaking process they are in, ranging from early drafts of proposed rules to publication of final rules in the Federal Register. Our focus in this paper is on the initiation of new rules, not the completion of rules, thus we use the Unified Agenda to identity the initiation of a rulemaking by counting the number of new rules proposed each Congress.[7]

In the Unified Agenda, agencies are required to give information about the rule's relative scope and importance on a five-point scale. We use only those rules in the top three categories: (1) economically significant rules; (2) significant rules and (3) substantive, but not significant rules. We exclude those rules that are "routine" and "administrative" under the assumption that they hold little political importance to the White House and most interest groups. The following regression results are, however, robust to their inclusion. Note that in the literature on rulemaking, economically significant rules and significant rules are sometimes collectively referred to as "major" rules. In general, economically significant rules are those rules that will have an estimated $100 million annual cost on the economy whereas significant rules will "adversely affect in a material way" any economic, governmental or social entity.[8]

Independent Regulatory Commissions

Our identification strategy in this paper requires the use of an indicator variable for whether or not an agency's rules are subject to review by OIRA. This is our exogenous instrument. By executive order, the independent regulatory commissions (IRC) have been exempt from OIRA review.[9] In practice, however, a few IRCs have voluntarily submitted rules to OIRA. In general, these agencies issue a small number of rules each year and thus are unlikely to show up in our analysis. As we discuss later in the section, this is because we limit our analysis to those "heavy regulators" that issue at least one major rule each year. This allows for a better comparisons between the two groups of agencies, i.e. those subject to OIRA review and those excused from review. Nonetheless, our variable for IRC does omit any independent agency that voluntarily submitted rules to OIRA. This includes, for example, the Pension Benefit Guarantee

Corporation, the Corporation for National and Community Service and the Equal Employment Opportunity Commission.

Agency Audit Rates

We use data provided by the Regulatory Information Services Center (RISC) to get data on all the rules that were reviewed by OIRA. Using each rule's unique regulation identification number (RIN) we were able to merge the Unified Agenda data with the RISC data to estimate how many rules that an agency planned to issue were audited. An audit rate for an agency is defined as the proportion of major regulations appearing in the Unified Agenda that were reviewed at least once by OIRA. We focus on major regulations to capture OIRA's targeting of important regulatory initiatives. In addition, using major rules avoids large fluctuations in the audit rates of economically significant rules, which can be relatively rare events in small agencies.

We define an agency's audit rates during a presidential administration by including all major rulemakings initiated during the administration in the denominator and all major rules audited by that administration in the numerator. This approach focuses on audit rates of weighty regulations while avoiding unreasonable fluctuations that arise in small agencies that issue economically significant regulations only infrequently. Figure 2 indicates, for the 25 agencies and 3 presidential administrations we study, the proportion of major rules that OIRA opted to review—i.e. the agency audit rate. Audit rates varied widely across agencies, as well across the three administrations.[10]

Explanatory and Control Variables

In addition to using the Unified Agenda to obtain a count of the amount of regulatory activity, we rely on four additional data sources. See Table 1 for descriptive statistics on all variables. We make use of two political variables: partisanship of the president and Republican control of Congress. The variable *Republican Congress* takes on a value of 1 during a congress when both chambers are controlled by Republicans and 0 otherwise. The variable *Republican president* takes on a value of 1 for the congresses when Bush 43 was in office and a 0 for the congresses when either Clinton or Obama was in office.

In the following regression analysis, we rely on two control variables: historic agency production of rules and agency ideology. We construct a measure of historic rule production in order to have an exogenous measure for material differences in the mission of agencies since some agencies, like the Commerce Department for example, have a greater statutory demand for rulemaking than an agency like the Small Business Administration (see Tables 3 and 4). Historical annual averages of the number of rules agencies produce per year provides some indication of how the statutory demand for rulemaking varies by agency. We construct our measure by taking a rolling average of the previous ten years of rulemaking, which we are able to do for the entire period of the study because data in the Unified Agenda begins in 1983.

(Figures 2, 3 and 4 and Table 1 about here)

The second control variable we use is a measure of agency ideology that was developed by Clinton and Lewis (2008). The measure is based on a large survey of expert observers

who were asked their perceptions of agency ideology on a left-right ideological scale. The variable should be interpreted as a measure of the ideology of the agency's mission, not the ideology of the appointees in the agency at the time of the survey. Because agency cultures should be stable over time, we believe the measure is appropriate over the entire time period under study. Other measures of agency ideology that have emerged in recent years focus on the ideology of appointees, which is often related to the ideological preferences of the White House, instead of the underlying mission of the agency. For this reason, we limit our analysis to the use of the Clinton-Lewis ideology measure (e.g. Bertelli and Grose (2011)).

Note that the data used in the analysis is limited to agencies for which we have a measure of agency ideology and that historically have issued major rules every year, in order to have a comparable dataset of "heavy regulators."[11] The dataset includes 18 agencies that are subject to OIRA review and 7 independent regulatory commissions.

Empirical Analysis

Identification Strategy

We wish to estimate for agency i in congressional term t two regulation production functions of the form:

$$Y_{it}^{S} = \beta_0^s + \beta_1^s AuditRate_{it} + \beta_2^s W_i + \beta_3^s X_t + \beta_4^s Z_{it} \qquad (1)$$

And

$$Y_{it}^{ns} = \beta_0^{ns} + \beta_1^{ns} AuditRate_{it} + \beta_2^{ns} W_i + \beta_3^{ns} X_t + \beta_4^{ns} Z_{it} \tag{2}$$

Where Y_{it}^{S} is the number of economically regulations promulgated by each agency in each time period (congressional term), Y_{it}^{ns} is the number of other regulations $AuditRate_{it}$ is OIRA's audit rate of each agency's major regulations in each congressional term, W_i is a vector of time-invariant agency characteristics (such as the agency's ideological orientation *Ideology* and whether the agency is not an IRC [PA for presidential agency]), X_t is a vector of time-varying but agency invariant covariates (such as *Republican president* and *Republican Congress*), and Z_{it} is a vector of time varying, agency varying covariates (such as presidential hostility to the agency's ideology, an interaction between Republican control and agency liberalism, *Republican president × agency ideology*).

The "chilling" hypothesis concerns the sign of β_1^{s} in Equation 1: is it negative? In other words, does more intensive auditing of an agency's major regulations depress the agency's production of big ticket, economically significant regulations?

The "avoidance" hypothesis concerns both the sign of β_2^{ns} in Equation 1 and the sign of β_2^{ns} in Equation 2: Is the first coefficient negative and the second positive? In other words, does more intense auditing of an agency's economically significant regulations lead to an apparent substitution effect, in which the agency's production of economically significant regulations decreases and its production of non-economically significant regulations increases?

Distinguishing the effect of OIRA audits from the effect of appointments depends on the sign on *Republican president* and *Republican president × agency ideology* (the

18

first is in the vector X_t and the second is in the vector Z_{it}). Because the regression

controls for OIRA audit rates, one can attribute further effects on regulation production

from these variables to other causal paths, particularly appointments.

Unfortunately, estimating Equations 1 and 2 is not straight-forward. The problem

is that OIRA's audit rate for an agency is endogenous and likely to be affected by many

of the other variables in the equation, especially *Republican president* and *Republican*

president × agency ideology. Hence, we face an identification problem.

To tackle this problem, we estimate the structural equations, Equations 1 and 2,

using instrumental variable techniques. In other words, we simultaneously estimate each

regulation production function along with an auditing equation of the general form:

$$AuditRate_{it} = \beta_0^r + \beta_2^r W_i + \beta_3^r X_t + \beta_4^r Z_{it} + \beta_5^r PA_i \qquad (3)$$

A critical feature is that the variable PA_i (a dummy variable for non-independent

regulatory commission) affects the audit rates of agencies but (plausibly) does not affect

the production of regulations once one controls for other agency covariates such as

historical production of regulation and agency ideology. Of course, the variable PA_i

strongly affects OIRA audit rates because the independent regulatory commissions do not

fall within OIRA's purview: OIRA cannot audit their regulations. This exogenous

variation (due to current law) affords a highly plausible exclusion restriction to identify

the sets of equations 1 and 3, and 2 and 3. In the standard way, the estimated value for the

audit rate becomes an instrument for the audit rate, allowing consistent estimation of the

equations of interest (see e.g., Angrist and Pischke (2008)). We estimate the system of equations using two-stage least squares (2SLS).

First Stage: Audit Equations

Now that we have presented our general identification strategy, we present our 2SLS estimation in detail, including robustness checks on the validity of our instrumental variables. Our discussed, our primary instrument is an indicator variable PA. As additional instruments, we also include interactions between PA and our exogenous predictors Republican president and Republican congress, which we refer to collectively as the instruments.[12] As before, our assumption with each instrument is that it satisfies the exclusion restriction. With respect to the two interaction terms, this requires that the president (via appointees) and congress (via budgets and other tools of agency oversight) should have equal influence over the production of rules across both the presidential agencies or the independent commissions.

In Table 2 we show the results of four first-stage models. Each was estimated using OLS by regressing our endogenous explanatory variable $AuditRate_{it}$ on the instruments and the exogenous explanatory variables. Each instrument is denoted by an "iv" for clarity. In general, each model is a variant on the basic form of equation (3). For the models in the last two columns, we include indicator variables for each agency (fixed effects). We do not, however, include indicators for each congress because we are substantively interested in the effects of *Republican president* and *Republican congress*, which would be washed out by the inclusion of fixed effects for each congress.

(Table 2 about here)

20

The results in Table 2 show that each audit equations fits the data exceptionally well. Furthermore, the effect of the instruments are substantively large and statistically significant. In the models that are just-identified, the t-value on the instrument is quite high. For the models with multiple instruments, results from an F-test rejected the null that all of the instruments are jointly equal to 0 (see the last row of Table 2). As a rule of thumb, an F-statistic greater than 10 is sufficient evidence that the instruments are appropriate for 2SLS (Stock et al 2002). In the following 2SLS estimation, we use the model shown in Column 4, which reports the highest R^2 statistic.

Second Stage: Production Equations

Table 3 shows our results from using 2SLS to estimate the production of economically significant and other rules. We also show naive OLS estimates of the regulatory production functions. (Recall that other rules are those designated by the agency as either "significant" or "substantive, but not significant.") The first four columns show OLS results and last four columns show the results from 2SLS. The instruments used in each of the 2SLS columns are those from Column 4 of Table 2: *PA*, *PA × Republican president* and *PA × Republican congress*. Every odd numbered column substitutes the audit rate lagged by one congress. We also include an indicator variable for the last term of each administration, which is the 106th Congress for Clinton and 110th Congress for Bush, primarily because of evidence that there might be an increase in the number of rules at the end each administration (O'Connell 2011).

The results in Table 3 present a means of adjudicating between the influence of OIRA (the audit rate) and the role of presidential appointees in the agencies on the

production of rules. In particular, we interpret the variable Republican president as the "appointment effect" and the audit rate as the "OIRA effect." By way of example, consider the Environmental Protection Agency (EPA), a controversial rule-writer. Presidential control of EPA manifests itself both through OIRA review of EPA rules, as well as through an internal rule review process done by the politically appointed administrator, who is aided by the EPA's Office of Policy, which operates as something akin to an in-house OIRA (McGarity 1991). Thus, if the White House wishes to produce a chilling effect in the production of EPA rules, we should expect to observe both internal (EPA) and external (OIRA) strategies. IRCs also show an association between fewer non-economically significant rules and Republican administrations. However, since these agencies are not subject to OIRA review, we can interpret these results reflecting political appointees.

The variable *Republican congress* can be interpreted as the generic effect of Congress, whether through budgets, hearings or other mechanisms. The results offer, little to no evidence that Congress has any influence on the number of rules agencies initiate.

(Table 3 about here)

The presidential variable indicates that Republican presidents are associated with a decreased production of *other* rules. However, Republican presidents are not associated with a decrease in economically significant rules. In the 2SLS models, we interpret the association as an appointee effect. In contrast to substantive and significant rules (*other*),

the production of economically significant rules appears to be less tied to the partisanship of the White House or Congress, a somewhat puzzling finding. The appendix investigates whether this effect is due to regulatory deadlines—e.g. such deadlines might compel the production of economically significant rules. However, the analysis there rejects this explanation.

The patterns of the audit rate effect across models 5 and 7 is somewhat suggestive of OIRA avoidance (see Anonymous (2011)). Under a situation of OIRA avoidance, as audits increase one would expect a decrease in the number of economically significant rules (which are very likely to be reviewed) and an increase in the number of *other* rules, which may still be reviewed, but are less likely to be reviewed (Acs and Cameron 2011). The reason *other* rules would increase is that larger rules might be broken down into smaller rules, or larger rules might be just be concealed as smaller rules. The increase in the production of *other* rules in Model 5 is consistent with OIRA Avoidance, but the absence of an effect on economically significant rules in Model 7is not (the coefficient on *Audit.rate* is indeed negative but fails to reach standard levels of statistical significance).

Discussion and Conclusion

Our results are easily summarized. We find little evidence that the Bush Administration curtailed the volume of economically significant regulations produced in the agencies, neither the presidential agencies nor the independent regulatory agencies. Alternatively, we find no "rebound" in regulatory activism in the Clinton and Obama administrations, again measured in the volume of economically significant regulation. Nor do we find clear-cut evidence of "OIRA avoidance," in which heavily audited agencies substituted a bevy of small regulations for a few big-ticket ones. However, heavily audited agencies do

23

seem to produce more non-economically significant regulations than less heavily audited agencies. We do find some suppression of non-economically significant regulations during the Bush Administration, apparently due to appointments in the agencies. The apparent failure to head-off the big ticket economically significant regulations implies that the Bush OIRA had to act as a backstop for the Administration, trying to affect policy by playing a game of piecemeal regulatory review.

Some important caveats are in order. First, the results do not say OIRA accomplished nothing (a point that holds true for the Clinton and Obama OIRAs as well). As its supporters often claim, OIRA may have been very successful in its piecemeal review of regulations: improving the economic efficiency of some regulations, enhancing inter-agency coordination, and forcing conformance with the president's program and compliance with his political objectives (DeMuth 2011).[13] These are important accomplishments, separate from systematic incentive effects in the agencies. How to score these effects with any objectivity or reliability is not clear, however.

Second, counts of regulations, even big-ticket regulations, are a coarse metric for gauging the incentive effects of centralized review on agency regulations. Consider the following example. Suppose, in anticipation of possible OIRA review, an agency worked harder and smarter and thereby reduced the cost of a regulation from $500 million to $300 million, while retaining its benefits. The improvement in efficiency would be a powerful incentive effect from centralized review. But, the less-efficient $500 million regulation and the more-efficient $300 million one would both score as one economically significant regulation. In short, one would prefer to use more nuanced and sensitive measures—like the net present value of regulations, or their stringency, as well as counts.

Unfortunately, current data seem to preclude a nuanced analysis of this kind. Tackling this problem appears to be an important direction for future research on presidential management of the regulatory state.

Nonetheless, the apparent absence of any effects on the volume of big-ticket regulations, either from centralized regulatory review or appointments in the agencies, necessarily raises questions about the efficacy of presidential efforts to control the regulatory state. Terry Moe's landmark essay, "The Politicized Presidency", identified the two major tools of presidential control, politicization and centralization. But Moe assumed these tools were sufficiently puissant that the President could actually exert significant control over the bureaucracy (Moe 1985b). In that sense, Moe's analysis stands somewhat apart from the Neustadtoan tradition emphasizing the limits of the office. Supporting Moe's assumption of presidential efficacy are works demonstrating presidential impact on agency enforcement efforts (Moe 1985a; Wood 1988; Wood and Waterman 1991). The apparent lack of systemic presidential impact on regulatory rule-making thus seems surprising. Is regulatory rule-making truly so resistant to presidential control? Does the legalistic nature of regulatory policy-making confer a degree of autonomy on the regulatory state? Or, does finding the fingerprints of presidential control simply require a finer or more sophisticated lens than we have at present? As political scientists and legal scholars scrutinize presidential management of the regulatory state more intently, these topics will surely generate additional research.

Appendix: Robustness Checks

Legal Deadlines

Statutory deadlines may reduce the discretion that agencies have to avoid rulemakings, despite pressure from political appointees, OIRA or the current Congress. From the Unified Agenda we are able to determine if a rule was under a statutory deadline. In our data, we find that 38 percent of economically significant rules were under a deadline, compared to 16 percent for significant rules and 9 percent for substantive rules. We replicated the 2SLS estimation by including only those rules without deadlines, assuming that the production of these rules would be more sensitive to political pressures, but found no material difference in our results. The results are shown in Tables 4 and 5. One reason for this curious finding may be that statutory deadlines are routinely missed, oftentimes with relative impunity (Lazarus 1991), thus implying that agencies might not change their responsiveness to current political principles based on the preferences of the enacting coalitions that imposed the deadlines in the first place.

(Tables 4 and 5 about here)

Low-Production Agencies

As a robustness check, we also examine the production of regulations in a subset of presidential agencies that produce, on average, a similar number of rules to the IRCs. To define this subset, we simply removed the agencies that were high-producers of both economically significant and other rules: HHS, EPA, AG, DOT, DOI, COM and DOD (Tables 3 and 4 indicate that these are relatively high producing agencies for both types of rules). We show the first-stage auditing equation as well as 2SLS and OLS production equation for the remaining agencies in Tables 6 and 7, respectively. These results are very similar to those reported and discussed in the main body of the paper.

(Tables 6 and 7 about here)

References

Acs, Alex and Charles M. Cameron. 2011. "Presidents and the Politics of Centralized Control: Regulatory Auditing at the Office of Information and Regulatory Affairs." SSRN eLibrary.

Aghion, Philippe and Jean Tirole. 1997. "Formal and Real Authority in Organizations." *Journal of Political Economy*. 105(1):1–29.

Angrist, Joshua D. and Jorn-Steffen Pischke. 2008. *Mostly Harmless Econometrics: An Empiricist's Companion*. 1 ed. Princeton University Press.

Anonymous. 2011. "OIRA Avoidance." *Harvard Law Review*. 124(4).

Arbuckle, Donald R. 2008. "OIRA and Presidential Regulatory Review: A View from Inside the Administrative State." Unpublished.

Bertelli, Anthony M and Christian R Grose. 2011. "The Lengthened Shadow of Another Institution? Ideal Point Estimates for the Executive Branch and Congress." *American Journal of Political Science*. 55(4):767–781.

Breyer, Stephen G., Richard B. Stewart, Cass R. Sunstein and Adrian Vermeule. 2006. *Administrative Law and Regulatory Policy: Problems, Text, and Cases*. 6 ed. Aspen Publishers, Inc.

Bueno de Mesquita, Ethan and Matthew C. Stephenson. 2007. "Regulatory Quality under Imperfect Oversight." *The American Political Science Review.* 101(3):605–620.

Clinton, Joshua D. and David E. Lewis. 2008. "Expert Opinion, Agency Characteristics, and Agency Preferences." *Political Analysis.* 16(1):3 –20.

Conley, Joe. 2006. "Environmentalism Contained: A History of Corporate Responses to the New Environmentalism." Dissertation, Princeton University.

Croley, Steven. 2003. "White House Review of Agency Rulemaking: An Empirical Investigation." *The University of Chicago Law Review*. 70(3):821–885.

DeMuth, Christopher C. 2011. "OIRA at Thirty." *Administrative Law Review*. 63(3).

DeMuth, Christopher C. and Douglas H. Ginsburg. 1986. "White House Review of Agency Rulemaking." *Harvard Law Review*. 99(5):1075–1088.

Derthick, Martha. 2011. *Up in Smoke: From Legislation to Litigation in Tobacco Politics*. CQ Press.

Freeman, Jody, and Jim Rossi. 2012. "Agency Coordination in Shared Regulatory Space." *Harvard Law Review.* 125: 1131.

Harris, Richard A., and Sidney M. Milkis. 1996. *The Politics of Regulatory Change: A Tale of Two Agencies*. 2nd ed. Oxford University Press, USA.

Gordon, Sanford C. and Catherine Hafer. 2005. "Flexing Muscle: Corporate Political Expenditures as Signals to the Bureaucracy." *The American Political Science Review*. 99(2):245– 261.

Hamilton, James T. and Christopher H. Schroeder. 1994. "Strategic Regulators and the Choice of Rulemaking Procedures: The Selection of Formal vs. Informal Rules in Regulating Hazardous Waste." *Law and Contemporary Problems*. 57(2):111–160.

Howell, William G. 2003. *Power without Persuasion: The Politics of Direct Presidential Action*. Princeton University Press.

Kagan, Elena. 2001. "Presidential Administration." *Harvard Law Review*. 114(8):2245– 2385.

Katzen, Sally. 2007. "A Reality Check on an Empirical Study: Comments on "Inside the Administrative State"." *Michigan Law Review*. 105(7):1497–1510.

Lazarus, Richard J. 1991. "The Neglected Question of Congressional Oversight of EPA: "Quis Custodiet Ipsos Custodes" (Who Shall Watch the Watchers Themselves)?" *Law and Contemporary Problems*. 54(4):205.

Lewis, David E. 2008. *The Politics of Presidential Appointments: Political Control and Bureaucratic Performance*. Princeton University Press.

Livermore, Michael A. and Richard L. Revesz. 2012. "OIRA, Regulatory Review, and Capture." SSRN eLibrary .

Magat, Wesley a, Alan J. Krupnick and Winston Harrington. 1986. *Rules in the Making: A Statistical Analysis of Regulatory Agency Behavior*. Taylor & Francis.

Mayer, Kenneth R. 2002. *With the Stroke of a Pen: Executive Orders and Presidential Power*. Princeton University Press.

McGarity, Thomas O. 1991. "The Internal Structure of EPA Rulemaking." *Law and Contemporary Problems*. 54(4):57–111.

Moe, Terry M. 1985a. "Control and Feedback in Economic Regulation: The Case of the NLRB." *The American Political Science Review*. 79(4):1094–1116.

Moe, Terry M. 1985b. "The Politicized Presidency." In *The New Direction in American Politics*, ed. Paul E. Peterson and John E. Chubb. Brookings Inst Pr.

Nathan, Richard P. 1983. *The Administrative Presidency*. Wiley.

Nou, Jennifer. 2013. "Agency Self-Insulation Under Presidential Review." *Harvard Law Review*. Forthcoming.

O'Connell, Anne Joseph. 2008. "Political Cycles of Rulemaking: An Empirical Portrait of the Modern Administrative State." *Virginia Law Review*. 94(4):889–986.

O'Connell, Anne Joseph. 2011. "Agency Rulemaking and Political Transitions." *Northwestern University Law Review*, Vol. 105, 2011.

Rudalevige, Andrew. 2002. *Managing the President's Program: Presidential Leadership and Legislative Policy Formulation*. Princeton University Press.

Seidenfeld, Mark. 2009. "Why Agencies Act: A Reassessment of the Ossification Critique of Judicial Review." *Ohio State Law Journal.* 70:251.

Steinzor, Rena, Michael Patoka and James Goodwin. 2011. "Behind Closed Doors at the White House: How Politics Trumps Protection of Public Health, Worker Safety and the Environment." Center for Progressive Reform White Paper 1111.

Stiglitz, Jed. 2011. "Unaccountable Midnight Rulemaking? Evidence from Public Comments." Unpublished Manuscript.

Stock, James H, Jonathan Wright, and Motohiro Yogo. 2002. "A Survey of Weak Instruments and Weak Identification in Generalized Methods of Moments," *Journal of Business and Economics Statistics* 20:518-529.

Sunstein, Cass. 2012. "The Office of Information and Regulatory Affairs: Myths and Realities." SSRN Scholarly Paper ID 2192639. Social Science Research Network Rochester, NY:

Tiller, E. H. and P. T. Spiller. 1999. "Strategic instruments: legal structure and political games in administrative law." *Journal of Law, Economics, and Organization.* 15(2):349–377.

Tomkin, Shelley Lynne. 1998. *Inside OMB: Politics and Process in the President's Budget Office*. M.E. Sharpe.

Weingast, Barry R. and Mark J. Moran. 1983. "Bureaucratic Discretion or Congressional Control? Regulatory Policymaking by the Federal Trade Commission." *Journal of Political Economy.* 91(5):765–800.

Wood, B. Dan. 1988. "Principals, Bureaucrats, and Responsiveness in Clean Air Enforcements." *The American Political Science Review*. 82(1):213.

Wood, B. Dan and Richard W. Waterman. 1991. "The Dynamics of Political Control of the Bureaucracy." *The American Political Science Review*. 85(3):801–828.

Yackee, Jason Webb and Susan Webb Yackee. 2010. "Administrative Procedures and Bureaucratic Performance: Is Federal Rulemaking Ossified?" *Journal of Public Administration Research and Theory*. 20(2):261 –282.

---

[1] For more on Nixon's struggle to control the government, see Nathan (1975).

[2] OIRA was created by the Paperwork Reduction Act of 1980, but its core mission of regulatory review comes from Reagan's executive order and the subsequent executive orders issued by Presidents Clinton, George W. Bush and Obama.

[3] Interviews with authors

[4] See OIRA Reports to Congress at www.whitehouse.gov

[5] O'Connell (2011) employs Clinton-Lewis scores in a hazard rate model analyzing the duration of the rulemaking process, that is, addressing regulatory ossification.

[6] Our primary reason for starting in 1995, and not the date when EO 12866 first came into effect, is because this is the first year in which reliable data on the economic significance of regulations was recorded in the Unified Agenda.

[7] Note that if one wanted to estimate the straightforward effect of OIRA this would be to see how many rules were actually withdrawn as a result of OIRA review. However, in

this paper we estimate changes in the *incentive effects* of OIRA, meaning that we are interested in how changes in OIRA's audit rate, for example, increase or decrease the number of regulatory activities that agencies attempt to undergo.

[8] See Executive Order 12,866 Regulatory Planning and Review, signed September 30, 1993.

[9] See EO 12866

[10] While it is straightforward to determine the appropriate numerator, which is simply the number of rules that show up in the RISC data, determining the appropriate denominator requires an assumption about when a rule that is listed in the Unified Agenda is actually mature enough to be audited. We assume that rules that were in the planning stage (listed as planned NPRMs, for example) in one administration but were not audited until the following administration should still be included in the denominator for the first administration's audit rate. Failure to fast-track these rules through the OIRA process is evidence of less vigilant OIRA, which implies a lower audit rate.

[11] Excluded are agencies like the State Department and USAID, even though they issued a major rules roughly every other Congress. We exclude the Department of Homeland Security and its component bureaus because the organizational structure of this agency changed dramatically midway through the study. We also exclude the Treasury department because it is not systematically reviewed by OIRA, even though it is a presidential agency.

[12] See Angrist and Pischke (2008, p.125) for a discussion of how such interactions terms in the first stage equation can increase the R^2 and, as a result, increase precision of the 2SLS estimate.

[13] We note that OIRA's critics often make the same point, though from a

contrary normative stance (Steinzor et al. 2011).

Number of Pages Annually in the Federal Register, 1936 – 2010
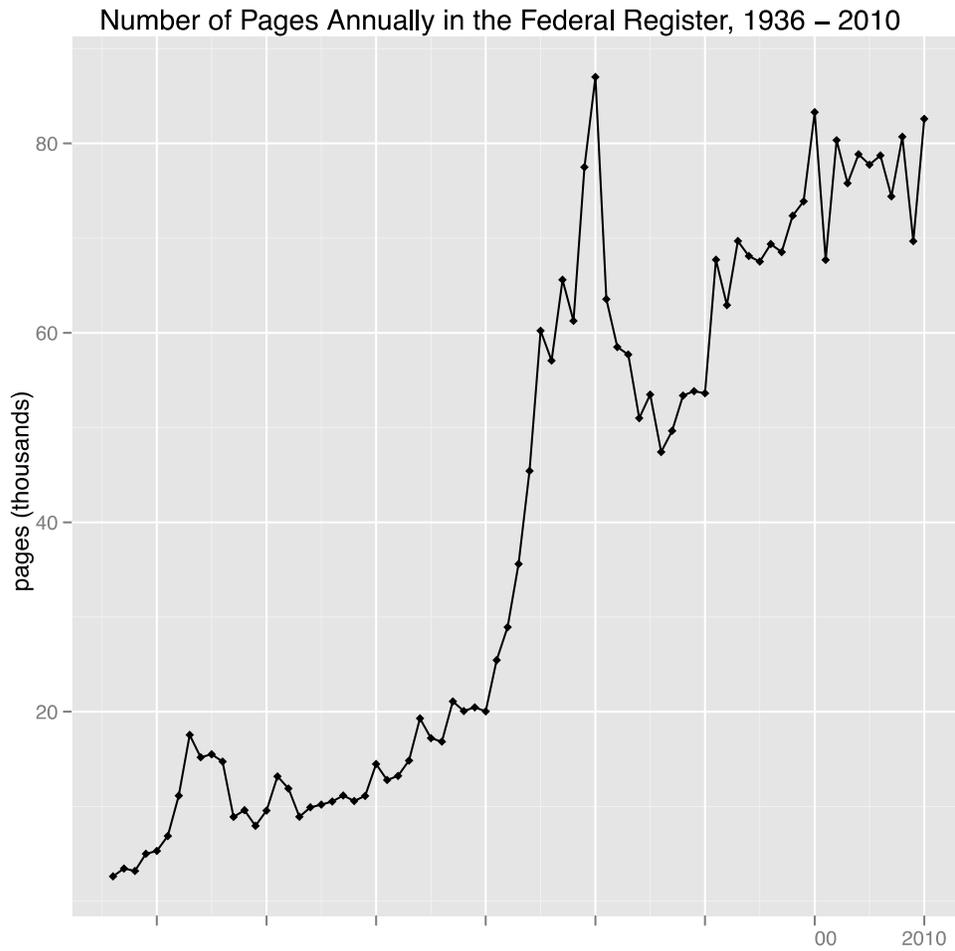
Source: *Federal Register*

Figure 1: Number of pages in the Federal Register.

	min	max	mean
Congress	104	111	107
Agency Ideology	-1.6	2.21	-0.0
All Rules per Congress	1	373	82
Economically Significant Rules per Congress	0	33	2
Significant Rules per Congress	0	69	14
Substantive but Non-Significant Rules per Congress	0	225	38
Proportion of Rules Economically Significant	0.00	0.36	0.04
Republican Congress	0.00	1.00	0.62
Republican President	0.00	1.00	0.5
Independent Regulatory Commission (IRC)	0.00	1.00	0.28
Historical Production of Rules	6	917	230
End Term	0	1	.25

Note: Each variable is analyzed at the agency-Congress level to conform with the regression analysis.

Table 1: Summary Statistics

Agency Audit Rates
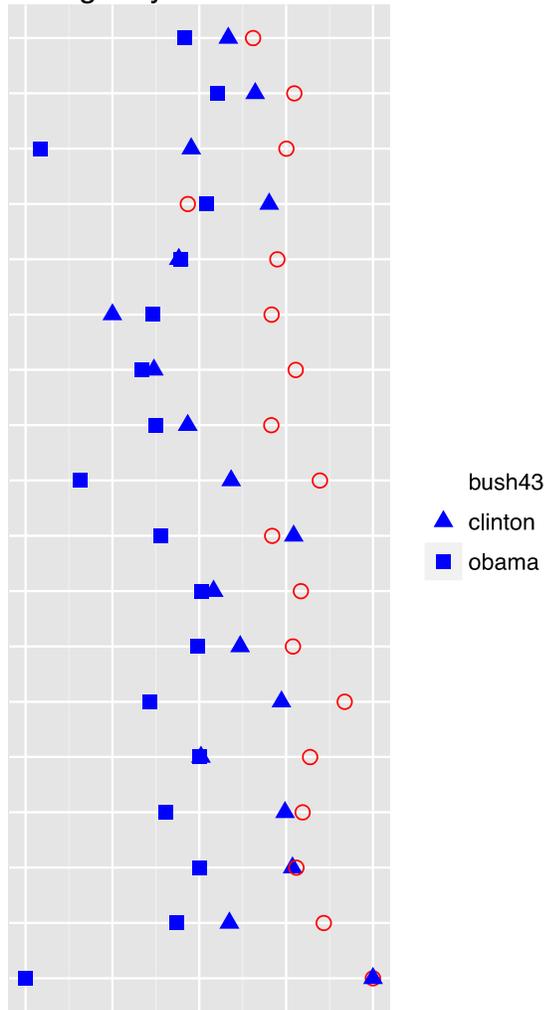
Source: *Unified Agenda* and *Regulatory Information Services Center*.

Figure 2: Audit rates by agency and administration.
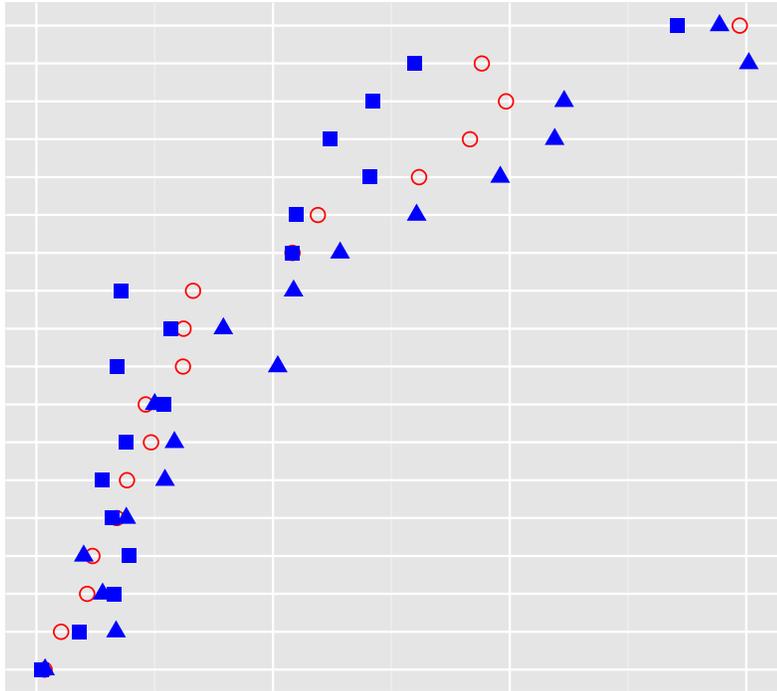
Source: *Unified Agenda*

Figure 3: Number of "significant" and "substantive, but not significant" (*other*) rules initiated by agency and administration.
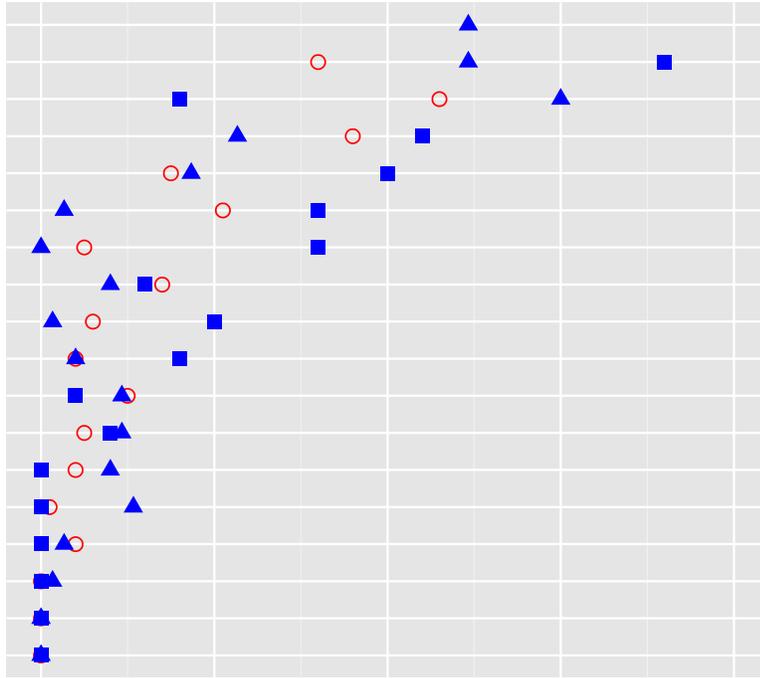
Source: *Unified Agenda*.

Figure 4: Number of economically significant rules initiated by agency and administration. Note: HHS is an outlier in the production of economically significant rules during the period studied. On average, the number of HHS rulemakings initiated was 12 for Clinton, 30 for Bush and 57 for Obama.

	Dependent Variable: Audit Rate			
(Intercept)	−0.13*	0.04	0.61*	0.69*
	(0.06)	(0.07)	(0.30)	(0.28)
PA (iv)	0.67***	0.43***	0.93***	0.68***
	(0.03)	(0.06)	(0.13)	(0.13)
PA:repub.pres (iv)		0.27***		0.26***
		(0.06)		(0.05)
PA:repub.congress (iv)		0.17**		0.17**
		(0.06)		(0.06)
repub.pres	0.19***	0.00	0.20***	0.01
	(0.03)	(0.05)	(0.03)	(0.05)
repub.congress	0.14***	0.01	0.16***	0.04
	(0.03)	(0.05)	(0.03)	(0.05)
ideology	−0.03·	−0.04*		
	(0.02)	(0.02)		
repub.pres:ideology	−0.02	−0.01	−0.01	0.00
	(0.03)	(0.02)	(0.02)	(0.02)
log(historical.production)	−0.02	−0.02	−0.17**	−0.15**
	(0.01)	(0.01)	(0.06)	(0.06)
end.term	0.06*	0.06*	0.07*	0.07*
	(0.03)	(0.03)	(0.03)	(0.03)
agency FE			x	x
R^2	0.76	0.79	0.80	0.83
Adj. R^2	0.75	0.78	0.77	0.80
Num. obs.	199	199	199	199
F-statistic (excluded instruments)		152		12.7

***$p < 0.001$, **$p < 0.01$, *$p < 0.05$, ·$p < 0.1$

Table 2: OLS regressions of first stage. The ``iv'' after each variable denotes the instrumental variables. All other variables are the exogenous explanatory variables.

| | OLS | | | | 2SLS | | | |
| | Other | | Econ. Sig. | | Other | | Econ. Sig. | |
	(1)	(2)	(3)	4	(5)	(6)	(7)	(8)
(Intercept)	0.60	1.03	8.90*	13.27**	−0.19	6.13	10.67*	1.18
	(0.79)	(0.95)	(3.91)	(4.72)	(1.02)	(4.69)	(4.91)	(18.18)
audit.rate	0.33*		−0.68		0.85*		−1.83	
	(0.15)		(0.75)		(0.43)		(2.05)	
audit.rate.lagged		−0.03		−1.46·		−1.98		3.18
		(0.16)		(0.80)		(1.74)		(6.74)
repub.pres	−0.30***	−0.19***	−0.10	−0.28	−0.40***	−0.17*	0.13	−0.34
	(0.06)	(0.05)	(0.29)	(0.27)	(0.10)	(0.08)	(0.48)	(0.31)
repub.congress	−0.15*	−0.11·	−0.15	−0.20	−0.23*	−0.13	0.03	−0.16
	(0.06)	(0.06)	(0.31)	(0.29)	(0.09)	(0.08)	(0.44)	(0.33)
repub.pres:ideology	0.03	0.01	0.09	−0.02	0.03	−0.05	0.07	0.13
	(0.05)	(0.05)	(0.24)	(0.26)	(0.05)	(0.09)	(0.24)	(0.36)
log(historical.production)	0.73***	0.68***	−0.94	−1.52*	0.82***	0.10	−1.13	−0.15
	(0.12)	(0.14)	(0.60)	(0.71)	(0.14)	(0.55)	(0.69)	(2.13)
end.term	−0.03	0.02	0.27	0.24	−0.06	0.09	0.35	0.08
	(0.06)	(0.06)	(0.29)	(0.29)	(0.07)	(0.10)	(0.32)	(0.40)
agency FE	x	x	x	x	x	x	x	x
R^2	0.93	0.94	0.72	0.74	0.93	0.88	0.72	0.68
Adj. R^2	0.92	0.93	0.68	0.68	0.78	0.72	0.61	0.56
Num. obs.	199	173	199	173	199	173	199	173

$^{***}p < 0.001, ^{**}p < 0.01, ^{*}p < 0.05, ^{·}p < 0.1$

Table 3: Production Equations: Naive OLS and 2SLS

	Dependent Variable: Audit Rate			
(Intercept)	−0.13*	0.04	0.61*	0.69*
	(0.06)	(0.07)	(0.30)	(0.28)
PA (iv)	0.67***	0.43***	0.93***	0.68***
	(0.03)	(0.06)	(0.13)	(0.13)
PA:repub.pres (iv)		0.27***		0.26***
		(0.06)		(0.05)
PA:repub.congress (iv)		0.17**		0.17**
		(0.06)		(0.06)
repub.pres	0.19***	0.00	0.20***	0.01
	(0.03)	(0.05)	(0.03)	(0.05)
repub.congress	0.14***	0.01	0.16***	0.04
	(0.03)	(0.05)	(0.03)	(0.05)
ideology	−0.03·	−0.04*		
	(0.02)	(0.02)		
repub.pres:ideology	−0.02	−0.01	−0.01	0.00
	(0.03)	(0.02)	(0.02)	(0.02)
log(historical.production)	−0.02	−0.02	−0.17**	−0.15**
	(0.01)	(0.01)	(0.06)	(0.06)
end.term	0.06*	0.06*	0.07*	0.07*
	(0.03)	(0.03)	(0.03)	(0.03)
agency FE			x	x
R^2	0.76	0.79	0.80	0.83
Adj. R^2	0.75	0.78	0.77	0.80
Num. obs.	199	199	199	199
F-statistic (excluded instruments)		118		10.7

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$, $^{·}p < 0.1$

Table 4: OLS regressions of first stage including only rules that were initiated without a legal deadline. The ``iv" after each variable denotes the instrumental variables. All other variables are the exogenous explanatory variables.

| | OLS | | | | 2SLS | | | |
| | Other | | Econ. Sig. | | Other | | Econ. Sig. | |
	(1)	(2)	(3)	4	(5)	(6)	(7)	(8)
(Intercept)	1.28	2.12·	8.54*	12.20*	0.99	5.14	12.20*	−4.20
	(0.90)	(1.09)	(4.27)	(5.33)	(1.12)	(4.26)	(5.46)	(21.36)
audit.rate	0.29·		−0.69		0.48		−3.07	
	(0.17)		(0.82)		(0.47)		(2.28)	
audit.rate.lagged		−0.10		−1.34		−1.26		4.96
		(0.19)		(0.91)		(1.58)		(7.92)
repub.pres	−0.23***	−0.12*	0.08	−0.07	−0.27*	−0.11	0.55	−0.15
	(0.07)	(0.06)	(0.32)	(0.30)	(0.11)	(0.07)	(0.53)	(0.36)
repub.congress	−0.08	−0.05	0.12	0.05	−0.11	−0.06	0.50	0.10
	(0.07)	(0.07)	(0.33)	(0.33)	(0.10)	(0.08)	(0.48)	(0.38)
repub.pres:ideology	0.07	0.06	−0.06	−0.16	0.08	0.02	−0.09	0.05
	(0.06)	(0.06)	(0.26)	(0.29)	(0.06)	(0.08)	(0.27)	(0.43)
log(historical.production)	0.60***	0.50**	−0.96	−1.44·	0.64***	0.15	−1.36·	0.43
	(0.14)	(0.16)	(0.66)	(0.80)	(0.16)	(0.50)	(0.76)	(2.50)
end.term	−0.05	0.00	0.07	0.06	−0.07	0.04	0.23	−0.16
	(0.07)	(0.07)	(0.31)	(0.32)	(0.07)	(0.09)	(0.35)	(0.46)
agency FE	x	x	x	x	x	x	x	x
R^2	0.92	0.92	0.65	0.65	0.92	0.90	0.64	0.54
Adj. R^2	0.90	0.91	0.59	0.58	0.77	0.74	0.54	0.45
Num. obs.	199	173	199	173	199	173	199	173

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$, $^{·}p < 0.1$

Table 5: Production Equations: Naive OLS and 2SLS for only rules that were initiated without a legal deadline

	Dependent Variable: Audit Rate			
(Intercept)	−0.08	0.10	0.25	0.34˙
	(0.07)	(0.07)	(0.21)	(0.18)
PA (iv)	0.65***	0.33***	0.95***	0.60***
	(0.03)	(0.06)	(0.15)	(0.14)
PA:repub.pres (iv)		0.38***		0.37***
		(0.06)		(0.05)
PA:repub.congress (iv)		0.21***		0.21***
		(0.06)		(0.05)
repub.pres	0.22***	0.00	0.22***	0.01
	(0.03)	(0.04)	(0.03)	(0.04)
repub.congress	0.14***	0.01	0.16***	0.03
	(0.03)	(0.04)	(0.03)	(0.04)
ideology	−0.05*	−0.08***		
	(0.02)	(0.02)		
repub.pres:ideology	0.00	0.04	0.00	0.05˙
	(0.03)	(0.03)	(0.03)	(0.03)
log(historical.production)	−0.03˙	−0.03*	−0.14*	−0.12*
	(0.02)	(0.01)	(0.06)	(0.05)
end.term	0.06˙	0.06*	0.06˙	0.06*
	(0.03)	(0.03)	(0.03)	(0.03)
agency FE			x	x
R^2	0.80	0.86	0.83	0.88
Adj. R^2	0.79	0.85	0.80	0.86
Num. obs.	143	143	143	143
F-statistic (excluded instruments)		134		19

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$, $^{˙}p < 0.1$

Table 6: OLS regressions of first stage for only the low-production agencies. The ``iv'' after each variable denotes the instrumental variables. All other variables are the exogenous explanatory variables.

| | OLS | | | | 2SLS | | | |
| | Other | | Econ. Sig. | | Other | | Econ. Sig. | |
	(1)	(2)	(3)	4	(5)	(6)	(7)	(8)
(Intercept)	0.81˙	1.00˙	−0.82	1.60	0.81˙	0.71	−0.44	3.00
	(0.48)	(0.58)	(2.34)	(2.85)	(0.49)	(1.04)	(2.40)	(5.08)
audit.rate	0.44*		−0.79		0.44		−2.34	
	(0.20)		(1.00)		(0.37)		(1.80)	
audit.rate.lagged		−0.08		−2.02˙		0.26		−3.61
		(0.22)		(1.10)		(1.00)		(4.90)
repub.pres	−0.38***	−0.24**	−0.24	−0.33	−0.38***	−0.26**	0.10	−0.23
	(0.08)	(0.07)	(0.40)	(0.36)	(0.11)	(0.10)	(0.53)	(0.47)
repub.congress	−0.24**	−0.19*	0.05	−0.06	−0.24*	−0.18*	0.30	−0.08
	(0.08)	(0.08)	(0.40)	(0.38)	(0.10)	(0.08)	(0.47)	(0.39)
repub.pres:ideology	0.00	−0.02	−0.10	−0.07	0.00	−0.02	−0.10	−0.04
	(0.07)	(0.08)	(0.35)	(0.37)	(0.07)	(0.08)	(0.35)	(0.39)
log(historical.production)	0.76***	0.70***	−1.13	−1.81*	0.76***	0.79*	−1.35˙	−2.25
	(0.15)	(0.17)	(0.71)	(0.85)	(0.15)	(0.32)	(0.75)	(1.57)
end.term	−0.04	0.02	0.42	0.43	−0.04	0.01	0.52	0.49
	(0.08)	(0.08)	(0.37)	(0.38)	(0.08)	(0.09)	(0.39)	(0.42)
R^2	0.87	0.88	0.60	0.62	0.87	0.88	0.59	0.61
Adj. R^2	0.85	0.86	0.52	0.53	0.73	0.71	0.49	0.49
Num. obs.	143	124	143	124	143	124	143	124

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$, $^{˙}p < 0.1$

Table 7: Production Equations: Naive OLS and 2SLS for only the low-production agencies.