Between Boardrooms and the Beltway: The Career Paths of Senior Regulators*

Ran Duchin, Joseph Kalmenovitz, and Yudong Wang

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Abstract

We compile a comprehensive database of senior federal regulators and trace their full career paths since college graduation across the private and public sectors. We find that revolving-door moves across the private and public sectors are ubiquitous, persistent, correlated with economic and election cycles, and typically occur several times over the course of one's career. Revolving-door regulators exhibit more regulatory (but not deregulatory) activity, stricter enforcement, and higher regulation complexity. Further, they work for stronger firms, come from relatively poorer backgrounds, and accumulate more wealth throughout their careers. Overall, we quantify regulators' incentives to build financial, bureaucratic, and human capital.

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* For helpful comments, we thank conference participants at the 2023 Financial Research Association's early ideas session. Contact: Ran Duchin, Carroll School of Management, Boston College, e-mail: duchinr@bc.edu; Joseph Kalmenovitz, Simon Business School, University of Rochester, e-mail: jkalmeno@simon.rochester.edu; Yudong Wang, Carroll School of Management, Boston College, e-mail: wangasv@bc.edu.

The revolving-door phenomenon, whereby regulators work for the very sector they have regulated, is common practice in the United States and around the world. Anecdotal evidence abounds. The Wall Street Journal, for example, reported in 2018 that former Acting Comptroller of the Currency Keith Noreika returned to advise banks, concluding that "his trip through the revolving-door between the government and the private sector raised eyebrows." Similarly, Bloomberg reported in 2021 that Citigroup hired Ken Blanco, the director of the Financial Crimes Enforcement Network, as its chief compliance officer.

Unsurprisingly, there has been an active debate about the implications of this practice for regulatory efficacy and for the balance of power between regulators and firms. Stigler (1971), Peltzman (1976), Eckert (1981), Shleifer and Vishney (1993), Laffont and Tirole (1993), and Zingales (2017), among others, highlight the potential for regulatory capture. Under the "regulatory capture" view, regulators improve their future financial and employment prospects by promoting regulation, deregulation, or inaction that benefits firms at the expense of households. A milder form of regulatory capture, highlighted by Brezis (2023), is that regulators build "bureaucratic capital," including knowledge and connections to policy-makers, which can benefit firms that seek to navigate complex regulatory environments. An implication of the "bureaucratic capital" view is that regulators have an incentive to increase the complexity of the regulatory environment to enhance the value of their bureaucratic capital and to entrench themselves.

Conversely, Che (1995), Salant (1995), and Bar-Isaac and Shapiro (2011), among others, argue that future private sector prospects may incentivize regulators to develop and signal their competence. Further, private sector prospects may allow regulatory agencies to attract high-quality, competent employees despite the low wages (Brezis, 2023). Under this "competence" view, the revolving-door practice may enhance regulators' talent pool, promoting better regulation.

The goal of this paper is to provide novel empirical evidence on the revolving-door between regulatory agencies and firms. We depart from, and contribute to, prior empirical work in several ways. First, we compile a new comprehensive dataset of top regulators' entire career paths since college and through each and every role in both the private and public sectors. Unlike prior empirical work, the sample includes all top regulators irrespective of whether they have worked, or will work, in the private sector. This mitigates concerns about selection and allows us to provide unconditional estimates. Second, differently from prior studies that focus on a single regulatory agency, the dataset covers roughly 500 top federal regulators, who served as heads of a regulatory agency, across all 50 agencies that issued enforcement fines during our sample period from 2000 to 2022. The dataset allows us to characterize individuals' two-way moves between firms and regulatory agencies throughout their careers. We focus on top regulators because their actions can have nontrivial consequences for regulations and firms. Third, we develop and utilize novel measures of regulatory work, including intensity, enforcement, and complexity, as well as measures of private-sector employment, skill, and wealth accumulation for each regulator, allowing us to consider the "regulatory capture," "bureaucratic capital," and "competence" views.

Our analysis reveals that moving between the private and public sectors is commonplace among top regulators, and often occurs several times over the course of their careers. The estimates show that roughly 69% of regulators have worked in the private sector before their top regulator appointment, and 64% of them moved to the private sector after stepping down from their top regulatory position. The average top regulator has worked for 13.4 years in the private sector and 16 years in the government sector, before being appointed as top regulator at the age of 54. On average, top regulators move 2.5 times between the private and public sectors throughout their careers and make their first move when they are 41 years old. These numbers, however, vary considerably across regulators, regulatory agencies, and administrations. For example, 22.1% of regulators have moved between the public and private sectors only once, 15.7% have moved twice,

16.4% have moved three times, and 29.6% have moved four times or more. Also, revolving-door regulators are more likely to be Republicans, and to be appointed by Republican administrations.

The ubiquity of revolving-door moves raises a natural question about their determinants and implications for career development. We provide several analyses to shed light on these issues. First, we investigate how moving across the public and private sectors correlates with subsequent career outcomes. In particular, we collect firm-by-firm information about job titles and calculate an annual measure of job ranking based on the frequency of each job title relative to the firm's total number of employees. While imperfect, the intuition behind this measure is straightforward – the lower the relative frequency of a job title is, the more senior it is. For example, a firm typically only has one CEO, and that CEO is relatively more senior (compared to other CEOs) when the firm has more employees. This measure allows us to standardize the ranking of employees across firms that differ considerably in their job titles and organizational structures.

Using this measure, we test whether regulators with progressively more moves across the private and public sectors, that is, regulators who have stepped more times through the revolving-door, serve in more senior positions when they move to the private sector. Since more moves can be mechanically correlated with career lengths, tenure, overall experience, or other unobservable characteristics, we estimate specifications that control for observable attributes and include different combinations of fixed effects such as regulator fixed effects, birth cohort fixed effects, and agency fixed effects. The estimates suggest that those regulators who have stepped more times through the revolving-door in the past hold more senior positions compared to other regulators with similar career lengths, from the same regulatory agency, same birth cohort, and same starting jobs. We interpret this finding as evidence consistent with a career ladder motive whereby roundtrips between the private and public sectors allow individuals to climb up the corporate ladder.

Second, we investigate the role of political partisanship in career moves across the private and public sectors. We find that revolving-door moves are 86% more likely following political turnovers, when the party of the president changes. Moreover, the direction of revolving-door moves around political turnovers is determined by regulators' political views. Specifically, they are 270% more likely to move to the public sector if they support the party of the incoming president, and, conversely, are 99% more likely to move to the private sector if they do not support the party of the incoming president. These results are not mechanical – they hold after dropping appointments to top regulatory positions, which are often political appointments.

Third, we examine the persistence of private sector employment. If revolving-door moves indeed facilitate subsequent promotions or better prospects in the private sector, we should observe a strong autocorrelation between working in the private sector in the past and working in the private sector again in the future. To test this implication, we investigate the relation between top regulators' past experience in the private sector and moving back to the private sector after stepping down from the top position. We find that top regulators are more than twice as likely to work in the private sector after stepping down from the top position if they have worked in the private sector before being appointed as top regulators. These findings are highly statistically significant at the 1% level and hold in tight specifications that control for individual characteristics and include both agency and year fixed effects.

Next, we evaluate the regulatory activities of top regulators. We begin with 126,796 federal rules published in the Federal Register. While prior research mostly counted the number of final rules in the Federal Register as a proxy for rule-making activities, the Congressional Research Service report (R43056) highlights two major limitations of this approach. First, not all rules are of equal importance, with many being routine in nature. Second, rules can be regulatory or

deregulatory, and some may repeal existing rules rather than establish new ones. To overcome these challenges, we merge the rules in the Federal Register with the Unified Agenda of Regulatory and Deregulatory Actions to establish the importance and priority of each rule. Furthermore, we use the "EO 13771 Designation" to fine-tune a natural language processing algorithm – the Legal BERT model – to classify all the rules in our sample as either regulatory or deregulatory. Following this procedure, we construct measures of regulatory activity that capture the scope of meaningful rule-making and distinguish between regulatory and deregulatory rules.

We also use the full texts of the final rules to construct measures of regulatory complexity, following an approach similar to that of Colliard and Georg (2023). Lastly, we construct measures of regulatory enforcement actions using data from the Violation Tracker database of the Good Jobs First project. This database covers 538,514 enforcement cases resolved by federal regulatory agencies and the Justice Department since 2000 with total penalties of $863 billion.

Our findings on regulatory activities and enforcement can be summarized as follows. First, revolving-door regulators are more productive, as measured by the importance-weighted number of rules that their agency published in the Federal Register. These effects are concentrated in regulatory, rather than deregulatory, rules. Second, they are associated with stricter enforcement, as measured by the dollar amount of enforcement actions as well as the number of enforcement actions that their agency issued.

These estimates are economically large and statistically significant at the 1% level and hold in tight specifications that include both year and regulatory agency fixed effects. The annual number and dollar amount of enforcement actions are 53% and 486% higher, respectively, for revolving-door regulators compared to non-revolving-door regulators. Similarly, the importance-

weighted productivity and regulatory rule-making scores are 17% and 14% higher, respectively, when the agency is run by a regulator who worked in the private sector.

Collectively, these findings suggest that revolving-door top regulators are more active in regulatory (but not deregulatory) rule-making and enforcement. As such, the findings are less consistent with the "regulatory capture" view, which suggests that the revolving-door phenomenon should lead to regulatory inaction or weaker enforcement. Instead, they appear to be more consistent with the "bureaucratic capital" view, whereby regulators enhance their bureaucratic human capital through active regulation that increases their future financial and employment prospects. They are also consistent with the "competence" view, whereby regulators signal their competence and expertise through intense enforcement and regulatory activities. This, in turn, implies that future private-sector prospects may provide implicit incentives for those overseeing regulatory agencies.

To shed more light on the "bureaucratic capital" hypothesis, we provide detailed analyses of regulatory complexity. The evidence suggests that revolving-door top regulators are more likely to oversee complex regulation. Our measures of regulatory complexity are based on a textual analysis of the final rules published in the Federal Register by each federal regulatory agency. They include the total number of words (*Rule length*), the total number of regulatory operators, such as "shall", "must", "required", etc. (*Regulatory operators*), and the total number of logical operators such as "and", "or", "if", etc. (*Cyclomatic complexity*). Across these three measures, revolving-door regulators are 45.2%-59.6% more likely to oversee rule-making with above-median complexity, and these estimates are statistically significant at conventional levels. These findings are consistent with the "bureaucratic capital" hypothesis, by which regulators enhance their human capital through complex regulation and entrenchment.

In the last set of analyses, we further explore the revolving-door incentives of top regulators. First, we investigate whether regulatory productivity and enforcement correlate with variation in career outcomes. We find that stricter enforcement, higher regulatory (but not deregulatory) productivity and more complex regulation increase the likelihood of working at better-run firms, as measured by the ratio of firms' sales to the number of employees. To the extent that better-run firms provide better, or more prestigious, employment opportunities, this evidence implies that the prospects of ex-post better career outcomes incentivize regulators to increase productivity and enforcement.

Second, we investigate the financial incentives of top regulators based on hand-collected data on real-estate ownership. We find that revolving-door regulators accumulate higher personal wealth, as measured by the number and total value of their real estate properties when they retire. However, they start their careers less wealthy, as measured by the number and value of their real estate properties at the age of 30. These findings suggest that revolving-door regulators are driven by stronger financial incentives, and attain better financial outcomes, compared to non-revolving-door regulators.

Third, we investigate the relation between career trajectories and aggregate economic conditions. We find that top regulators are more likely to start their careers in the public sector if they enter the workforce during a recession. They are also more likely to move to the public sector during recession years. These findings are consistent with the insulation of public-sector employees from external economic pressures. Further, recession regulators who start their careers during economic downturns are more likely to be revolving-door regulators, as well as work in the private sector after stepping down from their top job. While such regulators appear to have considerably less wealth at the age of 30, they close the wealth gap by 65, when they retire. Combined, these findings suggest that financial incentives, which are largely exogenously

determined by aggregate economic conditions when individuals graduate from college, predict the tendency to step though the revolving-door and work in the private sector when they step down from their top position.

Overall, our findings are most consistent with the "bureaucratic capital" and the "competence" hypotheses. Revolving-door regulators exhibit higher levels of regulatory activity, regulatory complexity, and enforcement, rather than inaction or deregulation. Further, they appear to work in better firms, and accumulate more wealth. Their incentives, however, are undone when they start their careers wealthier and are, therefore, less motivated to excel and create high-paying opportunities in the private sector.

1. Literature Review

We contribute to an extensive literature that studies the impact of revolving-door incentives on regulatory activities.[1] This subject has been studied in different settings, with inconclusive findings.

One view is that regulators behave leniently to favor their future private-sector employers. For example, Tabakovic and Wollmann (2018) find that U.S. patent examiners grant more and lower-cited patents to the firms which later hire them. Tenekedjieva (2020) shows that insurance commissioners who later move into the private sector are more lenient. Kalmenovitz et al. (2022) find that SEC attorneys file more enforcement actions after they become subject to stricter post-employment restrictions. They also find that agencies with revolving-door incentives (identified by salary bunching patterns) issue rules with lower compliance costs. Heese (2022) documents less enforcement actions among German firms after they appoint incumbent regulators to their

[1] There are also studies on the revolving door phenomenon outside the government setting, for example, among analysts (Cohen et al., 2012; Cornaggia et al., 2016; Kempf, 2020) and auditors (Geiger et al., 2005, 2008; Bhattacharjee and Brown, 2018).

board. Katic and Kim (2024) also find that firms experience a shortened regulatory approval process before the appointment of former U.S. Department of Agriculture officers.

Another view is that future private sector prospects may incentivize regulators to entrench themselves by intensifying their regulatory efforts to accumulate more "bureaucratic capital" and/or signal their "competence". Lucca et al. (2014) document higher banking regulator outflow to the private sector during periods of intense enforcement. Agarwal et al. (2014) find that states with intense banking regulators see a higher regulator outflow rate. Similarly, Hendricks et al. (2022) find that audit firms hire former PCAOB employees in response to negative PCAOB inspection reports. deHaan et al. (2015) also show that SEC attorneys who move to work for the private sector have more aggressive enforcement actions. Consistent with the knowledge view, firms benefit from hiring a previous regulator through better risk management (Shive and Forster, 2017), reduced enforcement costs (Correia, 2014), and receiving more procurement contracts (Emery and Faccio, 2022).

We also add to the growing literature that quantifies government regulation. Prior studies have evolved from simply counting the pages of regulatory text (Mulligan and Shleifer, 2005; Coffey et al., 2012; Dawson and Seater, 2013) or the number of rules (Crews, 2004) to more nuanced measures such as number of regulatory operators (Al-Ubaydli and McLaughlin, 2017), regulatory complexity (Boulet et al., 2011; Katz and Bommarito, 2014; Amadxarif et al., 2019; Colliard and Georg, 2023), and regulatory fragmentation (Kalmenovitz et al., 2021). We add to the literature by providing novel measures of federal regulations that capture the scope of meaningful rule-making and distinguish between regulatory and deregulatory rules.

2. Sample Construction and Summary Statistics

2.1 Agencies and Regulators

We begin constructing our sample of top federal regulators by focusing on 50 executive branch agencies that issued enforcement fines between 2000 and 2022. We obtain these data from the Corporate Research Project of Good Jobs First's Violation Tracker.[2] The Violation Tracker database covers enforcement fines since 2000 with total penalties of $863 billion. We provide a detailed list of the sample agencies in Appendix B.

Next, we collect data on the government officials that headed the sample agencies between 2000 and 2022 from the bi-annual Congressional Directory, the official directory of the United States Congress that contains lists of federal officials at the time of record. We obtain the exact appointment dates of these top regulators from the Congressional Documents collection. In addition, we obtain information from the Presidential Documents and Federal Register databases on temporary appointments that were not issued official nomination documents.

To arrive at our final sample of top regulators, we apply two filters. First, we exclude regulators acting as temporary replacements, namely interim or acting regulators, with terms of less than six months. We do so because acting regulators have short time horizons and likely different incentives compared to permanent regulators. Some agencies, however, such as the Food and Drug Administration, are often headed by an acting commissioner. We therefore only exclude acting regulators with terms of less than six months. Second, we exclude regulators who died while in their top regulatory position or within one year of stepping down. After applying these filters, we arrive at our sample of 1,338 top federal regulators from 50 executive branch agencies.

[2] See: https://www.goodjobsfirst.org/violation-tracker.

Next, we compile a database of post-undergraduate employment records for the top regulators in our sample. We obtain this information from prepared statements and biographical information in Congressional hearing transcripts. In particular, the Senate holds nomination hearings that provide transparency about federal appointments and a forum to discuss them. We use prepared statements and biographical information from hearings' transcripts, which contain the detailed CVs of the nominees. Appendix C provides sample CVs in hearing transcripts.

Since the Senate does not hold hearings for all nominations, and since the CVs from hearings' transcripts only include pre-regulation employment, we manually augment the dataset with employment records from various sources, including BoardEx, LinkedIn, Wikipedia, and biographies on corporate websites.

For each private-sector employment, we collect firm-level information about job titles, and calculate an annual measure of position rank based on the frequency of each job title relative to the firm's total number of employees from BoardEx.

We also collect information about regulators' educational backgrounds from their CVs and LinkedIn pages. Specifically, we collect detailed data on the undergraduate and graduate institutions that each top regulator attended. We match each undergraduate institution to the SAT scores of the students it admitted from the U.S. News & World Report Best Colleges Ranking. We use SAT scores of admitted students instead of institution rankings because there is no single ranking for both national universities and liberal arts colleges. We also collect the ranking of each graduate institution from the U.S. News & World Report Best Graduate School Ranking.

To study regulators' financial incentives, we measure the evolution of their wealth throughout their careers based on real-estate purchases inferred from deed transfer records. To do so, we hand-match our sample regulators to the Lexis Nexis Public Records (LNPR) database, using each regulator's full name and birth year. LNPR provides information about more than 500 million U.S.

individuals (alive and deceased), who are identified throughout the database using a unique ID linked to one's social security number and employment records. We manually validate the accuracy of each LNPR match by ensuring that the regulator's employer, work email address, and title listed in the employment records in LNPR match the regulator's career history. We obtain all deed records for each matched regulator.

While the LNPR database is relatively clean, we identified inconsistencies and duplicates in its deed records. For example, the LNPR may falsely attribute older sale records to current homeowners when generating assessment records, including apparent duplications that show the same sale date and amount for two different properties for the same homebuyer. We manually investigate and clean the data to remove all inconsistencies and duplicates from our sample. We adjust the sale value on deed transfer records with the inflation-adjusted Case-Shiller Home Price Index to calculate the current market value of regulators' real-estate property acquisitions.

We construct a measure of revolving-door regulators that considers both past and future work in the private sector. The measure defines revolving-door regulators as those with more than 6 months' consecutive private sector working experience before taking the top regulatory position and with more than 6 months' consecutive private sector working experience after stepping down from that position. This definition allows us to study the incentives of regulators who come from the private sector and go back to the private sector.

Table 1 provides summary statistics. The average top federal regulator is 56 years old, and stays in the top regulatory position for 4.1 years. 72% of the sample regulators are male. The sample is balanced across party lines, with 47% Democrats and 46% Republicans. 87.1% of the regulators hold an advanced degree. On average, 47.9% of regulators in a given year are revolving-door regulators. 68.8% have private sector work experience before the top regulatory position, and 64% work in the private sector after stepping down. The average regulator has 13.4 years of work

experience in the private sector and 16 years in the government sector before taking the top position at the age of 54. 47.5% of regulators start their career in the government sector, while 29.2% start in the private sector. On average, top regulators move 2.52 times between the private and public sectors and accumulate $2.1 million in real-estate property by the age of 65.

2.2 Enforcement Strictness

To measure regulators' enforcement intensity, we use data from the Corporate Research Project of Good Jobs First's Violation Tracker. This database covers 538,514 enforcement actions by federal regulatory agencies and the Justice Department between 2000 and 2022, with total penalties of $863 billion. These enforcement actions cover a wide range of topics, including banking, consumer protection, false claims, environmental, wage and hour, safety, discrimination, and price-fixing.

The Violation Tracker obtains this data through agencies' official website disclosures. It excludes enforcement actions with penalties below $5,000 and those with no dollar penalties. The database uses revised penalty amounts rather than the initially proposed amounts to account for possible negotiated reductions. We match each recorded enforcement action to a unique top regulator based on the agency that issued the enforcement action and the penalty date.

Table 1 shows that, on average, the agencies overseen by the top regulators in our sample issue 369 enforcement actions per year, with a total annual amount of $171 million.

2.3 Regulation Productivity

To capture a regulator's rule-making productivity, we develop novel measures of rule-making productivity using administrative data and machine learning techniques. We start with abstracts of federal rules published in the Federal Register and merge them with the Unified Agenda of Regulatory and Deregulatory Actions (Unified Agenda) to determine the priority level of each

rule. We also use a fine-tuned Legal Bidirectional Encoder Representations from Transformers (BERT) model to determine whether the rule is regulatory or deregulatory.

To assess rule-making productivity, researchers typically use the annual number of published federal rules or the total number of pages in the Federal Register, the government's official daily publication. However, as a Congressional Research Service report (R43056) points out, "The total number of Federal Register pages may not be an accurate way to measure regulatory activity for several reasons… The number of final rules published each year is generally in the range of 3,000-4,500… Some of those rules have a large effect on the economy, (while many) are routine in nature and impose minimal regulatory burden, if any… In addition, rules that are deregulatory in nature and those that repeal existing rules are still defined as "rules" under the Administrative Procedure Act (APA, 5 USC §§551 et seq.) and are therefore generally included in counts of total regulatory activity."

We address these limitations and construct our measures as follows. We start with 126,796 federal rules published by the sample regulators in the Federal Register. We exclude proposed rules and public notices, restricting our attention to final rules only, reorganized by topic or subject matter and codified in the Code of Federal Regulations.

Since not all rules are of equal importance and many are routine in nature, we merge the collected rule abstracts with the Unified Agenda to obtain a priority level for each rule. In the bi-annual Unified Agenda, agencies report rules they plan to issue in the coming year. For each planned rule, agencies assign a priority level indicating its significance. There are five categories of significance: Economically Significant, Other Significant, Substantive/Nonsignificant, Routine and Frequent, and Informational/Administrative/Other. We merge the final rules in the Federal Register and the planned rules in the Unified Agenda using the Regulation Identifier Number

(RIN), a unique identifier assigned by the Regulatory Information Service Center to identify each regulatory action.

To distinguish between regulatory and deregulatory rules, we fine-tune a Legal BERT model (Chalkidis et al., 2020) using the EO 13771 Designation (also known as the 'Trump classification'.) Executive Order 13771 was signed by President Trump on January 30, 2017. It directs agencies to repeal two existing regulations for every new regulation and to do so in such a way that the total cost of regulations does not increase. On January 20, 2021, President Joe Biden rescinded the Executive Order. While the Executive Order was in effect, the Trump Administration required an 'EO 13771 Designation' for each rule in the Unified Agenda, specifying if a rule is regulatory or deregulatory. This designation provides a training dataset for a Natural Language Processing (NLP) model that we can apply to other rules and distinguish between regulatory and deregulatory rules.

In particular, we collect 1,784 federal rules with Trump classifications and split them into two datasets: a training dataset that comprises 90% of the sample, and an evaluation dataset that comprises 10% of the sample. The fine-tuned Legal BERT model achieved a 97.97% accuracy score in distinguishing between regulatory and deregulatory rules in the evaluation dataset. We subsequently apply the model to all 126,796 federal rules and obtain a classification for each rule.

In the last step, we calculate a relevance-weighted rule-making productivity score using the priority level obtained from the Unified Agenda. The weights for each significance level are as follows: Economically Significant = 4, Other Significant = 3, Substantive/Nonsignificant = 2, Routine and Frequent = 1, and Informational/Administrative/Other = 0. Using the fine-tuned Legal BERT model, we calculate both a rule-making regulatory score and a rule-making deregulatory

score. The overall rule-making productivity score sums both of them, measuring how productive a regulator is in making significant rules regardless of whether they are regulatory or deregulatory.

The summary statistics in Table 1 show that the average rule-making productivity score is 47.7. The regulatory and deregulatory scores are 15.1 and 27.8, respectively.

2.4 Regulation Complexity

We use the full text of the 126,796 final rules published by the sample regulators in the Federal Register to construct measures of regulatory complexity, following an approach similar to that of Colliard and Georg (2023). In particular, we construct three measures of regulatory complexity: (1) *Rule length* – the total number of words of each rule. (2) *Cyclomatic complexity* – the number of different paths an algorithm can follow, measured by the number of different logical operators, such as "and", "or", "no", "if", "then". (3) *Regulatory operators* – the number of words indicating a binding constraint. The regulatory operators we use include "shall", "must", "may not", "required", and "prohibited". Based on Table 1, the average rule contains 408,940 words, 1,598 regulatory operators, and 16,658 logical operators.

2.5 Firm Characteristics

We obtain detailed financial information for the companies that hire sample regulators from the Compustat and Mergent Intellect database. These companies comprise both public and private firms. The average company has annual sales of $10.2 billion, 17,730 employees, and $0.91 million in sales per employee. These numbers suggest that top regulators work for economically large/important firms after stepping down from their top regulatory positions.

2.6 Business Cycle

We obtain business cycle information from the business cycle dating database of the National Bureau of Economic Research (NBER). Recession years include both business cycle troughs and recessions. Table 1 shows that 35.6% of the observations in our sample fall into recession years. We define *Recession regulator* as an indicator variable that equals one if the regulator started her career during a recession year. Table 1 shows that 37% of our sample regulators are recession regulators.

3. Career Trajectories

We begin the empirical analyses by providing descriptive evidence on the career paths of top regulators. Figure 1 presents the number of moves between the private and public sectors among our sample regulators. 84% of the top regulators in our sample have moved between the public and private sectors at least once, with 62% moving at least twice, 47% moving at least three times, and roughly 10% moving six times or more. Additionally, 47% of regulators have moved between the private and public sector more than once before assuming the top regulatory position. On average, regulators switch 2.52 times between the private and public sectors throughout their careers.

Figure 2 plots the proportion of revolving-door regulators among all sample top federal regulators from 2000-2022. On average, 47.9% of the top regulators in a given year are revolving-door regulators. This percentage fluctuated throughout the sample period, and was higher during the Bush administration, peaking at 63% in 2003.

Figure 3 plots the proportion of revolving-door regulators across agencies. Among the 50 agencies, 45 have had at least one revolving-door top regulator during the sample period, and

several have had mostly revolving-door regulators. For example, both the Department of Energy and the Federal Communications Commission have had only revolving-door top regulators from 2000 to 2022.

Combined, Figures 2 and 3 suggest that 90% of the sample agencies have had at least one revolving-door top regulator. Furthermore, the fraction of revolving-door top regulators has been relatively steady around 50% over the sample period.

Figure 4 lists the professional occupations of top federal regulators before assuming the top positions. The estimates show that 86.2% of the sample regulators had prior government work experience before assuming their top regulatory roles, indicating that 13.8% had not worked in government at all before becoming top regulators. With respect to private-sector occupations, the three most common are lawyers (42%), corporate executives (21.6%), and consultants (20.8%).

Figure 5 lists the professional occupations of top federal regulators after assuming the top positions. The estimates show that 58.2% of the sample regulators move on to work as consultants after stepping down from their top regulatory positions. Other popular private-sector occupations include non-executive directors (32.5%), corporate executives (24.1%), and lawyers (21.3%). 41.6% of regulators continue to hold government positions.

Figure 6 plots the 48 Fama-French industry classification of the companies for which the sample regulators work as executives, board members, or board of advisors after stepping down from the top regulatory position. Business Services (57.5%), Banking (31.0%), Trading (21.4%) and Personal Services (22.1%) are the most common industries where the sample regulators work.

In summary, it is common for top federal regulators to work in the private sector both before and after their top regulatory positions. Lawyers, corporate executives, and consultants are their most common career backgrounds, while consultants, non-executive directors, and corporate

executives are the most popular post-regulation career outcomes. Such private-sector employment covers all the main industries, with Business Services and Banking being the most common.

Overall, Figures 1-6 show that revolving-door moves are ubiquitous and widespread across agencies and industries and over time. Natural questions that emerge are whether and how these moves contribute to regulators' career development and when these moves happen. To answer these questions, Table 2 investigates whether regulators with progressively more moves across the private and public sectors, that is, regulators who have stepped more times through the revolving-door, serve in more senior positions when they move to the private sector.

The dependent variable in Table 2 is *Job ranking*, defined as the frequency of a job title relative to the firm's total number of employees. The main explanatory variable is *Cumulative number of switches,* defined as the cumulative number of switches the regulator made between the private and public sector. Column (1) of Table 2 shows that a regulator's job ranking is positively correlated with the number of past revolving-door moves, and this relation is statistically significant at the 1% level. Column (2) augments the specification with regulator fixed effects. It also controls for the regulator's career length since the number of revolving-door moves is likely higher for longer careers. The estimates in Column (2) show that for the same regulator, the more switches she makes, the relatively higher position she subsequently obtains.

To further mitigate concerns about omitted variables, Column (3) compares between regulators with similar career lengths, from the same regulatory agency, same birth cohort, and same starting jobs. The estimates show that those regulators who have stepped more times through the revolving-door in the past hold more senior positions. Overall, these findings are consistent with a career ladder motive whereby roundtrips between the private and public sectors allow individuals to climb up the corporate ladder.

Next, in Table 3, we investigate the role of political cycles in revolving-door moves. We hypothesize that changes in administration trigger two-way moves between the private and public sectors. Moreover, we expect to observe regulators whose partisanship aligns with the party of the outgoing president moving to the private sector. Conversely, we expect those whose partisanship aligns with the incoming president's party to move to the public sector. To test these hypotheses, we provide two sets of analyses. In Panel A of Table 3, we consider all regulatory appointments, including top regulatory positions. Since top regulatory appointments are often political appointments, Panel B excludes such appointments to mitigate concerns that the effects are mechanical rather than driven by regulators' political views.

Starting with Panel A, Columns (1) and (2) investigate all two-way moves, that is, all moves from the private sector to the public sector or vice-versa. The main independent variable, *Presidential turnover*, is an indicator variable that equals one in the year when an incoming Republican President replaces an incumbent Democratic President or vice-versa. The estimates in Columns (1) and (2) show that regulators are 105% more likely to move across the private and public sectors when the party of the president changes, and this relation is statistically significant at the 1% level.

Next, we investigate how the direction of revolving-door moves corresponds to the political party of the incoming president. Columns (3) and (4) show that a regulator is 270% more likely to move from the private sector to the public sector when the political party of the president changes to the same political party that the regulator supports. Conversely, Columns (5) and (6) show that regulators are more likely to move from the public sector to the private sector when the political party of the president changes to the other political party.

As discussed above, to mitigate concerns that there are mechanical appointments and resignations of Cabinet secretaries and high-level political appointees during presidential turnover

years, Panel B of Table 4 considers only appointments before the top regulatory position. We obtain similar results both economically and statistically. Together, the results in Table 3 suggest that political partisanship plays an important role in revolving-door career moves.

In Table 4, we investigate the persistence of private sector employment. If round-trip moves facilitate promotions, regulators with private sector experience should be more likely to return to the private sector in the future. Table 4 examines the relation between private-sector work experience before and after assuming the top regulatory position. It provides estimates from Logit model explaining the likelihood of working in the private sector after stepping down from the top regulatory position. The estimates show that regulators who worked in the private sector are 354% more likely to return to the private sector after stepping down from the top position relative to those who did not work in the private sector before. These findings hold after including year and agency fixed effects, and are statistically significant at the 1% level.

Together, the results in this section suggest that the door between the private and the public sector revolves commonly. As such, the private and public sectors appear more intertwined than documented before. Those roundtrips between the private and public sectors have important career implications. Private sector experiences serve as a common background for the appointment of top regulators, and are associated with future private sector jobs and promotions.

4. Univariate Evidence

In this section, we provide a univariate comparison between revolving-door and non-revolving-door top regulators. The top panel of Table 5 focuses on regulators' demographics, political affiliations, and tenure. The estimates suggest that revolving-door regulators are about a year younger than non-revolving-door regulators, are equally likely to be men, and are considerably

more likely to be affiliated with the Republican party. Their average tenure is shorter by approximately 0.7 years, compared to an average tenure of 4.1 years.

The second panel in Table 5 studies formal education. It shows that revolving-door regulators attend undergraduate institutions whose students attain higher SAT scores and are about 9% more likely to hold an advanced degree relative to the sample mean. Conditional on an advanced degree, revolving-door regulators also attend graduate institutions with higher rankings.

Next, we provide univariate evidence on enforcement actions and regulation productivity. Panels 3 and 4 of Table 5 show that agencies overseen by revolving-door regulators make more rules and enforce more. Based on the logarithm of the rule-making productivity score and relative to the sample mean, revolving-door regulators are 24.4% more productive compared to non-revolving-door regulators. This difference is statistically significant at the 5% level and holds for regulatory rules but not deregulatory rules. Based on the logarithm of the number or dollar amount of enforcement actions, and relative to the sample mean, revolving-door regulators issue 28.4% more enforcement actions with 315% higher enforcement amounts. The differences are statistically significant at the 5% level or higher. These findings are less consistent with a "regulatory capture" hypothesis, which would predict that revolving-door regulators are captured by industry interests and therefore regulate or enforce less.

As we discuss in the introduction, however, regulators' higher productivity and enforcement levels can be consistent with a "bureaucratic capital" view, whereby regulators redesign the regulatory landscape through active rule-making and complex rules to increase the value of their human regulatory capital. Panel 5 of Table 5 provides evidence on rule complexity. Across three different text-based measures of rule complexity, which measure complexity using the number of words or logical/regulatory operators, we find that revolving-door regulators are

associated with more complex rules. The univariate estimates suggest that revolving-door regulators are 14-16 percentage points more likely to oversee rule-making with above-median complexity compared to non-revolving-door regulators.

The last panel of Table 5 provides univariate evidence on the financial incentives of regulators. The estimates show that both the value and number of real-estate properties at the age of 65 are considerably higher for revolving-door regulators compared to non-revolving-door regulators. These findings are consistent with the hypothesis that the revolving-door allows regulators to accumulate more wealth throughout their careers.

Together, the univariate comparisons between revolving-door and non-revolving-door regulators point to systematic differences between the two groups across several dimensions, including their political affiliations, educational backgrounds, enforcement, productivity, rule complexity, and financial incentives.

In the next section, we consider each of these dimensions in greater detail, applying a multivariate regression framework that allows us to control for differences in traits and absorb economy-wide time trends as well as unobservable differences across regulatory agencies.

5. Regulation Activity

5.1 Enforcement

Table 6 investigates the relation between enforcement actions and the revolving-door between the public and private sectors. First, we study enforcement strictness measured by the logarithm of the overall annual dollar amount of enforcement actions issued by each regulatory agency. The key independent variable is *Revolving-door regulator*, which is an indicator variable equal to one if

the regulator overseeing the agency worked for more than 6 consecutive months in the private-sector both before and after the top regulatory position.

The estimates in Columns (1) and (2) suggest that agencies overseen by revolving-door regulators collect considerably larger enforcement fines compared to non-revolving-door regulators. The effects are economically meaningful, implying that revolving-door regulators collect 486% higher fees relative to the sample mean, or $831 million more in enforcement fees every year. The effects are statistically significant at the 1% level and hold in tight specifications that control for demographic differences between regulators and include both year and regulatory agency fixed effects.

Columns (3) and (4) repeat the analyses for a different measure of enforcement – the number of enforcement actions that an agency issues in a given year. Similarly, the estimates suggest that regulatory agencies run by revolving-door regulators enforce more. In particular, agencies run by revolving-door regulators issue 53% more enforcement actions in a year.

Overall, the results in Table 6 are less consistent with a strong form of regulatory capture. Revolving-door regulators enforce more and collect higher fines rather than exhibit lax enforcement, as standard models of regulatory capture would predict. They are more consistent with "bureaucratic capital" view, which suggests that regulators increase the prospect of private-sector employment by generating a tighter regulatory environment that enhances the value of their institutional/regulatory knowledge. They are also consistent with the "competence" view where the prospect of future industry employment generates an incentive to signal competence through stricter enforcement.

5.2 Productivity

Next, we investigate whether the collection of higher fees corresponds to rule-making productivity. To measure rule-making productivity, we consider three measures. The first measure, *rule-making productivity score*, is the relevance-weighted sum of all final rules published in the Federal Register by the regulator's agency, which equals to 4*(number of Economically Significant rules) + 3*(number of Other Significant rules) + 2*(number of Substantive, Nonsignificant rules) + 1*(number of Routine and Frequent rules) + 0*(Informational/Administrative/Other rules). We obtain each rule's relevance level from the Unified Agenda of Federal Regulatory and Deregulatory Actions. The second measure, *rule-making regulatory score*, is defined analogously for rules that we classify as regulatory based on textual analysis using a fine-tuned Legal BERT model. The third measure, r*ule-making deregulatory score*, focuses on deregulatory rules, as classified by the Legal BERT model.

Table 7 shows that agencies led by revolving-door regulators are more productive. Specifically, they make more significant rules (column 1), and these rules tend to be regulatory (column 2) rather than deregulatory (column 3). The estimates suggest that revolving-door top regulators have 17% higher overall productivity scores, particularly when focusing on regulatory rules. These effects are statistically significant at the 10% level, and hold in regression specifications that control for regulators' demographics as well as year fixed effects and agency fixed effects.

Together, these estimates suggest that revolving-door regulators make more rules, weighted by their significance. This finding is, again, less consistent with a strong-form view of regulatory capture, which would predict less regulation activity and more deregulation. On the other hand, this finding seems more consistent with both the "competence" and "bureaucratic

capital" views, which suggest that revolving-doors generate incentives for regulators to signal competence and build human capital through more regulation.

5.3 Complexity

To shed more light on the "bureaucratic capital" hypothesis, we construct measures of regulation complexity based on textual analyses of the full text of the rules published in the Federal Registry. Under this hypothesis, regulators will entrench themselves and enhance the value of their human capital by designing a more complicated regulatory environment. We construct three measures of rule complexity, based on the number of words in each published rule, the number of logical operators in the full text of the rule, and the number of regulatory operators in the full text.

Table 8 presents the results of regressions explaining rule complexity. The key independent variable in these regressions is the *Revolving-door* indicator. Across all the regressions, which include controls for regulator demographics as well as year and agency fixed effects, we find that revolving-door regulators issue more complex rules. These findings are statistically significant at conventional levels and are economically large. Revolving-door regulators are 45.2%-59.6% more likely to oversee rule-making with above-median complexity.

These findings are most consistent with the view that revolving-door regulators build bureaucratic capital throughout their careers by publishing complex rules.

6. Incentives

6.1 Real-Estate Acquisitions

In Table 9, we investigate regulators' financial incentives by studying the accumulation of wealth throughout their careers. We proxy for wealth accumulation using data on real-estate purchases obtained from the LNPR.

In Columns (1) and (2) of Table 9, we compare the number and market value of real-estate properties of revolving-door and non-revolving-door regulators at the age of 65. We find strong evidence that revolving-door regulators accumulate more real-estate wealth. On average, the real-estate value of revolving-door regulators is $555,000 higher by the age of 65 compared to non-revolving-door regulators. In Columns (3) and (4) of Table 9, we show that revolving-door regulators start their careers with lower real-estate wealth. On average, the real-estate value of revolving-door regulators is $18,000 lower at the age of 30 compared to non-revolving-door regulators.

Combined, the results in Table 9 suggest that revolving-door regulators have stronger financial incentives as they come from poorer backgrounds. Stepping through the revolving-door allows them to accumulate more wealth throughout their careers, again consistent with a financial motive.

6.2 Corporate Career Outcomes

In Table 10, we investigate whether regulatory productivity, complexity and enforcement correlate with variation in private sector career outcomes. To do so, we collect data on the companies that regulators work for from Compustat and Mergent Intellect. Since many of these companies are private companies, we do not observe performance measures such as Return on Assets (ROA) or

Return on Equity (ROE). Instead, we attempt to proxy for firm performance using available data on sales and employees, by calculating the ratio of firms' sales to the number of employees.

Table 10 shows that stricter enforcement, higher regulatory (but not deregulatory) productivity, and higher regulation complexity all increase the likelihood of working at better-performing firms, as measured by the ratio of firms' sales to the number of employees. These findings are statistically significant at conventional levels.

To the extent that better-performing firms provide better, or more prestigious, employment opportunities, this evidence implies that the prospects of better career outcomes incentivize regulators to increase enforcement, productivity, and complexity.

6.3 Business Cycles

To shed more light on the motives underlying revolving-door moves, Table 11 investigates the relation between career paths and aggregate economic conditions. Panel A focuses on the beginnings of regulators' careers. It estimates Logit models explaining a regulator's first job. The key independent variable is *Recession regulator*, defined as an indicator variable that equals one if the regulator entered the labor market during a recession. The estimates suggest that top regulators are 238% more likely to start their careers in the public sector if they enter the workforce during a recession. This finding holds after controlling for regulator demographics/education and after including birth cohort and agency fixed effects.

Panel B of Table 11 moves beyond the start of one's career, and studies the relation between revolving door moves and aggregate economic conditions. Across all the specifications in Panel B, the headline result is that regulators are more likely to move to the public sector during recession years. These findings hold in increasingly tighter specifications that control for regulatory demographics/education (Column 2), and add birth cohort fixed effects and agency fixed effects

(Column 3) or regulator fixed effects (Column 4). Based on Column (4), which includes regulator fixed effects, regulators are 155% more likely to move from the private sector to the government sector during recession years, compared to non-recession years. These findings are consistent with the insulation of public-sector employees from external economic pressures.

Panel C of Table 11 extends the analyses to study the overall relation between being a revolving door regulator and the economic conditions at the start of one's career. The results show that recession regulators, who start their careers during economic downturns, are more likely to be revolving-door regulators and work in the private sector after stepping down from their top regulatory position. As such, these findings demonstrate the persistent effect that early career economic conditions and choices have on subsequent career trajectories. Poor economic conditions at the beginning of one's career increase the likelihood of starting in the public sector and subsequently stepping through the revolving door. A possible explanation is that public sector jobs mitigate the labor market effects of economic downturns, while creating financial incentives to move to the private sector in the future.

In Panel D, we investigate the wealth accumulation of recession regulators. We find that while recession regulators appear to have considerably less wealth at the age of 30, they close the wealth gap by 65, when they retire. These findings are consistent with a financial motive to step through the revolving door when entering the labor market during an economic downturn.

Combined, these findings suggest that financial incentives, which are largely exogenously determined by aggregate economic conditions when individuals graduate from college, predict the tendency to step though the revolving-door and work in the private sector.

7. Conclusion

In this article, we have compiled a comprehensive database of senior federal regulators, tracing their full career paths since college graduation across the private and public sectors. This database covers 50 regulatory agencies and more than 1,000 top regulators and allows us to study the determinants and consequences of the revolving-door between the private and public sector.

Our main findings suggest that moving between the private and public sectors is ubiquitous, persistent, correlated with economic and election cycles, and typically occurs several times over the course of one's career. Revolving-door regulators enforce more, make more significant regulatory rules, and increase the complexity of the regulatory environment. Revolving-door regulators also work for stronger firms, come from relatively poorer backgrounds, and accumulate more wealth throughout their careers.

Overall, we argue that the findings are less consistent with a "regulatory capture" view, and more consistent with a "bureaucratic capital" view, whereby revolving-door regulators increase enforcement, regulation, and regulatory complexity to increase the value of their human capital.

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Appendix A: Variable Definitions

This appendix defines the variables.

1. Regulator characteristics

Age as top regulator, years: Age in years when the regulator works as top regulator

Party affiliation – Democratic: An indicator that equals to one if the regulator's party affiliation is The Democratic Party while taking the top regulatory position

Party affiliation – Republican: An indicator that equals to one if the regulator's party affiliation is The Republican Party while taking the top regulatory position

Party affiliation – Independent: An indicator that equals to one if the regulator's party affiliation is Independent while taking the top regulatory position

Gender indicator: An indicator that equals to one if the regulator is male and zero if the regulator is female

Tenure as top regulator, years: Total number of years the regulator works as top regulator

2. Regulator educational backgrounds

SAT score – 25th percentile: The 25th percentile SAT score of admitted applicants in the regulator's undergraduate institution in 2023

SAT score – 75th percentile: The 75th percentile SAT score of admitted applicants in the regulator's undergraduate institution in 2023

Advanced degree indicator: An indicator that equals to one if the regulator holds an advanced degree

Graduate institution ranking: The ranking of the regulator's graduate institution in 2023

3. Regulator career trajectory

Revolving-door regulator: An indicator that equals to one when the regulator has more than 6 months' consecutive private sector working experience before taking the top regulatory position and after stepping down from the top regulatory position

Private sector experience before top regulatory position: An indicator that equals to one when the regulator has more than 6 months' consecutive private sector working experience before taking the top regulatory position

Private sector experience after top regulatory position: An indicator that equals to one when the regulator has more than 6 months' consecutive private sector working experience after taking the top regulatory position

Tenure in private sector before top regulatory position, years: Total number of years the regulator works in the private sector before taking the top regulatory position

Tenure in government sector before top regulatory position, years: Total number of years the regulator works in the government sector before taking the top regulatory position

Number of switches, before top regulatory position: Number of switches the regulator makes between the private and public sector before taking the top regulatory position

Number of switches, total: Number of switches the regulator makes between the private and public sector over her entire career

Age for the first switch, years: Age in years when the regulator makes the first switch between the private and public sector

Age appointed as top regulator, years: Age in years when the regulator is appointed as top regulator

Job ranking: 1 – the number of employees holding the position / the total number of employees within the company in the year

Cumulative number of switches: The cumulative number of switches the regulator makes between the private and public sector by the year

Career length, years: The number of years since the regulator's entry into the labor market

4. Regulator early experience

First job – Private: An indicator that equals to one when the regulator's first job is in the private sector

First job – Government: An indicator that equals to one when the regulator's first job is in the government sector

First job – Non-profit: An indicator that equals to one when the regulator's first job is in a non-profit organization

First job – Academic: An indicator that equals to one when the regulator's first job is in academic

5. Political Turnovers

Presidential turnover: An indicator variable that equals one in the year when an incoming Republican President replaces an incumbent Democratic President or vice-versa

Presidential turnover – co-partisan: An indicator variable that equals one in presidential turnover years where the incoming President comes from the same political party that the regulator supports

Presidential turnover – non-co-partisan: An indicator variable that equals one in presidential turnover years where the incoming President comes from the other party

6. Enforcement strictness

Annual number of enforcement actions: Annual number of federal enforcements actions given with penalty amounts above $5,000

Log annual number of enforcement actions: Log (1 + Annual number of enforcement actions)

Annual dollar amount of enforcement actions, $ millions: Annual dollar amount of federal enforcement actions given with penalty amounts above $5,000

Log annual dollar amount of enforcement actions: Log (1 + Annual dollar amount of enforcement actions)

7. Regulation productivity

Annual number of rules: Annual number of final rules published in the Federal Register by the regulator's agency

Rule-making productivity score: Relevance-weighted sum of all final rules published in the Federal Register by the regulator's agency, which equals to 4*(number of Economically Significant rules) + 3*(number of Other Significant rules) + 2*(number of Substantive, Nonsignificant rules) + 1*(number of Routine and Frequent rules) + 0*(Informational/Administrative/Other rules); Relevance level obtained from the Unified Agenda of Federal Regulatory and Deregulatory Actions using RIN (Regulation Identifier Number)

Log rule-making productivity score: Log (1 + rule-making productivity score)

Rule-making regulatory score: Relevance-weighted sum of only regulatory final rules published in the Federal Register by the regulator's agency; Regulatory identifier obtained by fine-tuned Legal BERT model

Log rule-making regulatory score: Log (1 + rule-making regulatory score)

Rule-making deregulatory score: Relevance-weighted sum of only deregulatory final rules published in the Federal Register by the regulator's agency; Deregulatory identifier obtained by fine-tuned Legal BERT model

Log rule-making regulatory score: Log (1 + rule-making deregulatory score)

8. Rule-making complexity

Rule length: Total number of words in final rules published in the Federal Register by the regulator's agency

Rule length above median: An indicator that equals to one when regulations made by the regulator has length greater than the median length of all regulations

Regulatory operators: Total number of regulatory operators in final rules published in the Federal Register by the regulator's agency

Regulatory operators above median: An indicator that equals to one when regulations made by the regulator has quantity greater than the median quantity of all regulations

Cyclomatic complexity: Total number of logical operators in final rules published in the Federal Register by the regulator's agency

Cyclomatic complexity above median: An indicator that equals to one when regulations made by the regulator has cyclomatic greater than the median cyclomatic of all regulations

9. Firm characteristics

Sales, $ millions: Net sales (sale) in millions of dollars

Employees: Number of employees

Sales-per-employee, $ millions: Net sales (sale) in millions of dollars / number of employees

Quartile ranking by sales-per-employee: Quartile ranking of regulators based on the median sales-per-employee ratio of companies where they worked as executives, board of directors, or board of advisors after stepping down from the top regulatory position

10. Real-estate properties

Value of real-estate properties at age 30, $ millions: Market value of real-estate property acquisitions by a regulator at the age of 30; Market value obtained from buying price on deed records adjusted by inflation-adjusted Case-Shiller Home Price Index

Number of real-estate properties at age 30: Number of real-estate property acquisitions by a regulator at the age of 30

Value of real-estate properties at age 65, $ millions: Market value of real-estate property acquisitions by a regulator at the age of 65; Market value obtained from buying price on deed records adjusted by inflation-adjusted Case-Shiller Home Price Index

Number of real-estate properties at age 65: Number of real-estate property acquisitions by a regulator at the age of 65

11. Business cycles

Recession regulator: An indicator that equals to one when the regulator enters the labor market during a recession

Recession year: An indicator that equals to one when the year either includes the trough of a business cycle or fully falls into a recession period

Appendix B: Federal Agencies

This appendix provides the complete list of federal agencies in our sample.

Appendix Table B.1 Sample Agencies

Agency	Department
Agricultural Marketing Service	Department of Agriculture
Alcohol and Tobacco Tax and Trade Bureau	Department of the Treasury
Bureau of Industry and Security	Department of Commerce
Bureau of Safety and Environmental Enforcement	Department of the Interior
Centers for Medicare & Medicaid Services	Department of Health and Human Services
Commodity Futures Trading Commission	Independent
Consumer Financial Protection Bureau	Independent
Consumer Product Safety Commission	Independent
Department of Education	Department of Education
Department of Energy	Department of Energy
Department of Housing and Urban Development	Department of Housing and Urban Development
Drug Enforcement Administration	Department of Justice
Employee Benefits Security Administration	Department of Labor
Environmental Protection Agency	Independent
Equal Employment Opportunity Commission	Independent
Federal Aviation Administration	Department of Transportation
Federal Communications Commission	Independent
Federal Deposit Insurance Corporation	Independent
Federal Election Commission	Independent
Federal Energy Regulatory Commission	Independent
Federal Housing Finance Agency	Independent
Federal Maritime Commission	Independent
Federal Motor Carrier Safety Administration	Department of Transportation
Federal Railroad Administration	Department of Transportation
Federal Reserve	Independent
Federal Trade Commission	Independent
Financial Crimes Enforcement Network	Department of the Treasury
Food and Drug Administration	Independent
Food Safety and Inspection Service	Department of Agriculture
Grain Inspection, Packers & Stockyards Administration	Department of Agriculture
Internal Revenue Service	Department of the Treasury
International Trade Commission	Independent
Mine Safety and Health Administration	Department of Labor
National Credit Union Administration	Independent
National Highway Traffic Safety Administration	Department of Transportation
National Labor Relations Board	Independent
National Oceanic and Atmospheric Administration	Department of Commerce

Appendix Table B.1 (Continued.)

Nuclear Regulatory Commission	Independent
Occupational Safety & Health Administration	Department of Labor
Office for Civil Rights	Department of Health and Human Services
Office of Federal Contract Compliance Programs	Department of Labor
Office of Foreign Assets Control	Department of the Treasury
Office of Inspector General	Department of Health and Human Services
Office of Natural Resources Revenue	Department of the Interior
Office of the Comptroller of the Currency	Department of the Treasury
Pipeline and Hazardous Materials Safety Administration	Department of Transportation
Securities and Exchange Commission	Independent
United States Coast Guard	Department of Homeland Security
United States Fish and Wildlife Service	Department of the Interior
Wage and Hour Division	Department of Labor

Appendix C: Sample CVs

This appendix provides sample CVs of top federal regulators in Congressional hearing transcripts.

Example 1

Document: S. Hrg. 109-253 - Nominations Of: Christopher Cox Roel C. Campos, Annette L. Nazareth Martin J. Gruenberg, John C. Dugan and John M. Reich, p52-53

Regulator: Charles Christopher Cox

Agency: Securities and Exchange Commission

STATEMENT FOR COMPLETION BY PRESIDENTIAL NOMINEES

Name: Cox (Last) Christopher (First) (Other)

Position to which nominated: Chairman, Securities and Exchange Commission

Date of nomination: June 2, 2005

Date of birth: 16 October 1952 (Day) (Month) (Year) **Place of birth:** St. Paul, MN

Marital Status: married **Full name of spouse:** Rebecca Gernhardt Cox

Name and ages of children:

Charles Christopher Cox, 12
Kathryn Carter Cox, 11
Kevin Martin Cox, 6

Education:

Institution	Dates attended	Degrees received	Dates of degrees
Harvard Law School	9/73-6/77	J.D.	June 1977
Harvard Business School	9/74-6/77	M.B.A.	June 1977
Univ. of Southern California	9/70-6/73	B.A.	June 1973

Honors and awards: List below all scholarships, fellowships, honorary degrees, military medals, honorary society memberships and any other special recognitions for outstanding service or achievement.

During 17 years in Congress, I have received many awards for public service. In addition, I have received many honorary memberships, the most significant of which are listed in response to the next question. The following awards relate, in whole or in part, to my activities prior to election to Congress in 1988:

- Order of Gediminas (highest honor by Republic of Lithuania to a non-citizen), for support of freedom in the Baltics
- USC Distinguished Alumnus Award
- Hanes Alumni Honors Award, St. Thomas Academy

Memberships: List below all memberships and offices held in professional, fraternal, business, scholarly, civic, charitable and other organizations.

Organization	Office held (if any)	Dates
Chapman University	Trustee	1993-present
National Endowment for Democracy	Director	2003-present
Pacific Club	Member	1997-present
Mount Vernon Country Club	Member	2000-present

Sons of the American Legion Newport Harbor Squadron #291	Member	1997-present
UCI Brain Imaging Center	Advisory Board	1997-present
Center for Security Policy	Advisory Board	1990-present
Childhelp USA	Advisory Board	1989-present
Laguna Canyon Foundation	Adv. Council Member	1994-present
Orange County Bar Foundation	Community Advisor	2001-present
Orange County YMCA	Advisory Board	1993-present
Serving People in Need	Advisory Board	1999-present

Employment record: List below all positions held since college, including the title or description of job, name of employment, location of work, and inclusive dates of employment.

11/88 - Present	Member of Congress U.S. House of Representatives Washington, DC
02/88 - 11/88	Congressional Candidate, 40th District, California
02/86 - 2/88	Senior Associate Counsel to the President The White House Washington, DC
02/83 - 02/86 10/78 - 08/82	Partner (1985-1986); Associate (1978-82; 1983-1985) Latham & Watkins Los Angeles and Newport Beach, CA
08/82 - 01/83	Lecturer on Business Administration Harvard Business School Boston, MA
10/77 - 10/78	Law Clerk U.S. Court of Appeals, Ninth Circuit San Francisco, CA and Honolulu, HI
06/77 - 09/77	Summer Associate Gibson, Dunn & Crutcher Los Angeles, CA
06/76 - 09/76	Summer Associate Latham & Watkins Los Angeles, CA
06/75 - 09/75	Summer Associate Duryea, Randolph, Malcolm & Daly Newport Beach, CA
06/74 - 09/74	Summer Associate Kadison, Pfaelzer, Woodard, Quinn & Rossi Los Angeles, CA
06/73 - 09/73	Draftsman/Mathematician DuPont Aerospace, Inc. Torrance, CA

Government experience: List any experience in or direct association with Federal, State, or local governments, including any advisory, consultative, honorary or other part time service or positions.

11/88 - Present	Member of Congress U.S. House of Representatives Washington, DC
02/94 - 01/95	Bipartisan Commission on Entitlement and Tax Reform (appointed by President Clinton)
09/00 - 04/01	Executive/Legislative Study Group on Enhancing Multilateral Export Controls (Co-Chairman) (established by Defense Authorization Act of 1999)
02/86 - 02/88	Senior Associate Counsel to the President The White House Washington, DC
10/77 - 10/78	Law Clerk U.S. Court of Appeals, Ninth Circuit Honolulu, HI

Example 2

Document: S. Hrg. 113-555 - Commodity Futures Trading Commission Nominations of Timothy G. Massad, Sharon Y. Bowen and J. Christopher Giancarlo, p91

Regulator: James Christopher Giancarlo

Agency: Commodity Futures Trading Commission

3. Employment

(A) List all of your employment activities, including unemployment and self-employment. If the employment activity was military duty, list separate employment activity periods to show each change of military duty station. Do not list employment before your 18th birthday unless to provide a minimum of two years of employment history.

Type of Employment (Active Military Duty Station, National Guard/Reserve, USPHS Commissioned Corps, Other Federal employment, State Government (Non-Federal Employment), Self-employment, Unemployment, Federal Contractor, Non-Government Employment (excluding self-employment), Other	Name of Your Employer/ Assigned Duty Station	Most Recent Position Title/Rank	Location (City and State only)	Date Employment Began (month/year) (check box if estimate)	Date Employment Ended (month/year) (check box if estimate) (check "present" box if still employed)
Non-Government Employment	GFI Group Inc.	Executive Vice President	New York, NY	May, 2001 Est ☐	Present Est ☐
Non-Government Employment	Fenics Ltd.	Executive Vice President	New York, NY	April 2000 Est ☐	May 2000 Est ☐
Non-Government Employment	Brown Raysman Millstein Felder & Steiner LLP	Law Partner	New York, NY	Sept 1997 Est ☐	April 2000 Est ☐
Non-Government Employment	Giancarlo & Gleiberman	Law Partner	New York, NY	Jan 1992 Est ☐	Sept 1997 Est ☐
Non-Government Employment	Curtis Mallet-Provest, Colt & Mosle	Associate Attorney	New York, NY	Oct. 1985 Est ☐	Dec. 1991 Est ☐
Non-Government Employment	Mudge Rose LLP	Associate Attorney	New York, NY	Sept 1984	Oct. 1985

(B) List any advisory, consultative, honorary or other part-time service or positions with federal, state, or local governments, not listed elsewhere.

Name of Government Entity	Name of Position	Date Service Began (month/year) (check box if estimate)	Date Service Ended (month/year) (check box if estimate) (check "present" box if still serving)
Borough of Haworth (NJ), Board of Adjustment	Member (unpaid) of non-partisan municipal board; appointed by Mayor (Democrat)	Jan 2004 Est ☐	Dec. 2012 Est ☐ Present ☐
		Est ☐	Est ☐ Present ☐

Example 3

Document: S. Hrg. 110-1150 - Nominations to the Federal Aviation Administration and the U.S. Department of Transportation, p20-21

Regulator: Robert Allan Sturgell

Agency: Federal Aviation Administration

RÉSUMÉ OF ROBERT A. STURGELL

Education

University of Virginia School of Law, J.D. 1994; Dillard Fellow; Virginia Trial Lawyers' Trial Advocacy Award.

United States Naval Academy, B.S. 1982.

Graduated with Distinction, Resources Management (GPA 3.82, Rank 8/1037).

USNA Alumni Association Award for the outstanding midshipman graduate.

Participant, Varsity Lacrosse (2 Years).

Anne Arundel Community College, 1982.

Completed 25 credit hours in Financial Accounting courses.

Experience

Federal Aviation Administration (2002 to present).

Acting Administrator (Sep. 2007 to present).

Directs the operations of the Federal Aviation Administration and acts as principal advisor to the Secretary of Transportation on civil aviation matters and air transportation.

Deputy Administrator (2003 to present).

Joins the Administrator in heading the agency that regulates and advances the safety of the Nation's airways, airports and operates the world's largest air traffic control system. Directly responsible for the day-to-day operations of the agency's 46,000 personnel and $14 billion annual budget, as well as its capital programs and modernization efforts.

Air Traffic Organization Chief Operating Officer (Acting) (2007 to present).

Responsible for the day-to-day operations, maintenance and capital programs of the 33,000 person air traffic organization.

Senior Counsel to the Administrator (2002–2003).

Primary advisor to the Administrator on regulatory policy and management initiatives.

National Transportation Safety Board (2002).

Senior policy advisor to the Chairman. Primary advisor and coordinator on NTSB safety recommendations, accident reports, legal opinions and orders, policy programs and management initiatives.

United Airlines (1996–2002).

Flight Operations Supervisor responsible for the performance, training, and counseling of probationary pilots assigned to the Washington, Dulles domicile. Fully qualified flight officer flying the Boeing 767 and Boeing 757 aircraft in both international and domestic operations.

Shaw, Pittman, Potts & Trowbridge (1994–1996).

Attorney assigned to the Aviation and Litigation groups representing major aviation and corporate clients before the Federal Aviation Administration and the Department of Transportation in all regulatory matters, including enforcement proceedings, code-sharing, consumer affairs and bilateral aviation agreements.

United States Naval Officer (1982–2002).

Twenty years (active and reserve duty) as a Naval Aviator flying the F/A–18 Hornet, F–14A Tomcat, F–16N Falcon and A–4 Skyhawk with over 2,000 flight hours and 280 arrested carrier landings. Extensive experience in operations management including developing annual plans and managing operating budgets in excess of $5 million. Responsible for the maintenance of 12 aircraft valued at over $400 million. Twice awarded Navy Achievement Medal for outstanding professional achievements and Squadron Pilot of the Year for exceptional leadership.

TOPGUN Flight Instructor (1989–1991).

A member of the prestigious Navy Fighter Weapons School instructing Navy and Marine Corps pilots in graduate-level tactics, training and weapons systems. Lectured extensively on carrier battle group defensive weapon systems and F–14 section tactics. Authored numerous articles on tactics, training and aviation safety.

Community

President, Calvert County Citizens Advisory Committee (1998–2002).

Board Member, Boys & Girls Club of Southern Maryland (1999–2000).

Board Member, Southern Anne Arundel County Chamber of Commerce (2000–2001).

Member, Deale/ShadySide Small Area Planning Committee (1999–2001).

Appendix D: Restrictions on Post-Government Employment

This appendix provides information regarding restrictions on post-government employment.

On September 27, 2016, the U.S. Office of Government Ethics (OGE) issued a Legal Advisory (LA-16-08), which provides a plain language discussion for the post-Government employment restrictions: "Executive branch employees may be affected by conflict of interest restrictions after leaving Government service (or after leaving certain high-level positions). 18 U.S.C. § 207 is the primary source of restrictions that may prohibit former executive branch employees from engaging in certain activities after leaving Government service. **None of the statute's restrictions bar former employees from accepting employment with any private or public employer**, but the statute does prohibit former employees from engaging in certain communications and appearances to the Government on behalf of other people or organizations." Appendix Table D.1 describes the post-Government employment restrictions found in 18 U.S.C. § 207.

Appendix Table D.1 Restrictions on Post-Government Employment (18 U.S.C. § 207)

Section	Employees	Length of Restriction	Brief Summary
207(a)(1)	All grades and ranks (except enlisted military)	Permanent	No former employee may knowingly make, with the intent to influence, any communication to or appearance before an employee of the U.S. on behalf of any other person (except the U.S.) in connection with a particular matter involving a specific party or parties, in which he participated personally and substantially as an employee, and in which the U.S. is a party or has a direct and substantial interest.
207(a)(2)	All grades and ranks (except enlisted military)	2 years after Government service terminates	No former employee may knowingly make, with the intent to influence, any communication to or appearance before an employee of the U.S. on behalf of any other person (except the U.S.) in connection with a particular matter involving a specific party or parties, in which the U.S. is a party or has a direct and substantial interest, and which such person knows or reasonably should know was actually pending under his official responsibility within the one-year period prior to the termination of his employment with the U.S.
207(b)	All grades and ranks (except enlisted military)	1 year after Government service terminates	No former employee may knowingly represent, aid, or advise on the basis of covered information, any other person (except the U.S.) concerning any ongoing trade or treaty negotiation in which, during his last year of Government service, he participated personally and substantially as an employee.

Appendix Table D.1 (Continued.)

207(c)	“Senior”	1 year after service in a “senior” position terminates	No former "senior" employee may knowingly make, with the intent to influence, any communication to or appearance before an employee of a department or agency in which he served in any capacity during the one-year period prior to termination from "senior" service, if that communication or appearance is made on behalf of any other person (except the U.S.), in connection with any matter concerning which he seeks official action by that employee.
207(d)	“Very Senior”	2 years after service in a “very senior” position terminates	No former "very senior" employee may knowingly make, with the intent to influence, any communication to or appearance before any individual appointed to an Executive Schedule position or before any employee of a department or agency in which he served as a "very senior" employee during the two-year period prior to termination from Government service, if that communication or appearance is made on behalf of any other person (except the U.S.), in connection with any matter concerning which he seeks official action by that individual or employee.
207(f)	“Senior” “Very Senior”	1 year after service in a “senior” or “very senior” position terminates	No former "senior" employee or former "very senior" employee may knowingly, with the intent to influence a decision of an employee of a department or agency of the U.S. in carrying out his official duties, represent a foreign entity before any department or agency of the U.S. or aid or advise a foreign entity.

Figure 1 Movement between the Private and Public Sectors

This figure reports the distribution of the number of moves between the private and public sectors throughout a regulator's career. *Number of switches, before top regulatory position* is the number of switches between the private and public sectors before taking the top regulatory position. *Number of switches, total* is the number of switches between the private and public sectors over the regulator's entire career, including the period after stepping down from the top regulatory position. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively.

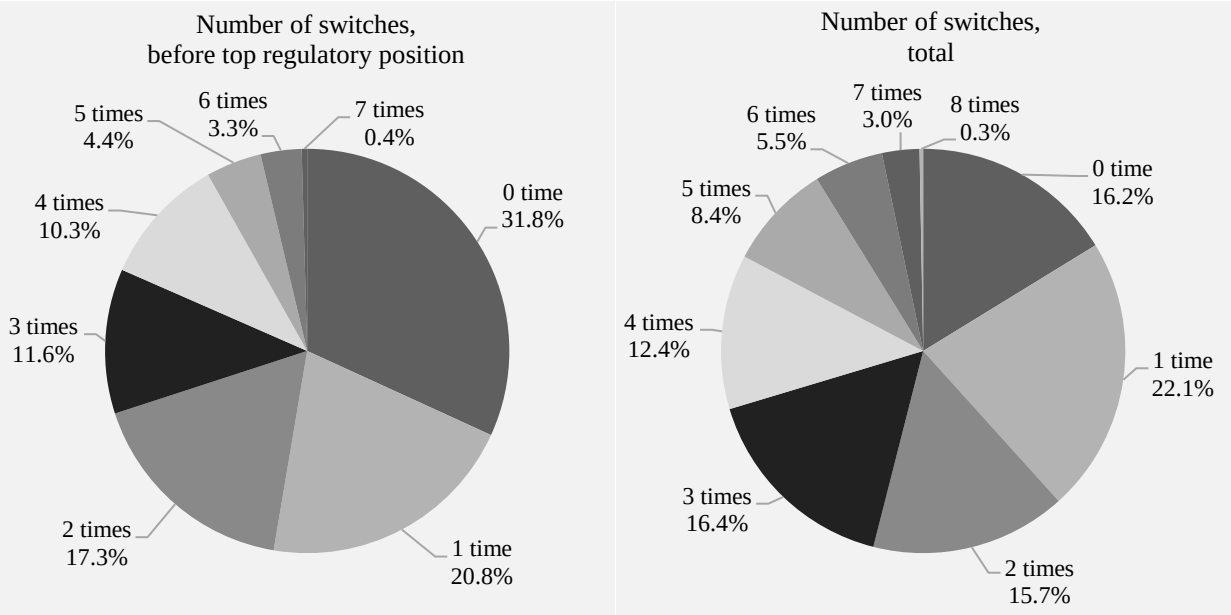

Figure 2 Percentage of Revolving-door Regulators over Time

This figure plots the annual proportion of revolving-door regulators among all sample top federal regulators. *Revolving-door regulator* is an indicator that equals one for regulators that worked in the private sector more than 6 consecutive months before and after their top regulatory position. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively.

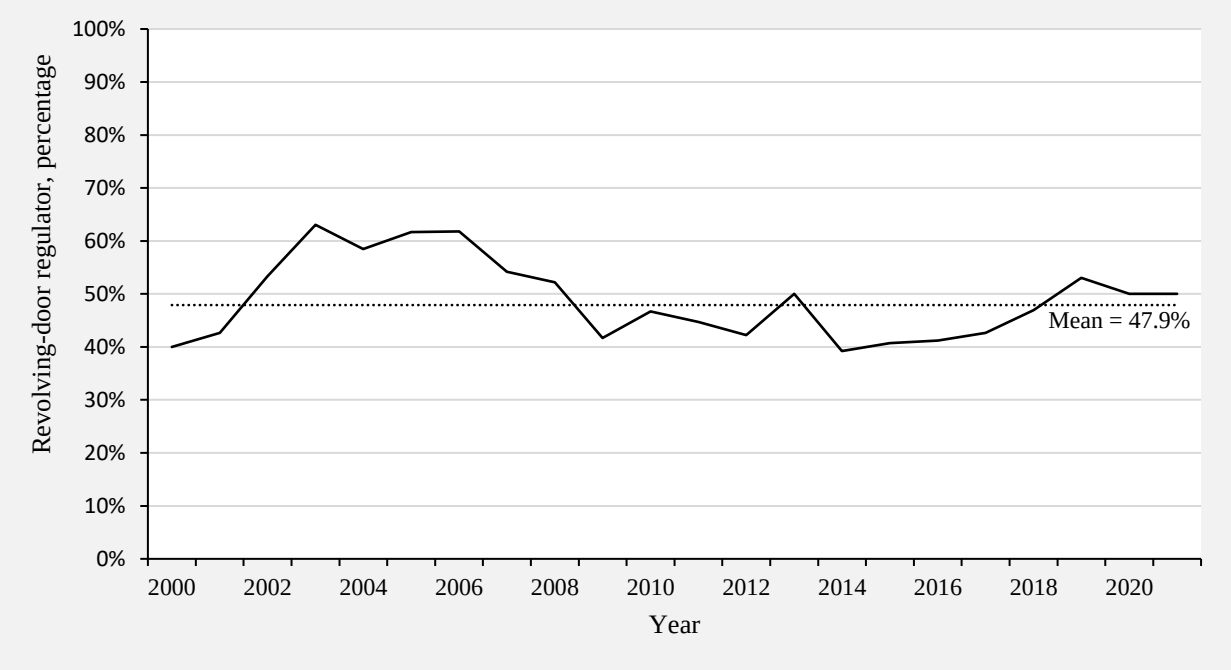

Figure 3 Percentage of Revolving-door Regulators Across Agencies

This figure plots the proportion of revolving-door regulators across agencies. The bars indicate the fraction of revolving-door regulators in a given agency, averaged over the sample period from 2000 to 2022. *Revolving-door regulator* is an indicator that equals one for regulators that worked in the private sector more than 6 consecutive months before and after their top regulatory position. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively.

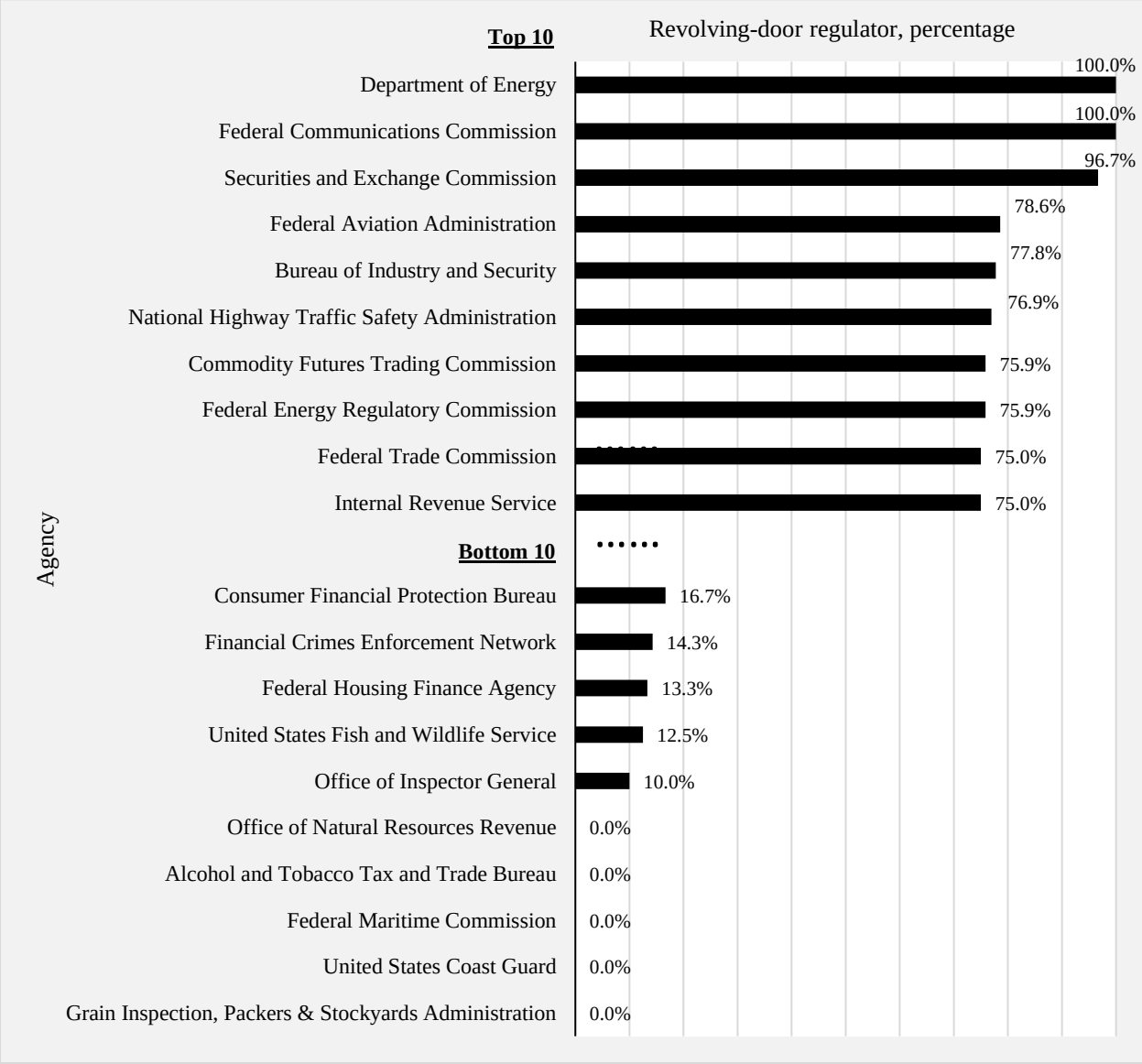

Figure 4 Past Professional Occupations

This figure plots the distribution of professional occupations prior to assuming the top regulatory position. Each bar represents the percentage of regulators with at least 6 months of consecutive working experience in a given job category before assuming the top regulatory position. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively.

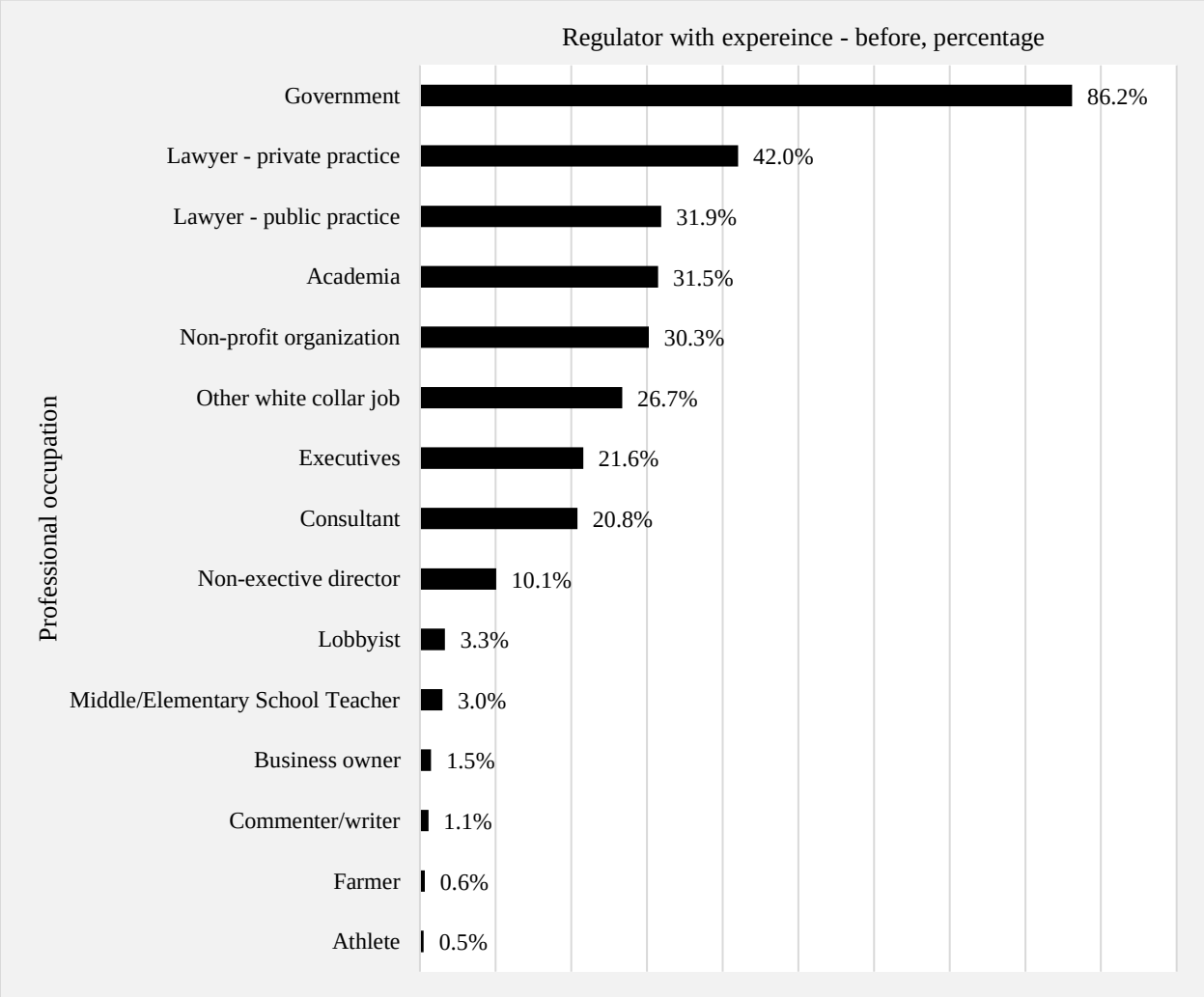

Figure 5 Future Professional Occupations

This figure plots the distribution of professional occupations after stepping down from the top regulatory position. Each bar represents the percentage of regulators with at least 6 months of consecutive working experience in the given job category after stepping down from the top regulatory position. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively.

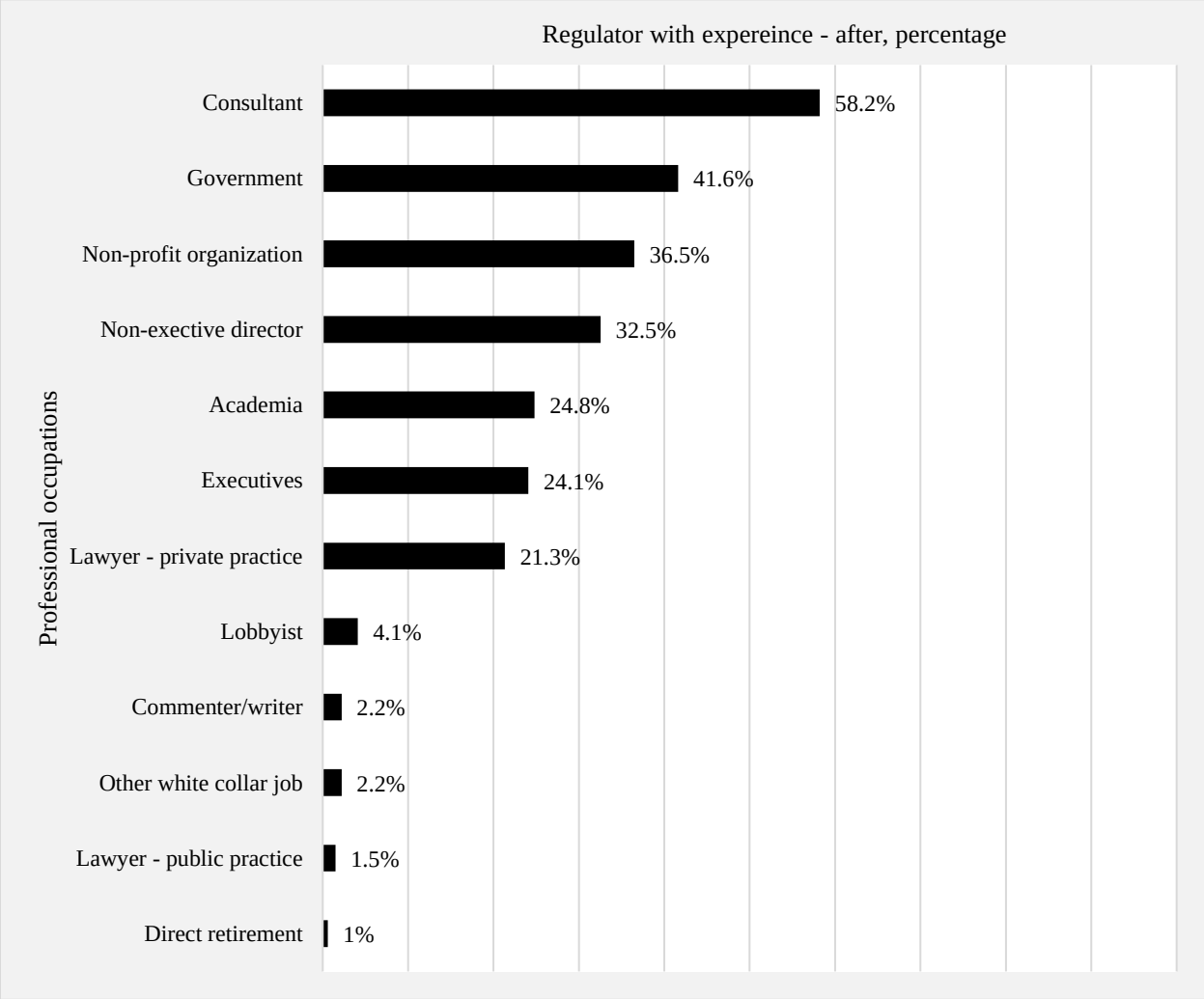

Figure 6 Corporate Employment by Industry

This figure plots the distribution of the 48 Fama-French industries in which regulators work after stepping down from the top regulatory position. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively.

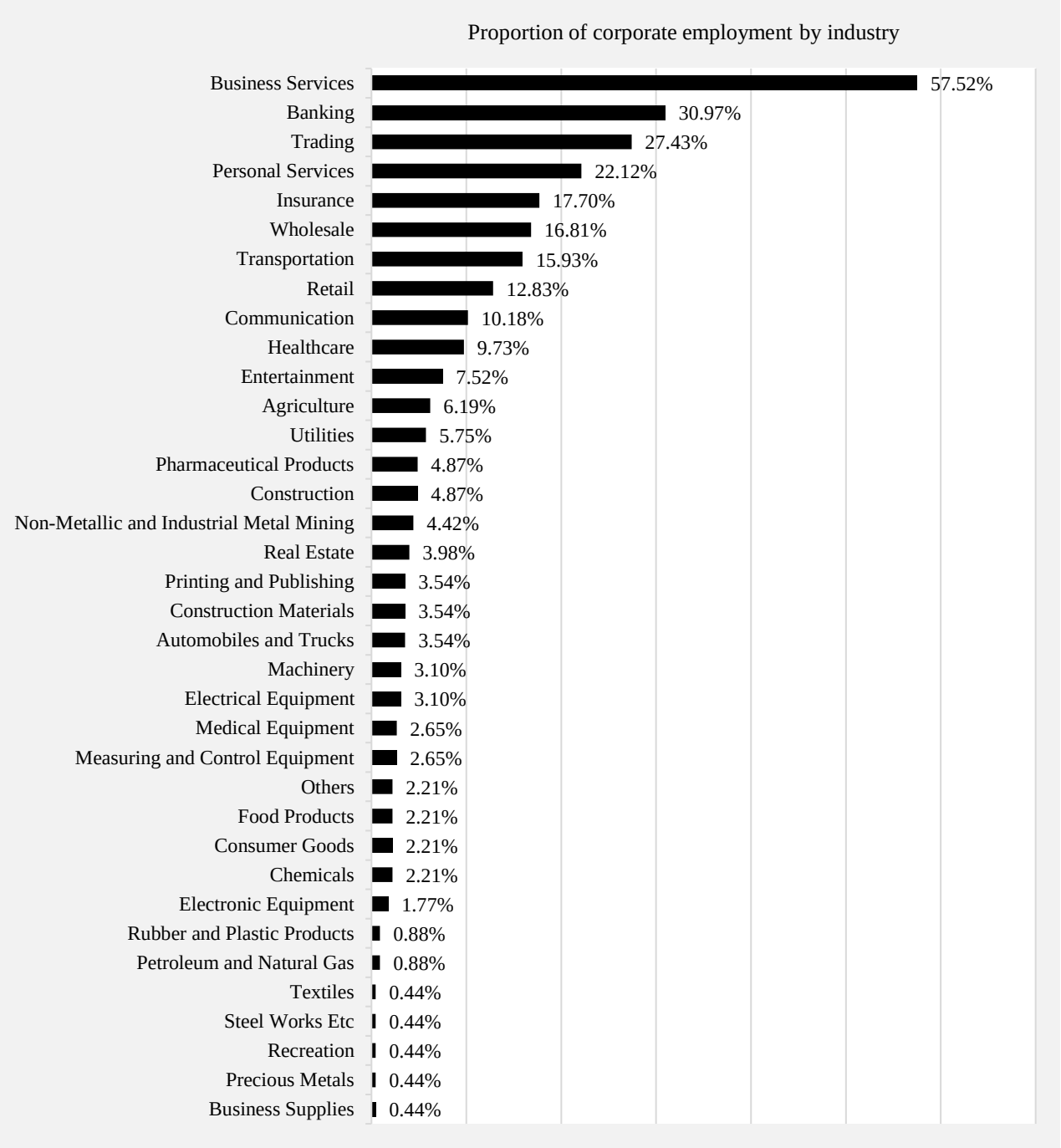

Table 1 Summary Statistics

This table reports summary statistics for regulators, their career trajectories, their regulatory activities, and the firms they work for. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively.

Variable	Mean	25th percentile	Median	75th percentile	Standard deviation
Regulator characteristics					
Age as top regulator, years	55.717	50.000	56.000	62.000	8.922
Male indicator	0.715	0.000	1.000	1.000	0.451
Party affiliation - Democratic	0.470	0.000	0.000	1.000	0.499
Party affiliation - Independent	0.072	0.000	0.000	0.000	0.259
Party affiliation - Republican	0.458	0.000	0.000	1.000	0.498
Tenure as top regulator, years	4.053	2.000	3.583	5.000	3.083
Regulator educational backgrounds					
SAT score – 25th percentile	1269.053	1130.000	1300.000	1450.000	175.766
SAT score – 75th percentile	1433.904	1330.000	1490.000	1560.000	141.293
Advanced degree indicator	0.871	1.000	1.000	1.000	0.344
Graduate institution ranking	51.890	6.000	25.000	72.000	62.199
Regulator career trajectories					
Revolving-door regulator	0.479	0.000	0.000	1.000	1.000
Private sector experience, before top regulatory position	0.688	0.000	1.000	1.000	0.463
Private sector experience, after top regulatory position	0.640	0.000	1.000	1.000	0.480
Number of years in private sector before top regulatory position	13.429	0.000	6.000	18.417	21.636
Number of years in public sector before top regulatory position	16.018	7.250	14.000	24.292	11.588
Number of switches, before top regulatory position	1.771	0.000	1.000	3.000	1.731
Number of switches, total	2.516	1.000	2.000	4.000	1.938
Age for the first switch, years	40.832	29.000	40.000	51.000	13.003
Age appointed as top regulator, years	53.630	47.000	54.000	60.000	8.765
Job ranking	0.788	0.667	0.836	0.959	0.191
Cumulative number of switches	1.089	0.000	0.000	2.000	1.486
Career length, years	19.500	9.000	19.000	29.000	11.901

Table 1 (continued).

Regulator early experience					
First job - Private	0.292	0.000	0.000	1.000	0.455
First job - Government	0.475	0.000	0.000	1.000	0.500
First job - Non-profit	0.046	0.000	0.000	0.000	0.211
First job - Academic	0.168	0.000	0.000	0.000	0.374
Political Turnovers					
Presidential turnover	0.168	0.000	0.000	0.000	0.374
Presidential turnover - co-partisan	0.062	0.000	0.000	0.000	0.241
Presidential turnover - non-co-partisan	0.069	0.000	0.000	0.000	0.253
Regulatory enforcement					
Annual number of enforcement actions	368.760	0.000	7.000	38.136	1508.220
Log annual number of enforcement actions	2.452	0.000	2.079	3.667	2.470
Annual dollar amount of enforcement actions, $ millions	171.060	0.000	2.301	36.746	970.329
Log annual dollar amount of enforcement actions	11.082	0.000	14.649	17.420	7.978
Regulation productivity					
Annual number of rules	62.541	6.857	15.000	36.000	143.128
Rule-making productivity score	47.746	4.000	18.000	44.893	90.943
Log rule-making productivity score	2.711	1.609	2.944	3.826	1.680
Rule-making regulatory score	15.098	0.000	7.000	19.500	22.219
Log rule-making regulatory score	1.890	0.000	2.079	3.020	1.441
Rule-making deregulatory score	23.767	0.000	4.000	13.458	70.072
Log rule-making deregulatory score	1.688	0.000	1.609	2.671	1.593
Regulation complexity					
Rule length (number of words), millions	0.408	0.041	0.147	0.433	0.739
Rule length above median	0.520	0.000	1.000	1.000	0.500
Regulatory operator (number of regulatory operators), thousands	1.598	0.171	0.602	1.761	2.974
Regulatory operator above median	0.523	0.000	1.000	1.000	0.500
Cyclomatic complexity (number of logical operators), thousands	16.658	1.748	6.111	17.878	29.988
Cyclomatic complexity above median	0.521	0.000	1.000	1.000	0.500

Table 1 (continued).

Firm characteristics					
Sales, $ millions	10194.625	9.194	100.000	1286.000	48185.632
Number of employees	17729.565	50.000	375.000	3911.000	101430.301
Sales-per-employee, $ millions	0.908	0.158	0.260	0.486	6.553
Real Estate					
Value of real estate properties at age 30, $ millions	0.047	0.000	0.000	0.000	0.146
Number of real estate properties at age 30	0.147	0.000	0.000	0.000	0.384
Value of real estate properties at age 65, $ millions	2.093	0.369	1.038	2.257	3.355
Number of real estate properties at age 65	2.089	1.000	2.000	3.000	1.645
Business cycle					
Recession regulator	0.369	0.000	0.000	1.000	0.483
Recession year	0.356	0.000	0.000	1.000	0.479

Table 2 Career Ladder

This table provides estimates from regressions investigating the relationship between regulators' revolving-door moves and subsequent job outcomes. The dependent variable is *Job ranking*, defined as one minus the frequency of the regulator's job title relative to the firm's total number of employees in a given year. The main independent variable, *Cumulative number of switches*, is the total number of moves across the private and public sectors before a given year. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively. The standard errors (in brackets) are heteroskedasticity consistent and clustered by agency. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Dependent variable	Job ranking		
Column	(1)	(2)	(3)
Cumulative number of switches	0.048***	0.056***	0.031***
	[0.009]	[0.015]	[0.008]
Career length		0.006**	0.009***
		[0.003]	[0.002]
Gender - Male			-0.059
			[0.047]
Regulator FE		x	
First job FE			x
Agency FE			x
Birth Cohort FE			x
Obs	983	983	914
Adj R-squared	0.232	0.780	0.621

Table 3 Political Turnovers

This table provides estimates from regressions investigating the relation between regulators' revolving-door moves and presidential turnovers. Panel A considers all regulatory appointments, whereas Panel B considers appointments before the top regulatory position. Columns (1) and (2) investigate moves from the private sector to the public sector or vice-versa. The main independent variable, *Presidential turnover*, is an indicator variable that equals one in the year when an incoming Republican President replaces an incumbent Democratic President or vice-versa. Columns (3) and (4) investigate moves from the private sector to the public sector. The main independent variable, *Presidential turnover – co-partisan*, is an indicator variable that equals one in presidential turnover years where the incoming President comes from the same political party that the regulator supports. Columns (5) and (6) investigate moves from the public sector to the private sector. The main independent variable, *Presidential turnover – non-co-partisan*, is an indicator variable that equals one in presidential turnover years where the incoming President comes from the other party. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively. The standard errors (in brackets) are heteroskedasticity consistent and clustered by agency. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Panel A All Appointments

Dependent variable	Revolving-door move		Move from private to government		Move from government to private	
Column	(1)	(2)	(3)	(4)	(5)	(6)
Presidential turnover	0.717***	0.740***				
	[0.128]	[0.118]				
Presidential turnover - co-partisan			1.309***	1.377***		
			[0.183]	[0.181]		
Presidential turnover - non-co-partisan					1.172***	1.181***
					[0.149]	[0.151]
Age	0.032***	0.035***	0.025***	0.026***	0.036***	0.041***
	[0.006]	[0.005]	[0.006]	[0.005]	[0.006]	[0.006]
Gender - Male	0.077		0.119		0.010	
	[0.117]		[0.145]		[0.108]	
Party - Independent	0.136		0.368		0.002	
	[0.288]		[0.321]		[0.288]	
Party - Republican	0.156		0.059		0.038	
	[0.289]		[0.104]		[0.287]	
First Job FE	x		x		x	
Birth Cohort FE	x		x		x	
Agency FE	x		x		x	
Regulator FE		x		x		x
Obs	8093	10854	8007	8689	8093	9709
Adj Pseudo R-squared	0.021	-0.015	0.008	-0.091	0.014	-0.073

Panel B Appointments before Top Regulatory Positions

Dependent variable	Revolving-door move		Move from private to government		Move from government to private	
Column	(1)	(2)	(3)	(4)	(5)	(6)
Presidential turnover	0.623***	0.620***				
	[0.145]	[0.139]				
Presidential turnover - co-partisan			1.279***	1.309***		
			[0.181]	[0.186]		
Presidential turnover - non-co-partisan					0.621***	0.689***
					[0.240]	[0.237]
Age	0.040***	0.052***	0.062***	0.077***	0.008*	0.013**
	[0.007]	[0.008]	[0.007]	[0.009]	[0.004]	[0.005]
Gender - Male	0.226		0.176		0.225	
	[0.175]		[0.155]		[0.262]	
Party - Independent	0.121		0.218		0.218	
	[0.435]		[0.428]		[0.382]	
Party - Republican	0.036		0.004		0.097	
	[0.154]		[0.141]		[0.208]	
First Job FE	x		x		x	
Birth Cohort FE	x		x		x	
Agency FE	x		x		x	
Regulator FE		x		x		x
Obs	6342	6753	6342	6736	5944	4592
Adj Pseudo R-squared	0.024	-0.027	0.039	-0.057	-0.029	-0.136

Table 4 Persistence in Private Sector Employment

This table provides estimates from regressions investigating the relationship between private-sector employment before and after regulators' top regulatory position. The dependent variable is *Private sector experience, before top regulatory position*, defined as an indicator variable that equals one if the regulator works in the private sector for more than 6 consecutive months after stepping down from her top regulatory position. The main independent variable, *Private sector experience, after top regulatory position*, is defined analogously for private sector work before assuming the top regulatory position. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively. The standard errors (in brackets) are heteroskedasticity consistent and clustered by agency. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Dependent variable	Private sector experience, after top regulatory position	
Column	(1)	(2)
Private sector experience, before top regulatory position	1.051***	1.263***
	[0.163]	[0.248]
Gender - Male		-0.879***
		[0.275]
Party affiliation - Independent		2.447***
		[0.641]
Party affiliation - Republican		1.652***
		[0.304]
Age as top regulator, years		-0.049***
		[0.015]
Year FE	x	x
Agency FE	x	x
Obs	938	740
Adj Pseudo R-squared	0.136	0.220

Table 5 Comparison of Revolving-door and Non-revolving-door Regulators

This table compares between revolving-door regulators and non-revolving-door regulators. Revolving-door regulators are those that worked in the private sector more than 6 consecutive months before and after their top regulatory position. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively. The right-hand side column shows the t-statistics for the tests of the differences in means. Statistical significance levels for the test of the difference in means are indicated as follows: *=10%, **=5%, ***=1%.

Variable	Revolving-door regulator	Non-revolving-door regulator	Difference	t-statistic
Regulator characteristics				
Age as top regulator, years	55.127	56.249	-1.123	-2.204**
Male indicator	0.716	0.726	-0.010	-0.374
Party affiliation - Democratic	0.335	0.559	-0.224	-7.490***
Party affiliation - Independent	0.067	0.083	-0.015	-0.947
Party affiliation - Republican	0.598	0.358	0.240	7.983***
Tenure as top regulator, years	3.797	4.450	-0.653	-3.789***
Regulator educational backgrounds				
SAT score - 25th percentile	1284.942	1250.455	34.487	3.338***
SAT score - 75th percentile	1448.174	1415.562	32.612	3.949***
Advanced degree indicator	0.907	0.830	0.077	3.866***
Graduate institution ranking	42.791	62.055	-19.264	-4.717***
Enforcement strictness				
Log annual number of enforcement actions	2.556	2.260	0.297	2.172**
Log annual dollar amount of enforcement actions	12.309	9.729	2.580	5.788***
Regulation productivity				
Log annual number of rules	3.222	2.868	0.354	4.424***
Log rule-making productivity score	2.870	2.637	0.233	2.435**
Log rule-making regulatory score	2.068	1.792	0.276	3.374***
Log rule-making deregulatory score	1.793	1.668	0.126	1.385
Regulation complexity				
Rule length above median	0.583	0.424	0.160	5.575***
Regulatory operator above median	0.573	0.433	0.140	4.856***
Cyclomatic complexity above median	0.578	0.428	0.150	5.215***
Real-estate properties				
Value of real-estate properties at age 30	0.036	0.035	0.001	0.048
Number of real-estate properties at age 30	0.109	0.125	-0.016	-0.803
Value of real-estate properties at age 65	3.081	1.275	1.806	8.935***
Number of real-estate properties at age 65	2.261	1.962	0.299	3.004***

Table 6 Regulatory Enforcement

This table provides estimates from regressions investigating the relationship between revolving-door regulators and regulatory enforcement. In Columns (1) and (2), the dependent variable is *Log annual dollar amount of enforcement actions*, defined as the logarithm of 1 + the annual dollar amount of enforcement actions issued by the agency overseen by the top regulator. In Columns (3) and (4), the dependent variable is and *Log annual number of enforcement actions*, defined analogously with respect to the number of enforcement actions. The key independent variable is *Revolving-door regulator*, defined as an indicator that equals one for regulators that worked in the private sector more than 6 consecutive months before and after their top regulatory position. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively. The standard errors (in brackets) are heteroskedasticity consistent and clustered by agency. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Dependent variable	Log annual dollar amount of enforcement actions		Log annual number of enforcement actions	
Column	(1)	(2)	(3)	(4)
Revolving-door regulator	1.532***	1.768***	0.312**	0.422***
	[0.508]	[0.566]	[0.133]	[0.132]
Gender - Male		-0.464		-0.033
		[0.718]		[0.133]
Party Affiliation - Independent		-0.267		0.026
		[0.749]		[0.227]
Party Affiliation - Republican		-0.736		-0.168
		[0.653]		[0.152]
Age as top regulator		0.000		0.003
		[0.026]		[0.007]
Year FE	x	x	x	x
Agency FE	x	x	x	x
Obs	1192	995	1192	995
Adj R-squared	0.567	0.573	0.789	0.782

Table 7 Regulation Productivity

This table provides estimates from regressions investigating the relationship between revolving-door regulators and regulation productivity. The dependent variables are *Log rule-making productivity score*, defined as the logarithm of 1 + the annual relevance-weighted sum of all final rules published in the Federal Register by the regulator's agency during her tenure (Column 1), *Log rule-making regulatory score*, defined as the logarithm of 1 + the annual relevance-weighted sum of only regulatory final rules (Column 2), and *Log rule-making deregulatory score*, defined the logarithm of 1 + the annual relevance-weighted sum of only deregulatory final rules (Column 3). The key independent variable is *Revolving-door regulator*, defined as an indicator that equals one for regulators that worked in the private sector more than 6 consecutive months before and after their top regulatory position. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively. The standard errors (in brackets) are heteroskedasticity consistent and clustered by agency. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Column	(1)	(2)	(3)
Dependent variable	Log rule-making productivity score	Log rule-making regulatory score	Log rule-making deregulatory score
Revolving-door regulator	0.156*	0.133*	0.091
	[0.092]	[0.070]	[0.092]
Gender - Male	-0.069	-0.042	-0.036
	[0.094]	[0.087]	[0.111]
Party Affiliation - Independent	-0.065	0.022	-0.380*
	[0.155]	[0.125]	[0.200]
Party Affiliation - Republican	-0.103	-0.117	0.223**
	[0.102]	[0.101]	[0.103]
Age as top regulator	-0.001	-0.002	0.002
	[0.006]	[0.005]	[0.005]
Year FE	x	x	x
Agency FE	x	x	x
Obs	995	995	995
Adj R-squared	0.797	0.660	0.698

Table 8 Regulation Complexity

This table provides estimates from regressions investigating the relationship between revolving-door regulators and regulation complexity. The dependent variables are *Rule length above median*, defined as an indicator variable that equals one for regulations with above median length (Column 1), *Regulatory operator above median*, defined as an indicator variable that equals one for regulations with above median number of logical operators (Column 2), and *Cyclomatic complexity above median*, defined as an indicator variable that equals one for regulations with above median cyclomatic complexity (Column 3). The key independent variable is *Revolving-door regulator*, defined as an indicator that equals one for regulators that worked in the private sector more than 6 consecutive months before and after their top regulatory position. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively. The standard errors (in brackets) are heteroskedasticity consistent and clustered by agency. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Column	(1)	(2)	(3)
Dependent variable	Rule length above median	Regulatory operator above median	Cyclomatic complexity above median
Revolving-door regulator	0.452*	0.489*	0.596**
	[0.241]	[0.258]	[0.232]
Gender - Male	0.316	0.532*	0.388
	[0.305]	[0.271]	[0.312]
Party Affiliation - Independent	-0.193	-0.19	-0.377
	[0.583]	[0.555]	[0.570]
Party Affiliation - Republican	-0.188	-0.297	-0.275
	[0.361]	[0.272]	[0.280]
Age as top regulator	-0.037**	-0.037***	-0.026*
	[0.013]	[0.010]	[0.013]
Year FE	x	x	x
Agency FE	x	x	x
Obs	758	768	726
Adj Pseudo R-squared	0.301	0.293	0.308

Table 9 Real-Estate Properties

This table provides estimates from regressions investigating the relationship between revolving-door regulators and real-estate property ownership. The dependent variables measure the number and market value of real estate properties owned by top regulators at the ages of 30 and 65. The key independent variable is *Revolving-door regulator*, defined as an indicator that equals one for regulators that worked in the private sector more than 6 consecutive months before and after their top regulatory position. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively. The standard errors (in brackets) are heteroskedasticity consistent and clustered by agency. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Column	(1)	(2)	(3)	(4)
Dependent variable	Number of real-estate properties at age 65	Value of real-estate properties at age 65	Number of real-estate properties at age 30	Value of real-estate properties at age 30
Revolving-door regulator	0.205*	0.555***	-0.033*	-0.018*
	[0.100]	[0.156]	[0.018]	[0.009]
Gender - Male	0.375***	0.013	0.068**	0.017*
	[0.100]	[0.177]	[0.028]	[0.009]
Party Affiliation - Independent	1.110***	0.387	-0.017	0.022
	[0.274]	[0.361]	[0.035]	[0.021]
Party Affiliation - Republican	0.077	-0.011	-0.085**	-0.025**
	[0.139]	[0.151]	[0.032]	[0.012]
Age as top regulator	-0.045***	-0.066***	-0.011***	-0.004***
	[0.009]	[0.011]	[0.003]	[0.001]
Year FE	x	x	x	x
Agency FE	x	x	x	x
Obs	994	994	994	994
Adj R-squared	0.188	0.284	0.322	0.295

Table 10 Firm Performance

This table provides estimates from regressions investigating the relationship between top regulators' regulatory activity and the performance of the firms they subsequently work for. The dependent variable is *Quartile ranking by sales-per-employee*, defined as the quartile ranking of the median annual sales-per-employee ratio of the firms they work for after stepping down from the top regulatory position. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively. The standard errors (in brackets) are heteroskedasticity consistent and clustered by agency. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Dependent variable	Quartile ranking by sales-per-employee								
Column	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Log annual dollar amount of enforcement actions	0.013* [0.007]								
Log annual number of enforcement actions		0.052* [0.030]							
Log rule-making productivity score			-0.014 [0.061]						
Log rule-making regulatory score				0.068* [0.038]		0.078* [0.039]			
Log rule-making deregulatory score					-0.035 [0.041]	-0.050 [0.041]			
Rule length							0.175*** [0.061]		
Regulatory operator								0.032* [0.018]	
Cyclomatic complexity									0.004*** [0.002]
Controls	x	x	x	x	x	x	x	x	x
Year FE	x	x	x	x	x	x	x	x	x
Agency FE	x	x	x	x	x	x	x	x	x
Obs	525	525	525	525	525	525	525	525	525
Adj R-squared	0.276	0.275	0.273	0.275	0.273	0.275	0.280	0.277	0.281

Table 11 Business Cycles

This table provides estimates from regressions investigating the relationship between revolving-door regulators and variation in aggregate economic conditions. Panel A studies how regulators' first jobs are related to the economic conditions at the time they enter the labor market. The dependent variables in Columns (1)-(4) are a series of indicator variables that equal one if a regulator starts her career in the private sector, public sector, a nonprofit, or academia, respectively. The main independent variable, *Recession regulator*, is an indicator variable that equals one if the regulator entered the labor market during a recession. Panel B studies the relation between revolving door moves and aggregate economic conditions. The dependent variable, *Move from private to government*, is an indicator variable that equals one if the regulator moves from the private sector to the public sector in a given year. The main independent variable, *Recession year*, is an indicator variable that equals one in years of either business cycle troughs or NBER recessions. Panel C studies the relation between revolving door regulators and the economic conditions at the time they enter the labor market. The dependent variables are *Revolving-door regulator*, defined as an indicator that equals one for regulators that worked in the private sector more than 6 consecutive months before and after their top regulatory position (Column 1), and *Private sector experience, before/after top regulatory position*, defined as indicator variables that equal one if the regulator worked in the private sector for more than 6 consecutive months before/after the top regulatory position. The main independent variable is *Recession regulator*. Panel D studies the relation between regulators' real estate ownership and the economic conditions at the time they enter the labor market. The dependent variables in Columns (1) and (2) measure the value of regulators' real estate properties at the ages of 30 and 65, respectively, and the main independent variable is *Recession regulator*. The sample includes 1,338 top federal regulators from 50 executive branch agencies during the period 2000-2022. The data collection process is described in Section 2. We provide all variable definitions and a list of government agencies in Appendixes A and B, respectively. The standard errors (in brackets) are heteroskedasticity consistent and clustered by agency. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

Panel A First Job

Column	(1)	(2)	(3)	(4)
Dependent variable	First job – Private sector	First job – Public sector	First job - Nonprofit	First job - Academia
Recession regulator	-0.827*	0.865**	-3.916**	-0.069
	[0.484]	[0.378]	[1.670]	[0.724]
Gender - Male	1.038**	-0.393	-2.223***	-0.359
	[0.491]	[0.372]	[0.862]	[0.967]
SAT score - 25th percentile	-0.007	0.005	-0.015*	-0.002
	[0.006]	[0.005]	[0.008]	[0.013]
SAT score - 75th percentile	0.006	-0.006	0.028**	0.009
	[0.007]	[0.007]	[0.012]	[0.017]
Advanced degree indicator	-0.921	0.495	-1.640	0.628
	[0.735]	[0.727]	[1.843]	[0.926]
Birth Cohort FE	x	x	x	x
Agency FE	x	x	x	x
Obs	851	879	257	439
Adj Pseudo R-squared	0.085	0.094	0.225	0.203

Panel B Career Moves

Dependent variable	Move from private to government			
Column	(1)	(2)	(3)	(4)
Recession year	0.309***	0.375**	0.422***	0.441***
	[0.105]	[0.156]	[0.149]	[0.131]
Age		0.043***	0.060***	0.080***
		[0.005]	[0.003]	[0.004]
Gender - Male		-0.115	0.022	
		[0.110]	[0.189]	
First job - Non-profit		-0.138	-0.639***	
		[0.214]	[0.154]	
First job - Private		0.596***	0.463***	
		[0.075]	[0.077]	
First job - Academic		-0.009	0.041	
		[0.275]	[0.217]	
Birth Cohort FE			x	
Agency FE			x	
Regulator FE				x
Obs	8828	8062	7850	6736
Adj Pseudo R-squared	0.001	0.030	0.023	-0.074

Panel C Revolving-door Regulators

Column	(1)	(2)	(3)
Dependent variable	Revolving-door regulator	Private sector experience, before top regulatory position	Private sector experience, after top regulatory position
Recession regulator	0.659***	-0.053	0.985***
	[0.151]	[0.164]	[0.326]
Gender - Male	0.018	0.807***	-0.851***
	[0.224]	[0.293]	[0.254]
Party Affiliation - Independent	0.874**	-0.257	2.403***
	[0.434]	[0.525]	[0.658]
Party Affiliation - Republican	1.200***	0.934***	1.892***
	[0.266]	[0.340]	[0.341]
Age as top regulator, years	-0.015*	0.053***	-0.047***
	[0.009]	[0.011]	[0.014]
Year FE	x	x	x
Agency FE	x	x	x
Obs	873	740	751
Adj Pseudo R-squared	0.115	0.143	0.224

Panel D Recession Regulator and Real-Estate Acquisitions

Column	(1)	(2)
Dependent variable	Value of real-estate properties at age 30	Value of real-estate properties at age 65
Recession regulator	-0.033** [0.013]	-0.165 [0.476]
Gender - Male	-0.002 [0.014]	0.362 [0.385]
SAT score - 25th percentile	0.000 [0.000]	0.005 [0.004]
SAT score - 75th percentile	0.000 [0.000]	-0.006 [0.004]
Advanced degree indicator	-0.044** [0.019]	0.278 [0.454]
Birth Cohort FE	x	x
Agency FE	x	x
Obs	319	319
Adj R-squared	0.216	0.083