How firms, bureaucrats, and ministries benefit from the revolving door: Evidence from Japan *

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Abstract

A growing literature finds high returns to firms with legislative connections. Less attention has been paid to returns from bureaucratic connections and to organizations beyond for-profit firms. Using data recording the first post-bureaucracy position occupied by all former civil servants in Japan, I reveal a bifurcated job market for former bureaucrats. High-ranking officials from elite economic ministries are more likely to join for-profit firms, where they generate returns such as increased government loans and positive stock market reactions. Lower-ranking officials are more likely to join nonprofits linked to government ministries, which receive higher-value contracts when former bureaucrats are in leadership roles. These patterns suggest that while firms wish to hire bureaucrats who can deliver tangible benefits, ministries also shape revolving door pathways by directing benefits to ensure long-term career value for civil servants. These findings reframe revolving door dynamics as the result of both firm-driven demand and bureaucratic incentives.

Keywords: Business and government; political connections; bureaucracy; procurement; money in politics; nonmarket strategy

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A growing literature has established the high value of legislative connections to firms. However, elected office is not the only form of government connection that firms can leverage. Firms also regularly hire civil servants—a practice commonly referred to as the bureaucratic revolving door. Despite the typically far larger number of civil servants in central government agencies compared to elected office holders,[1] examination of the value of bureaucratic connections to firms is notably lacking from the political connections literature. Are bureaucrats similarly in demand by employers? If so, *which* bureaucrats are in demand and what benefits do they bring to the firms that hire them?

In theory, firms have incentives to hire former bureaucrats only when those individuals can deliver tangible benefits such as technical expertise, access to government loans or contracts, influence over regulatory decisions, or other political rents. Bureaucrats without such value should hold little appeal to private employers. By contrast, bureaucratic institutions have incentives to place as many former officials as possible into post-bureaucracy roles as the revolving door: (1) helps ministries maintain informal channels of influence, and (2) acts as a credible signal to prospective recruits that a relatively low-paid public sector career will be rewarded with lucrative post-retirement opportunities.

Using comprehensive data on the initial post-retirement placements of all former civil servants in Japan, I provide empirical evidence consistent with the theoretical predictions outlined above. A bifurcated market exists for former bureaucrats, in which the highest ranking officials are naturally in demand by large, publicly traded corporations. These officials then deliver benefits such as low-interest government loans to their new employers. However, for lower ranking bureaucrats who cannot offer these kinds of benefits to firms, alternate sources of employment exist at nonprofit organizations bolstered by government contracts. Though these connections are under-examined in the existing literature, I show that roughly half of Japanese bureaucrats are re-hired by public corporations or nonprofits, and that these organizations leverage their bureaucratic connections to increase the size of

[1]For example, there are 535 federal elected officials and over 2 million civil servants in the United States, and 722 central government elected officials and over 250,000 civil servants in Japan.

government contracts they receive. In the context of a weak welfare state with relatively low pay for civil servants, the promise of such revolving door positions—regardless of private sector demand—is essential for successful bureaucratic retainment and recruitment.

I also evaluate the concrete benefits that former officials provide to their new employers, and show that flows of bureaucrats to different sectors of the economy lead to sector-specific benefits. First, using a matched differences-in-differences (DiD) approach (Imai, Kim and Wang 2019), I show that private firms hiring senior officials from elite economic ministries receive increased volumes of government loans in subsequent years. Second, using an interrupted time series design, I find that investors respond positively to appointments of high-ranking economy ministry bureaucrats. Third, I leverage novel data on nonprofit leadership and DiD approaches that account for the negative weighting issues highlighted in recent literature (de Chaisemartin and D'Haultfœuille 2020) to show that nonprofits with ex-bureaucrats in director roles receive more lucrative government contracts. These contracts also exhibit financial irregularities according to common forensic accounting techniques, patterns not observed in comparable nonprofits without bureaucratic ties.

Most research on the bureaucratic revolving door relies on theoretical models, focusing on how post-government hiring shapes regulatory leniency (Che 1995; Dal Bó 2006; Salant 1995) or the conditions under which bureaucratic connections should be expected to bring value to firms (Bils and Judd 2020). Empirical evidence is limited and often drawn from convenience samples or single-agency case studies. Little attention has been paid to employment destinations beyond for-profit firms or to the proactive role bureaucratic agencies may play in cultivating revolving door opportunities.

This study addresses these gaps using comprehensive administrative data and a broader view of the revolving door, spanning both for-profit and nonprofit destinations. I combine newly constructed datasets of all initial revolving door hires, all government loans to private firms, stock prices of all firms that make high-level bureaucratic hires, and all government contracts with nonprofits in Japan over a period of one decade to test for benefits that

accrue to organizations that hire former bureaucrats. To identify the kinds of benefits these hires may generate, I supplement the quantitative analysis with interviews with current and former bureaucrats, business leaders, and nonprofit executives. These interviews point to two recurring themes: former bureaucrats offer valuable political connections that may help secure contracts or loans, but are often perceived as lacking technical or managerial expertise.

Collectively, interviews, descriptive analysis, and causal estimates reveal a bifurcated job market for former bureaucrats in which only a select few are highly valued by for-profit firms. Top bureaucrats from ministries that control the levers of finance, industrial policy, and regulation are in high demand, and these individuals are in turn able to drive benefits to for-profit firms. However, for those less desired by the private sector, positions have been created in nonprofits, where former bureaucrats appear able to leverage their connections to help these agencies secure continued government funding, as well as maintain employment opportunities for future generations of retiring bureaucrats.

These findings shed light on how the public and private sectors interact in advanced democracies, particularly those with large public-private pay gaps. While existing research on the revolving door focuses on rent-seeking firms hiring former officials for their expertise or connections, this paper highlights an additional dynamic. Only a subset of bureaucrats—typically those with influence, status, or control over key sectors—are in demand by private firms. This generates a supply of would-be revolving door candidates for whom no natural market demand exists. However, to sustain elite recruitment amid declining public sector compensation and prestige, ministries must offer credible guarantees of future income and employment to all recruits. Ministries may therefore respond to this imbalance by actively constructing revolving door pathways—e.g., outsourcing contracts and establishing informal pipelines to nonprofit or quasi-public roles—to provide employees with a credible path to long-term career value. These patterns suggest that the state is more than a passive participant in the revolving door phenomenon, which is in fact a function of both firm-driven rent seeking and state-led institutional maintenance.

Theory, case selection, and hypotheses

The value of political connections to firms

A large literature explores the economic value of legislative political connections to firms. For example, Blanes i Vidal, Draca and Fons-Rosen (2012) show that lobbying revenues generated by ex-congressional staffers fall sharply when their former employers leave office. In China, firms with CEOs who serve in the National People's Congress exhibit higher stock prices and operating profits (Truex 2014). Similarly, Faccio (2006) and Faccio, Masulis and McConnell (2006) find that firms benefit from the political ascension of major shareholders or executives, through stock price increases and higher likelihood of bailouts, respectively. Campaign donations also appear to yield returns, as Brazilian firms that support winning candidates receive more government contracts (Boas, Hidalgo and Richardson 2014).

Alongside this legislative literature, growing attention has been paid to the revolving door between the bureaucracy and industry. Legislators and bureaucrats have different incentives for entering the revolving door, but both connections may be of value to firms. Classic models of regulation emphasize the role of *electoral* incentives, theorizing that legislators balance the preferences of voters and organized producers, who provide campaign contributions and lobbying pressure in addition to rents (Grossman and Helpman 2001; Peltzman 1976; Stigler 1971). By contrast, bureaucrats are not subject to re-election pressures, nor do they occupy dual roles at corporations that may influence their behavior while in office (see Weschle (2024)) as elected officials at times do—their primary incentive is to secure attractive post-retirement employment. This creates incentives to foster relationships with firms and to shape policy or resource allocation in ways that increase future employability. Such actions may also enable regulatory capture, where civil servants favor future employers, or signaling, where regulators act stringently to demonstrate competence to potential industry recruiters (Dal Bó 2006). Empirical studies offer evidence for both mechanisms: the capture hypothesis is supported by Cohen (1986), Gormley Jr (1979), Spiller (1990), and Tabakovic

and Wollmann (2018), while DeHaan, Kedia, Koh and Rajgopal (2015) provide evidence for the signaling model.

Despite theoretical overlap, relatively few studies directly link bureaucratic connections to firm-level rents. Notable exceptions include Lee and You (2020), who show that U.S. firms with connections to the Office of the U.S. Trade Representative reduce their lobbying activity; Barbosa and Straub (2020), who find that Brazilian medical firms hiring ex-bureaucrats offer lower prices to government; and Hong and Lim (2016), who demonstrate that Korean universities employing former officials receive more grants. In Japan, Asai, Kawai and Nakabayashi (2021) show that firms hiring ex-infrastructure ministry officials are more likely to win public contracts, while Luechinger and Moser (2014) observe stock price boosts for U.S. defense firms hiring Department of Defense officials.

Taken together, these studies suggest that firms value former civil servants for their ability to shape regulatory outcomes, influence government decision-making, and facilitate access to public resources such as contracts, subsidies, and loans. However, only select civil servants—such as those with regulatory oversight or access to public resources—can deliver these benefits. These civil servants should therefore be in demand by firms, but others should be of little value. In this sense, select bureaucratic connections may yield similar benefits to legislative ones—yet empirical work remains fragmented, typically focusing on single agencies or economic sectors due to data limitations.

Rather than assume equivalence across contexts or countries, I evaluate these hypothesized benefits directly in the Japanese case. To do so, I draw on 19 interviews with current and former bureaucrats and executives involved in revolving door hiring in Tokyo between 2019 and 2022.[2] Interviews revealed that receipt of public contracts, regulatory benefits, and government financial assistance (especially in times of crisis) were viewed as potential

[2]Subject recruitment and engagement adhered to the APSA Principles and Guidance for Human Subjects Research. Prior to interviews, participants were provided with a document describing the purpose of the research project, potential risks, and efforts taken to ensure anonymity. Voluntary and informed consent was then obtained through verbal consent to participate in the study. The research did not intervene in any political processes, involve any vulnerable participants, or engage in deception. The interview and informed consent protocols were reviewed and approved by an Institutional Review Board at Yale University.

benefits by directors of firms and bureaucrats in Japan. For example, an official in one of Japan's ministries stated that while the revolving door "does not necessarily result explicitly in subsidies or contracts, it is definitely beneficial" (Author Interview D1a). A director in a major consulting firm noted that the revolving door "is most beneficial in industries where regulations are most strict" (Author Interview D1b). A corporate finance expert stated that bureaucratic hires tend to increase in the banking sector when banks are in trouble (Author Interview N1a). Finally, a corporate governance expert noted that "investors would definitely notice" high level appointments (Author Interview N1b). At the same time, interviewees often viewed the revolving door as more prevalent among older or weaker firms, and emphasized that the value of hires derived from connections and access rather than technical or managerial expertise.

In light of both the literature and interview findings, I empirically examine three observable benefits: receipt of government loans, receipt of government contracts (specifically to nonprofit organizations), and stock price movements around the time of high-ranking hires. Loans and contract outcomes correspond to claims about rents facilitated by former officials, while stock price reactions reflect investor beliefs about the value of these appointments. Access to regulatory influence was frequently mentioned in interviews but remains difficult to measure directly.

The value of post-government positions to bureaucrats and ministries

A related literature explores the "returns to office" enjoyed by politicians, demonstrating that legislators often gain significant wealth after being elected to office (e.g., Eggers and Hainmueller 2009; Fisman, Schulz and Vig 2014). By contrast, civil servants typically experience suppressed earnings relative to their private-sector counterparts and rely on the revolving door for deferred compensation. For example, in Japan, Ramseyer and Rosenbluth (1993) estimated that civil servant salaries were 11 percent lower than the monthly mean national wage in 1989. Given these bureaucrats' elite educations, this represents a

substantial gap in income when compared to both elected officials and the private sector.

Prior research and journalistic accounts document the substantial rents associated with revolving door movements in advanced economies with large pay differentials between high-skilled public and private sector workers, such as Japan, the United Kingdom, and the United States (Blumenthal 1985; Kalmenovitz, Vij and Xiao 2022; Mizoguchi and Van Quyen 2012; Ramseyer and Rosenbluth 1993; The Financial Times 2024; Usui and Colignon 1995). Interviews with current and former bureaucrats corroborate these findings, emphasizing stark wage differentials between entry-level civil servants and peers entering high-paying sectors such as finance and technology (Author Interviews J1a, N1c). Accordingly, the revolving door functions as a primary institutional mechanism through which material returns to office are (later) realized for civil servants.

Yet little is known about the structure of the job market for former bureaucrats. Existing work has focused on politicians, offering limited insight into the broader population of civil servants. While it is intuitive that senior bureaucrats with policy influence and extensive networks would be desirable hires, the employment prospects for mid- and lower-level bureaucratic officials remain largely unexamined, in part due to data constraints.

Theoretically, firms should only seek to hire former bureaucrats who offer clear value—whether through specialized expertise, access to regulatory influence, or facilitation of rents such as contracts, loans, or bailouts. This implies that private sector hiring should be concentrated among officials from ministries with substantial regulatory or fiscal authority. In support of this view, empirical work from the United Kingdom finds that the revolving door is most active in departments with control over major policy levers, while officials from lower-capacity ministries are less likely to transition into private-sector roles (Andrews and Beynon 2024).

Yet while the private sector exercises selective demand for bureaucrats, ministries face broader institutional incentives. Because earnings during public service are constrained, ministries rely on post-government career pathways as a form of deferred remuneration. Facilitating these placements serves two primary functions. First, it preserves ministerial

influence by embedding former officials in positions across the public and private sectors. And second, it signals to prospective hires that a relatively underpaid career in the civil service will be compensated in the future with a lucrative post-bureaucracy position. Indeed, contemporary policymakers have recognized this logic explicitly. For example, the head of the UK government's legal department recently stated that she is "all in favor of the so-called revolving door" because of its utility for recruitment (The Financial Times 2024). Japanese interviewees also echoed this logic, noting that widening pay gaps make civil service recruitment increasingly difficult and that the promise of post-bureaucracy jobs is one of the few remaining tools to attract top talent (Author Interview N1c).

However, ministries face a problem of timing and imperfect information—it is impossible to predict *ex ante* who will reach senior ranks at the time of recruitment. To address this information asymmetry problem, ministries may pursue a strategy of broad-based post-retirement placement, treating deferred compensation as an institution-wide guarantee rather than a reward contingent on individual career trajectory. This logic is especially salient in Japan, where civil servants retire before becoming eligible for pensions, heightening the need to secure post-retirement employment. In this context, revolving door placements may function as a quasi-contractual obligation: an implicit guarantee of post-career income and security in exchange for long-term bureaucratic loyalty. Like other informal labor institutions—such as lifetime employment in Japan, *guanxi* in China, or the traditional labor protections conferred on federal bureaucrats in the United States—there may be severe consequences for institutional reputation and recruitment in the event that this informal contract is violated.

From these theoretical considerations and interview insights, I generate two main predictions. First, private-sector demand for former bureaucrats should be concentrated among high-ranking officials from prestigious ministries, whose networks and influence are of most value to firms. Second, ministries should endeavor to place as many officials into post-retirement roles as possible—including those who might not be in high demand from firms—

in order to sustain the revolving door as a recruitment and retention tool.

Amakudari in Japan

The revolving door is well-known in the Japanese context, where it is referred to as *amakudari*—literally "descent from heaven." *Amakudari* is the institutionalized practice of civil servants retiring into the private or public sector at the end of their careers,[3] typically near age 60.[4] While not truly "revolving" since bureaucrats rarely return and mid-career private sector hires into the bureaucracy are uncommon, I adopt the term to align with the broader political connections literature.[5] These post-retirement positions serve two primary functions: they provide deferred compensation for relatively low-paid bureaucrats (Colignon and Usui 2003; Mizoguchi and Van Quyen 2012),[6] and offer continued employment in a country with low old-age cash transfers and high late-life labor force participation (Estévez-Abe 2008). The institutionalized practice of retirement around 60 thus creates a shock that sheds light on how agencies and individuals manage sudden job insecurity.

While the supply-side motivations for *amakudari* are well established, less is known about the universe of opportunities available to former bureaucrats and the benefits conferred on hiring firms. Existing studies suggest that *amakudari* may offer firms privileged regulatory access (Calder 1989; Colignon and Usui 2003; Schaede 1995), reduce oversight (Grimes 2005), or facilitate access to government loans and contracts (Blumenthal 1985; Jones 2013; Mizoguchi and Van Quyen 2012; The Economist 2010; The Japan Times 2017; Usui and Col-

[3] A subset of *amakudari* involving moves into public sector firms, called *yokosuberi* or "sliding sideways," is also discussed in prior literature. For simplicity, I use *amakudari* to refer to both types of moves.

[4] Retirement typically follows an "up or out" process with a pyramidal promotion system (Aoki 1988). There are fewer available positions at each step up the promotion ladder (e.g., section chief to bureau chief positions to director general to vice-minister) for each ministry and those who are not promoted resign.

[5] For multiple movers (as well as those who originally come from industry), socialization into industry is theorized to make regulators more amenable to industry concerns. For one-time movers (such as in Japan), the mechanism is different (enhancing post-retirement marketability), but whether the effect on outcomes differs is unclear. Existing empirical work also does not examine true revolvers, but single-direction moves.

[6] The majority of the literature (including the formal model by Mizoguchi and Van Quyen (2012)) assumes that bureaucrats want to go to the organizations that will provide them with the "maximum remuneration possible" (p. 822), and that possible salary rises with civil service rank. Future research could therefore consider more explicitly modeling revolving door movements as a function of broader individual and institutional incentives in addition to remuneration.

ignon 1995; Woodall 1997). *Amakudari*-staffed nonprofit and public organizations have also been implicated in scandals linked to bid rigging and the receipt of public subsidies (Carlson and Reed 2018; Mizoguchi and Van Quyen 2012). I examine whether these suspected benefits represent systematic phenomena by testing whether *amakudari* leads to increased granting of government loans to for-profit firms, and increased granting of contracts to nonprofits.

Among Japan's ministries, the Ministry of Finance (MOF) and the Ministry of Economy, Trade and Industry (METI) are widely regarded as the most prestigious and powerful (Aoki 1988; Calder 1989; Mizoguchi and Van Quyen 2012; Noble 2025; Usui and Colignon 1995; Vogel 2021). Their central roles in fiscal policy, financial regulation, and industrial planning have historically positioned them as dominant institutions in Japan's developmental state (Johnson 1982; Rosenbluth and Thies 2010). These ministries recruit heavily from Japan's most prestigious university, the University of Tokyo, reinforcing their elite status. As a result, bureaucrats from MOF and METI are among the most desirable hires due to their close ties to powerful institutions that control the levers of financial and industrial policy.[7]

Several features of *amakudari* make Japan a useful case for studying bureaucratic political connections more broadly. First, relatively low public sector pay creates strong incentives for deferred compensation through post-retirement jobs. Second, institutionalized early retirement introduces a predictable shock to job security. Third, Japanese officials are typically generalists rather than technical experts, suggesting their value lies in information, networks, and influence rather than specialized skills. Finally, long tenures and stable careers enhance the credibility and durability of the connections they offer, as theorized by Bils and Judd (2020). Taken together, these conditions provide a compelling context for testing broader theories about the formation, value, and consequences of political connections between firms and the bureaucracy—particularly in settings where bureaucrats are career generalists and connections must be valuable beyond technical expertise.

[7]The Ministry of Land, Infrastructure, and Transport (MLIT) is also considered relatively prestigious and additionally controls a large number of infrastructure and construction related contracts.

Summary and hypotheses

The revolving door offers firms access to insider knowledge, regulatory influence, and potential rents, while providing bureaucrats with deferred compensation and ministries with a mechanism for recruitment and retention. In Japan, the institutionalized practice of *amakudari* illustrates both sides of this exchange: firms selectively hire officials from powerful ministries to gain advantages, while ministries, constrained by low public sector pay and early retirement, seek to place a broad range of officials in post-retirement positions to sustain the civil service pipeline.

These dynamics generate three primary hypotheses. First, private firms should be more likely to hire high-ranking officials from prestigious ministries. Second, if firms derive value from political connections, hires should be associated with observable benefits to hiring organizations, such as increased government loans or favorable investor responses. Third, if ministries use *amakudari* as a tool to attract and retain talent, they should endeavor to place lower-ranking officials as well, supplementing the natural market for high-ranking hires - resulting in a bifurcated job market for former civil servants. The empirical analysis that follows tests these propositions.

Data

Pressure to regulate *amakudari*[8] culminated in reform of the National Public Service Act (NPSA) in 2008 (Kato 2017; Mishima 2013; Terada 2019). The reform mandated that civil servants report post-government employment to the Cabinet Office, with appointments disclosed publicly each year (*National Public Service Act* 1947, Articles 106-23-25).[9]

[8] *Amakudari* has been blamed for multiple regulatory and policy failures in Japan and the inability to enact structural economic reforms. For example, scholars and government reports have blamed amakudari for crises such as the savings and loan bailout (Carlson and Reed 2018; Mishima 2013), the HIV-contaminated blood scandal (Carlson and Reed 2018; Mishima 2013), and the Fukushima Daiichi nuclear plant disaster (Diet of Japan 2012; Mishima 2013).

[9] The reforms also prohibited ministries from directly brokering employment (*National Public Service Act* 1947, Article 106-2) and established a surveillance commission to monitor compliance (*National Public Service Act* 1947, Article 106-5). It is possible that the reporting requirements and/or reforms may have influenced firm behavior, including the possibility that firms began hiring former bureaucrats in part to signal

These disclosures provide the basis of a new dataset covering all *amakudari* placements from 2009 to 2019. Each disclosure includes the bureaucrat's former agency and title, along with their new employer and job title (see Table A1). Disclosures include only the first post-retirement job and omit subsequent placements.[10] As such, the strongest ties that might lead to *quid pro quo* exchanges may be underrepresented, since officials are barred from joining organizations they directly oversaw for two years post-retirement. In addition, we do not observe bureaucrats who may have sought but failed to secure post-retirement positions, but the set of bureaucrats who do not receive placements is expected to be small.[11] Unlike earlier studies that rely on convenience samples, however, this dataset captures the full universe of initial revolving door appointments. The dataset is available online as *Amakudata*.

To evaluate the consequences of *amakudari*, I merge these records with outcome data across three domains: government loans to for-profit firms, stock market reactions to hires at publicly traded firms, and public contracts to nonprofit organizations. Loan data come from the NEEDS database, Japan's largest source of firm-level financial information, and are merged with firm attributes to compare *amakudari* and *non-amakudari* firms on observables. Stock price data are daily adjusted closing prices from Yahoo Finance. Contract data are drawn from 93 publicly released reports, comprising roughly 25,000 records of public works projects, subsidies, and contracts issued by the national government to nonprofit organizations. These records include agency and recipient names, contract details, award dates, values, and auction types. For non-competitive (negotiated) contracts, the number of former civil servants on staff at the recipient organization is also reported. See Table 1 for a summary of all data sources.

alignment with sectoral norms or shareholder expectations. This is an interesting theoretical possibility that merits further exploration. The empirical analysis in the paper is, however, limited to the post-2009 period, and consequently the patterns observed are representative of the equilibrium that emerged after the reform, even if different dynamics may have prevailed prior to 2009.

[10] As such, it excludes serial reemployment or "*wataridori*" (literally "migratory birds").

[11] In the Japanese context, the overwhelming majority of eligible bureaucrats actively seek and receive post-retirement placements. A 2000 government report revealed that out of 538 high-ranking bureaucrats who retired between August 1999 and August 2000, 485 (approximately 90%) secured new positions *within three months*, indicating a high placement rate for retiring officials (Colignon and Usui 2003).

Table 1: Overview of data sources

Data	Source	Information	Use
Civil servant re-employment	Cabinet Office reports	Bureaucratic rehires	Independent variable
Nikkei NEEDS	Nikkei Inc.	Firm attributes and financials	Matching covariates
Nikkei NEEDS	Nikkei Inc.	Government loans	Outcome variable
Stock prices	Yahoo Finance	Stock performance	Outcome variable
Nonprofit contracts & subsidies	Cabinet Office reports	Nonprofit contracts & subsidies	Outcome variable

A bifurcated job market for former civil servants

Descriptive statistics confirm many insights from decades of qualitative work on *amakudari*, but also highlight new patterns. Most notably, the data reveal a job market bifurcated by nonprofit vs. for-profit corporations, top vs. lower level officials, and ministry prestige.

Nonprofits

First, I examine where bureaucrats seek reemployment following retirement from the bureaucracy, and demonstrate that the job market for former bureaucrats is bifurcated by destination type and position level. 6314—roughly one-half of—bureaucrats retired into nonprofit "public interest" (5301) or public (1013) corporations, compared with 6126 bureaucrats who retired into for-profit firms (i.e., stock and non-stock corporations) as expected (see Figure 1).[12] Previous scholars discussed cases of this phenomenon (Carlson and Reed 2018; Colignon and Usui 2003; Jones 2013), but we can now confirm that public[13] and public interest corporation hiring of former bureaucrats is much more common as a percentage of total appointments than previously appreciated, and in fact even represents a slight majority.[14]

[12]The potential for government waste stemming from high salaries paid to former bureaucrats at "public interest corporations" is a promising area for research, but one which is outside of the scope of this paper.

[13]Japanese: *dokuritsugyōseihōjin*. This includes destinations such as patent offices, courts, notaries, etc.

[14]Previous filings such as those analyzed by Colignon and Usui (2003) did not require reporting of most public interest hires.

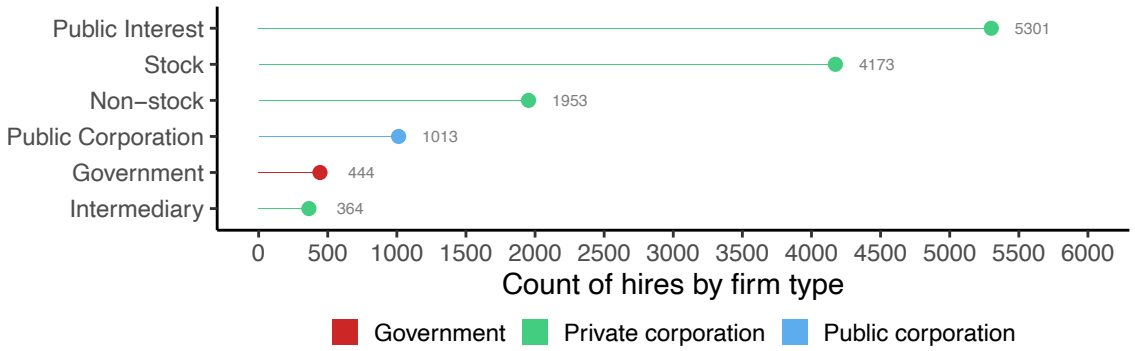


Figure 1: *Amakudari* destinations by firm type, all hires 2009-2019

Nonprofit corporations (NPOs) are a Japanese legal entity that is largely analogous with the term non-governmental organizations (NGOs) used elsewhere, or 501(c)(3) organizations in the United States. As of 2021, there were approximately 51,000 NPOs in Japan (Cabinet Office 2021). These can range from grassroots civic organizations, to religious organizations, to foundations and "public interest corporations" that conduct government-sanctioned public interest projects. Movements from the bureaucracy are primarily to foundations and public interest corporations, many of which are heavily or even entirely reliant on government funding. This has led some to argue that many Japanese NPOs are "quasi-governmental organizations," or that the government outsources public work to these organizations (Ogawa 2009). Taking on former bureaucrats may therefore be viewed by NPOs as a method to ensure continued funding.

Examination of hiring by position level reveals that only the highest ranking officials (i.e., vice ministers and assistant vice ministers) retire predominantly (51%) into large, publicly traded firms, while roughly half (48%) of bureaucrats below the rank of assistant vice-minister move to public interest corporations (see Figure 2). By contrast, only 39% of vice and assistant vice ministers move to public interest corporations, and only 31% of individuals below the level of assistant vice minister move to publicly traded firms. Further, top hirers in the public interest sector draw primarily from a single ministry (see Figure A4), suggesting that there are direct pipelines from individual ministries to public interest corporations. No

vice or assistance vice minister placements exist within the top ten public interest hirers for the period observed, nor are these hirers drawing from MOF or METI.[15] Beyond for-profit firms: benefits to nonprofits will demonstrate that these individuals drive contract receipt to their new places of employment, perpetuating a system in which the government drives funds to firms that are used as revolving door placements for certain employees.

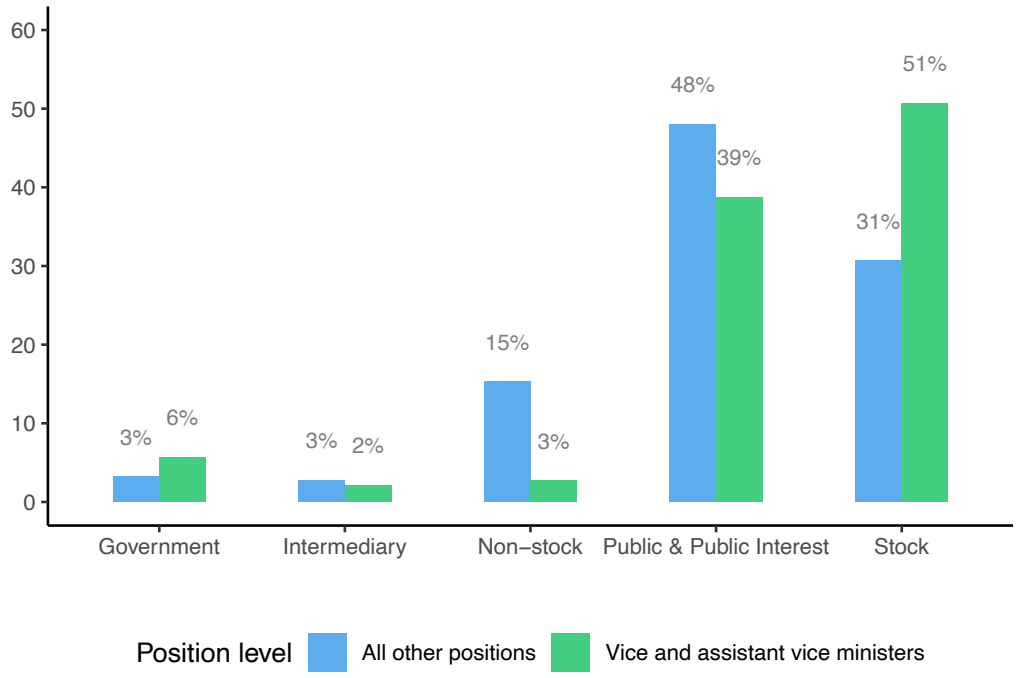


Figure 2: Distribution of destinations (firm types) among all former bureaucrats who were re-hired, by position level

For-profit and publicly traded firms

Turning to for-profit firms, we again see a market bifurcated by position level. Higher ranking officials are more likely to be hired by large, publicly traded firms, while lower ranking officials are more likely to be hired by smaller, private firms (see Figure 2). Industries reliant on government contracts—such as transportation—and highly regulated industries—such as finance, banking and insurance—are overrepresented in hiring compared to the overall econ-

[15] With the exception of the METI Patent Office, an external office (*gaikyoku*) comprised of lower ranking officials.

omy (see Figure A2 and Table A2),[16] and the top for-profit hirers belong to highly regulated industries such as insurance, transportation, and finance.[17] The most common posts bureaucrats take in for-profit companies are tax advisors, consultants, auditors, lawyers, board members (internal and external), and executives, with top officials more likely to take board member or executive roles in publicly traded firms.

In contrast with public interest corporations, for-profit hirers draw from multiple ministries (see Figure A5). Some industries, however, draw overwhelmingly from ministries with direct connections. For example, the construction, electric power, transportation, and transport equipment sectors hire predominantly from the infrastructure and transport ministry (MLIT), the majority of banking and finance hires are from the Ministry of Finance (MOF), and the majority of information and communication hires are from the Ministry of Internal Affairs and Communications (MIAC) (see Figure 3).[18]

Bifurcation by ministry

Next, I examine which ministries *amakudari* come from and whether there is variation in placements by ministry. The largest number of hires come from the largest ministries in terms of number of employees.[20] Adjusted for ministry size, METI and the Ministry of Education, Culture, Sports, Science and Technology (MEXT) are the largest suppliers of former bureaucrats (see Figure A3b).

The most prestigious ministries—the METI and MOF— place the highest percentage of total bureaucrats into for-profit firms. The MOF places the largest percentage of its retirees in publicly traded firms (59%), followed by the Ministry of Defense (MOD), Ministry of

[16]This adds additional evidence to previous theories highlighting the importance of regulatory benefits from *amakudari*, and represents a promising area for future research not addressed in this paper.

[17]This confirms Schaede (1995)'s insight.

[18]These patterns exist despite a stipulation banning bureaucrats from taking positions in sectors they used to supervise. For example, 28 MOF officials retired into private sector banks since these regulations were passed. 115 retired into regional credit unions known as *shinkin* banks, including 90 from regional finance bureaus. A further four officials retired into *shinkin* banks from their direct regulator—the Financial Services Agency.[19]

[20]Specifically, MLIT, followed by the Ministry of Health, Labour and Welfare (MHLW), the Ministry of Justice (MOJ), the MOF, and the Ministry of Economy, Trade, and Industry (METI) (see Figure A3a).

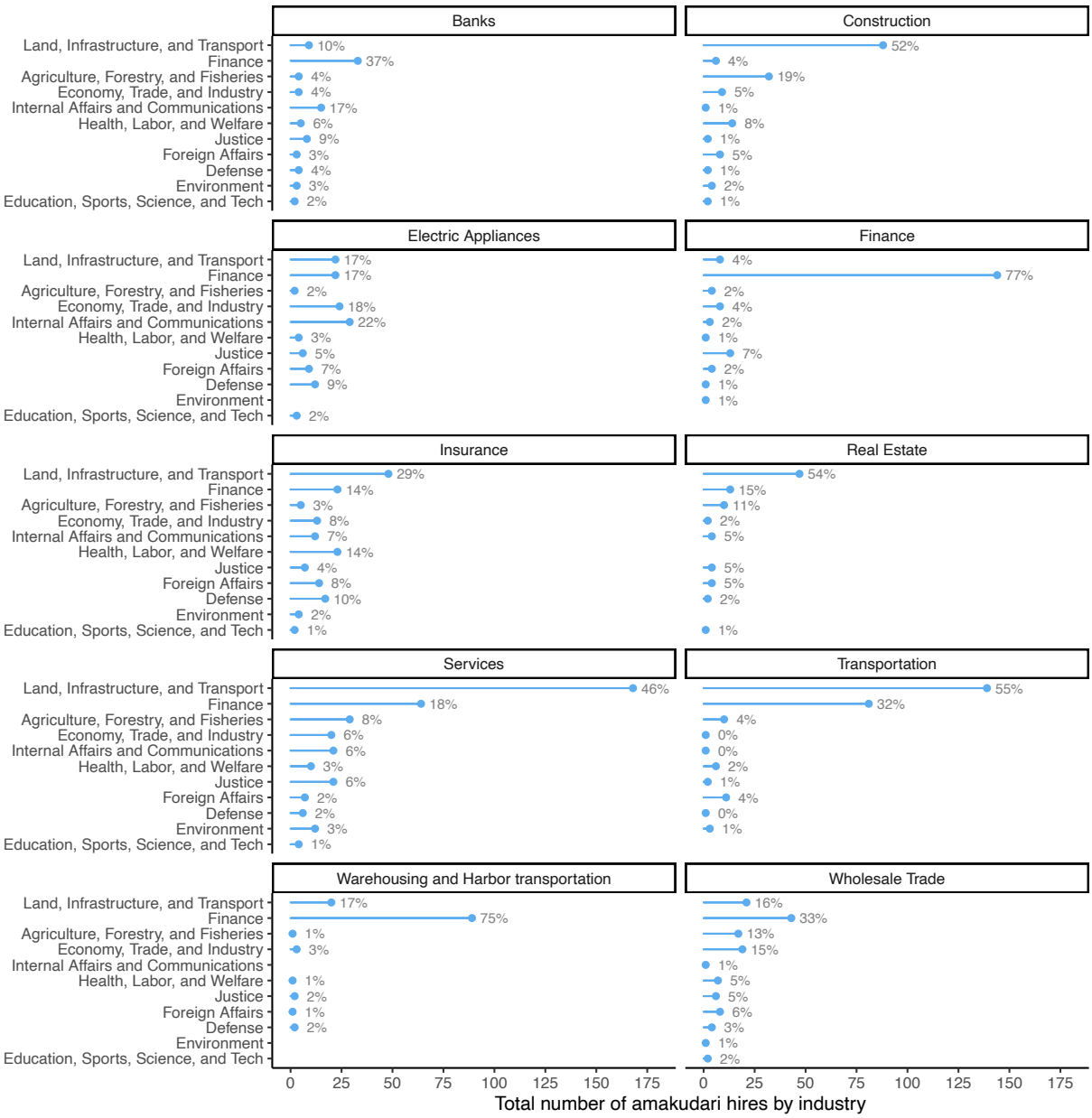


Figure 3: Private sector hires by industry and ministry (2009 - 2019)

Note: Top 10 industries by number of hires. Includes appointments from ministries only. Independent agencies not included.

Foreign Affairs (MOFA), and MLIT (see Figure A6). By contrast, the MHLW, MEXT, and Ministry of Agriculture, Forestry and Fisheries (MAFF) place the largest percentages of their retirees into public interest corporations (72%, 71%, and 66%, respectively). METI's share of employees in publicly traded firms appears low at first glance. However, this is due

to the existence of the METI Patent Office, an external office (*gaikyoku*) of METI with a large number of employees who move to public interest corporations.[21] In fact, the Industrial Property Cooperation Center—a patent advisory firm—is the largest public interest hirer (see Figure A4). Excluding the Patent Office, the same percentage of METI bureaucrats retire in to publicly traded firms as MLIT.

Bureaucrats from more prestigious ministries also tend to retire at a younger age. As the mandatory retirement age is 60 for most civil service positions, the mean age at which an individual leaves the civil service is 59 and there is little variation by firm type (see Table A3). However, again there is variation by ministry, with younger bureaucrats more likely to leave more prestigious (e.g., METI and MOF) ministries (see Figure A7).

These patterns are consistent with higher demand for officials from prestigious ministries—particularly given the concentration of these officials in more desirable post-retirement roles (e.g., high-paying corporate board appointments) and their relative scarcity.

Corporate financials of amakudari hirers

In order to compare how for-profit firms that hire *amakudari* officials compare with those that do not, I pulled the universe of corporate attribute, financials, and data on government loans from 2009-2019 from the NEEDS financial database. This dataset includes 5809 unique firms across all years, and was merged with the data on bureaucratic rehires (i.e., *Amakudata*).

Firms that hire *amakudari* are different from firms that do not across a number of metrics (see Figure 4). *Amakudari* hirers tend to be larger in terms of number of employees, assets, liabilities, and earnings, as well as older. In addition, Table A4 shows that while only 10% of *amakudari* firms matched with the NEEDS financial database are missing financial information, 30% of non-*amakudari* firms are missing the same data.[22] Once again, this implies that *amakudari* firms tend to be larger and more well-known. However, while financial

[21] Note that there is a distinction within ministries between "career" bureaucrats who passed the most rigorous civil service exam and "noncareer" bureaucrats who passed only lower level exams. As such, this represents another level of job market bifurcation within ministry.

[22] Firms in the NEEDs database also hire more former officials over the observed period than firms that do not appear in the database (see Figure A1).

data missingness is highly correlated with bureaucratic hiring, it does not vary highly across industries or years (see Figure A8a and Figure A8b).

Previous empirical research has found that *amakudari* is more-often practiced by lower-performing firms (Horiuchi and Shimizu 2001; Van Rixtel 2002), and this theme was echoed by interviewees in business and finance. There is empirical support for this characterization in the data as well, with *amakudari* firms exhibiting less than half of the return on investment and possessing roughly half of the capital reserves when compared to firms that do not engage in bureaucratic rehiring (see Table A4 for this data in tabular form).

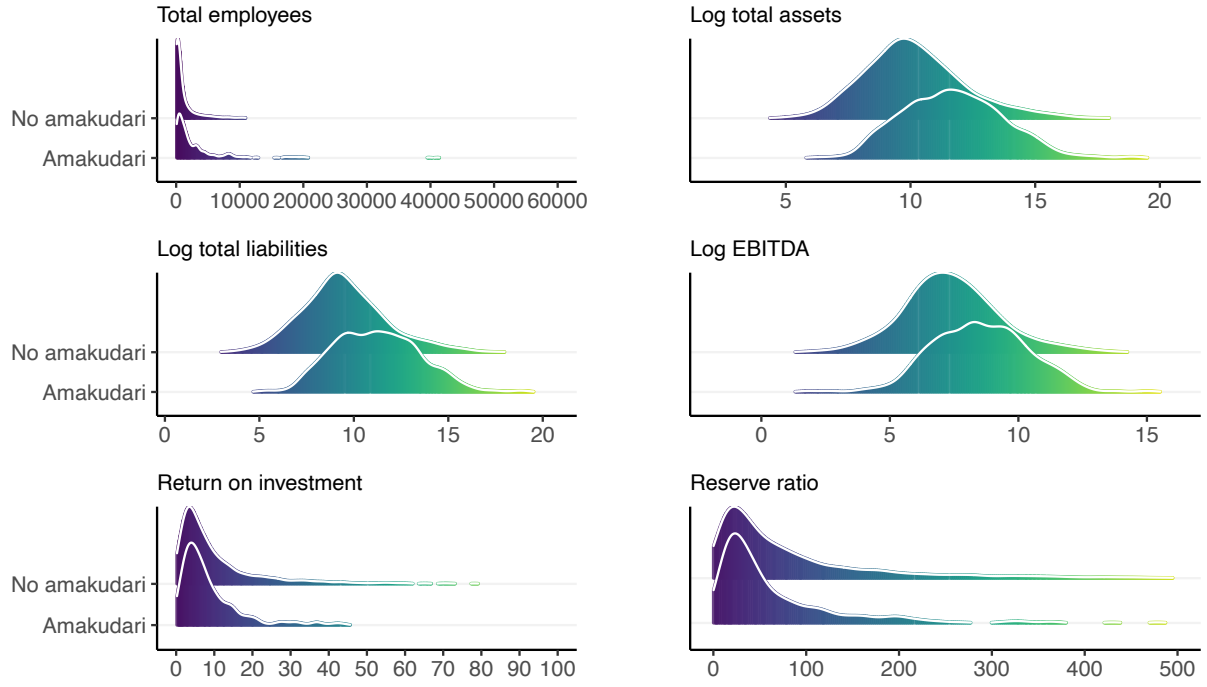


Figure 4: Distributions of financial indicators by *amakudari* status (2009-2019)

Note: Includes all firms for which financial data exists in the NEEDS.

Government loans

Previous literature has connected the hiring of former officials to the size of government loans received (Blumenthal 1985; Khwaja and Mian 2005), and the practice of "zombie lending" to under-performing firms has been criticized for reducing overall competitiveness among

Japanese firms (Ahearne and Shinada 2005). Interviewees revealed similar expectations, noting that *amakudari* could act as a lifeline to firms in need of government assistance or support. I therefore examine the value of government loans granted to firms before and after their first *amakudari* hire observed in our data. The analysis shows that the value of government loans received by firms that make *amakudari* hires increase relative to their matched controls in the years following the hire, and that these effects are driven by hires from prestigious economic ministries.

Data

I acquired time-series-cross-sectional (TSCS) data of all government loans to private firms in Japan between 2009-2019 from the NEEDS financial database. In addition, I collected data on corporate attributes and financials for each firm year. Notably, I posses data on assets, liabilities, revenue, earnings,[23] and number of employees, allowing for comparison of firms of similar size and performance. Descriptively, firms that make *amakudari* hires possess roughly 12 times the amount of debt from public sources as firms that do not make *amakudari* hires (see Table A5). While this is not surprising given that firms that hire former officials are on average larger, it is notable as *amakudari* hirers possess only 6 times the amount of private sector debt as their counterparts that do not make such hires.

Empirical strategy

As I posses data on government loans and firm financials for all firm-years present in the NEEDS database, I merge the dataset of *amakudari* appointments with this data of government loans and firm financials. I code all years prior to the first *amakudari* hire observed for each firm as 0 or "control," and the year of hire and all subsequent years as 1 or "treated."[24] As firms are considered always treated following their first *amakudari* hire, the percentage of firms treated is a strictly increasing function of time. As we can only observe the year

[23] EBITDA, or earnings before interest, taxes, depreciation, and amortization

[24] Figure A9 depicts the treatment or control status of each firm by year. Note that majority of firms remain in "control" for all time periods as the majority of firms do not make *amakudari* hires.

in which an *amakudari* hire was made, not how many former bureaucrats are currently on staff at a firm at a given time, this likely underestimates the actual effect of *amakudari* on size of government loans overall. If a firm already possesses former bureaucrats on staff, the estimates will capture the effect of an additional hire, rather than any hire.

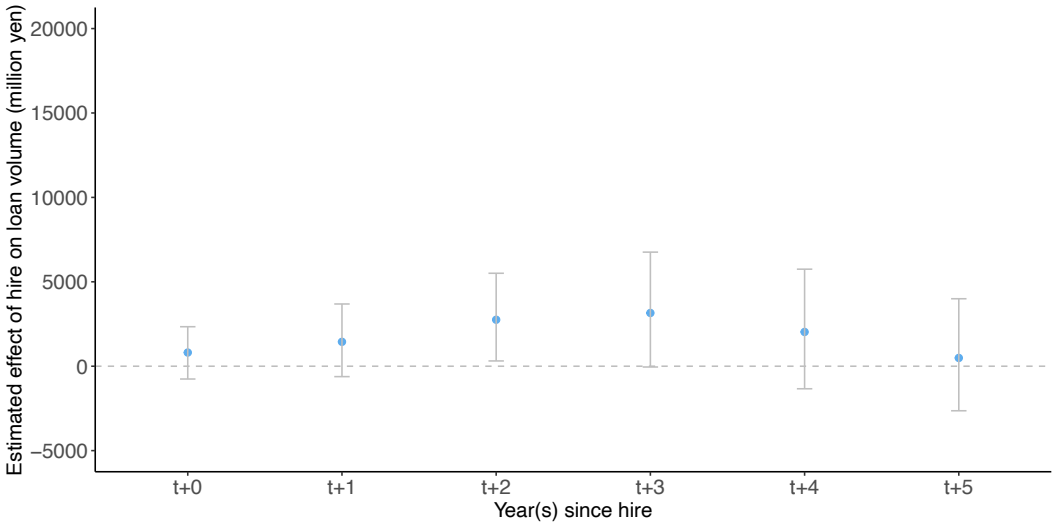
As noted in Corporate financials of amakudari hirers, the baseline financials of firms that make *amakudari* hires differ from those that do not. I therefore combine a DiD approach with matching methods in order to compare firms "treated" with former bureaucrats with similar "control" firms that do not make a hire, using the TSCS matching methods proposed by Imai, Kim and Wang (2019). Given that *amakudari* firms differ from non-*amakudari* firms across their firm fundamentals, I use mahalanobis distance matching rather than a propensity score approach, as this creates pairs that are close on these covariate values.

After matching control and treatment firms on covariates from other units with the same treatment status in the year prior to treatment (t_{-1}), I apply a DiD estimator to account for a time trend. This allows me to estimate a short-term and long-term average treatment effect (ATT) of a bureaucratic hire for the treated firms. I therefore estimate the change in loan volume among firms that switch from no observed hires in the year prior to one or more hires (t_{-1}) vs. the year of the hire (t_{+0}) and the subsequent five years ($t_{+1}...t_{+5}$), controlling for firm fundamentals via matching. For robustness, I also run the analysis requiring matching on covariates from other units with the same treatment status for additional years prior to treatment (e.g., t_{-1} *and* t_{-2}). Note, however, that increasing this required number of "lags" will necessarily increase uncertainty by reducing the number of matches and effectively decreasing sample size.

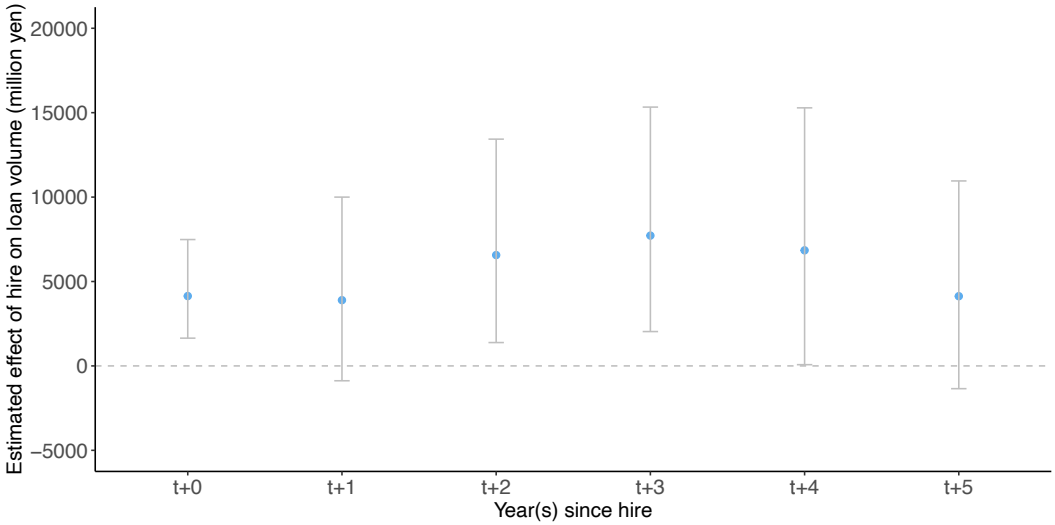
Results

Figure 5 shows that the value of government loans received by firms that make *amakudari* hires begins to increase relative to their matched control pairs until the third year following the hire, then government loan receipts begins to decrease and returns to baseline levels by

year five.[25] This increase is sizable, with the point estimate for years two and three following an *amakudari* hire representing an increase of roughly 3 billion yen in total loans held.[26]



(a) All bureaucratic hires



(b) METI and MOF hires only

Figure 5: Estimated effect of bureaucratic hires on size of government loan received, by year after hire.

Note: Tabular results can be found in Table A6 and Table A9.

In keeping with their roles as the purveyors of industrial policy and domestic financing,

[25] Figure A23 shows the degree to which covariate balance is improved by matching.

[26] Note, however, that the increase is not so large as to be qualitatively unreasonable, translating to 0.16 of a standard deviation of total liabilities among treated firms.

breaking apart the results by ministry suggests that hires from the METI and MOF are the most valuable in terms of securing government loans (see Figure 5b, Figure A10, Figure A11, Table A9, Table A7, and Table A8). By contrast, hires from other ministries do not appear to have any effect on the amount of government loans received in the years following an *amakudari* hire (see Figure A12 and Table A10).

Applying the same analysis to private sector loans reveals a negative—albeit not significant at conventional levels—relationship between hiring former bureaucrats and future receipt of private loans (see Figure A19 and Table A13). This suggests that firms may hire former bureaucrats in order to substitute away from private sector loans and towards public financing. However, it does not appear that government loans are necessarily going to Japan's famous "zombie" firms, as these firms are primarily supported by their private sector main banking partners (Nakamura 2023).[27][28]

Robustness

The results are not highly sensitive to the choice of matching covariates, and remain significant at the 5% level when extending the set of matching covariates to additional variables that are plausibly post treatment (leverage, reserve ratio, roe, and roi) (see Figure A18). Results also remain significant at the 1% level when expanding the lead window (i.e., the number of years after a hire in which the outcome is measured) and at the 6% level when reducing the lead window (see Figure A13). Requiring matches for two years prior to treatment yields a similar pattern of effects, although estimates are no longer significant at conventional levels due to increased uncertainty stemming from fewer matched pairs (see Figure A14 and Table A11). For METI and MOF hires only, the results remain significant at the 5% level in time period t_{+0} when requiring matches for two years prior to treatment, and at the 10% level when requiring matches for three years prior to treatment, but are not significant at

[27] I thank Jun-ichi Nakamura for providing me with the data to investigate the correlation between zombie firms and *amakudari* hiring.

[28] Note, however, this is somewhat tautological as most existing definitions of zombie firms use low-interest main bank loans as an indicator for zombie status.

conventional levels for subsequent periods (see Figure A16 and Table A12). Once again, uncertainty increases due to the smaller number of possible matches with increased lags and fewer possible outcome years. However, this analysis ensures by design that (matching) covariates do not exhibit diverging pre-trends up to and including four years prior to treatment.

To address concerns about pre-trends in the dependent variable, placebo tests examine the effect of treatment at time t on the difference in the outcome between the treated and control units for the pre-treatment periods (i.e., t_{-2} vs. t_{-1}, t_{-3} vs. t_{-1}, and t_{-4} vs. t_{-1}) for years t_{-2} for all bureaucratic hires (Figure A15), as well as t_{-2}, t_{-3}, t_{-4} for METI and MOF hires (Figure A17). In no instances is the effect of treatment on government loans at time t significantly different from zero for the treated and control units in any pre-treatment period. In addition, I examine whether treatment and control firms' covariates diverge in the years prior to hiring ex-bureaucrats (Figure A25 and Figure A26),[29] and demonstrate that even with one lag period, the outcome variable and pre-treatment covariates are not highly divergent in terms of pre-trends.[30]

Patterns of loan receipt remain constant regardless of choice of matching/refinement method.[31] Increased loan receipt from METI and MOF in time period t_{+0} remains significant at the 5% level across all specifications, and at either the 5% or 10% level in time period t_{+3} for all specifications that improve covariate balance (see Figure A21 and Figure A24). The results for METI and MOF at t_{+0} also remain significant at the 5% level after transforming the loan outcome variable using into either a binary outcome or taking the inverse hyperbolic

[29] As this is not possible to do naively for control firms (as they don't hire ex-bureaucrats), I conduct this analysis *within* the matched sets of firms, using the date of hire for treatment firms as the pre-trend cutoff and weighting the pre-treatment means among control firms by the equivalent weights used in the calculation of the post-treatment ATT.

[30] To the degree that there is divergence, the divergence is in the direction of growth, rather than firms on a downward trend seeking loans for rescue. This makes it unlikely that the loans occurred simply because firms on a downwards trajectory are more likely to seek them out. However, this raises the possibility that higher-performing firms may be more attractive to bureaucrats or have more capital on hand to hire bureaucrats.

[31] Mahalanobis, covariate balancing propensity score, marginal structural model covariate balancing propensity score weighting, or traditional propensity score.

sine (IHS).[32]

Reputation boosts and stock returns

If top former bureaucrats are perceived as beneficial to firms, we may observe boosts in stock prices in response to their hiring as investors reward firms for their recruitment. I therefore conduct an interrupted time series/event study analysis in which I test for abnormal changes in stock prices on the day a high-profile hire is made. However, more prestigious ministries such as METI and MOF may also be perceived as more valuable to firms due to their abilities to secure financing and contracts, and to influence economic and financial regulations.

There may also be variation in returns in terms of the type of position a bureaucrat occupies at their new firm. Interviews revealed differential expectations for the value of *amakudari* hires by the type of role they occupy at a firm. A director at an executive consultancy suggested that outside directors were "probably negatively correlated with the profitability of a company" (Author Interview N1c), an executive at a major consulting firm suggested that "government outside directors have no meaning" as they lack business experience (Author Interview D1c), and analysts from a boutique investment firm claimed that government outside directors lowered return on equity (Author Interview J1a). Top bureaucrats are hired in four primary capacities according to our data: as advisors, executives, managers, and outside directors.[33] I therefore conduct the analysis separately for internal (advisor, manager, and executive) and corporate governance (i.e., directors) related appointments due to these different expectations of the usefulness of these positions.

[32]This test is added due to potential concerns about the skewed nature of the distribution of government loans across firms. However, as the non-parametric matching-based estimator does not rely on distributional assumptions about the outcome variable, a transformation of the outcome variable is not required for unbiased estimation. Additionally, untransformed the ATT remains interpretable in the original units of the outcome — in this case, loan volume, and the level-based functional form is chosen based on the expectation of additive common trends (McConnell 2024).

[33]A 2019 law requires Japanese corporations to have at least one outside director on their executive board. The justification for this law is that outside directors provide more independent management oversight, improving corporate governance and providing more objective feedback on strategic decisions. An increasingly large number of outside directors have been drawn from the public sector.

Data

In order to estimate financial value of political connections to firms that make *amakudari* hires, I first examine the full sample of high-profile hires (i.e., vice minister or assistant vice ministers) into publicly traded firms. I restrict the sample to vice-ministerial and assistant vice-ministerial appointments for two reasons: (1) these individuals are likely to have the largest impact due to their high level of influence, and (2) top appointments are reported in newspapers, and such announcements are necessary to identify an event day for an interrupted time-series estimation strategy. I therefore examine changes in stock returns on the day these hires are announced in Japan's largest business newspaper, the *Nihon Keizai Shimbun*. In total, I identified 47 events made public in newspaper reports. Stock price data are adjusted closing prices from *Yahoo Finance* for publicly traded firms.

Empirical strategy

I estimate cumulative abnormal returns using a market-model event study approach, which measures the stock valuation effects of a corporate event at the time of the event (i.e. a local average treatment effect). This is an interrupted time series model

$$R_{it} = \alpha_i + \beta_i R_{Mt} + \epsilon_{it}$$

where R_{it} captures the returns to firm i at time t, R_{Mt} is the return on the market portfolio (here the Nikkei 225 index) at time t, and ϵ_{it} captures returns to firm i at time t that can be considered "abnormal" (above and beyond changes in the market porfolio R_{Mt}). The key quantities of interests are therefore the cumulated ϵ_{it} time series, conventionally referred to as "cumulative abnormal returns" (CARs), and specifically the CAR on the day of the hiring announcement. I calculate 95% confidence intervals using the bootstrap as it is free from distributional assumptions.

This short time window of one day mitigates endogeneity concerns as confounding events would need to also occur on the same day, and do so for a large portion of all of our

independently tested events in order to influence the estimates.[34] I nevertheless also present a number of robustness checks to mitigate these concerns in the appendix.[35]

Results

Overall, Figure 6 shows a slightly positive impact of top hiring on firm returns (event day CAR = +1.24, 95% CI = [-0.1, 2.6]). However, this aggregate analysis masks important variation by both the ministry that was the source of the hire, as well as the type of position the official was recruited for. In terms of ministries, investors also appear to react positively to recruitment from METI relative to other ministries (CAR = +2.34 , 95% CI = [0.71, 4.01]) see Figure A28 and Table A18).

The event study results corroborate claims that different types of hires may be valued differently. Figure 6—which depicts cumulative abnormal returns on the day a hire appears in Japan's largest financial newspaper—provides suggestive evidence that direct hires are perceived favorably by investors, but that monitoring roles have little effect on stock returns. However, this aggregate analysis masks a near zero and null effect of director appointments, and a larger positive effect of roughly 2.2% for direct internal roles (event day CAR = +2.16, 95% CI = [0.71, 3.5]).[36]

These findings are notable as previous research has found that markets react favorably to the appointment of outside directors, especially those perceived as independent (Nguyen and Nielsen 2010; Rosenstein and Wyatt 1990). Directors from the bureaucracy may therefore not be perceived as offering the same kind of effective independent oversight and industry expertise, but rather as "yes-men" for the corporation. By contrast, internal hires may bring tangible benefits such as regulatory expertise, connections to contract granting agencies, or expertise regarding loan receipt stemming from their ministerial connections.

[34]For example, for the estimates to be driven by the effect of competitor bankruptcies, this would imply that independent competitors would need to go bankrupt *on the day of the hire* for a large enough sample of hires—e.g. 20 times—to influence the aggregate estimate.

[35]Specifically, I implement a time shifted placebo analysis, use a constant mean return model rather than a market model, and test for significance using a classic t-test and Wilcoxon rank test.

[36]The sample size of successful events is 19 for directors (17 outside and 2 internal), and 25 for internal hires (11 consultant, 11 executive, and 3 managerial positions).

In short, I find evidence that investors may view high level bureaucratic hires as indicative of positive future financial performance, but through the mechanism of internal connections rather than corporate governance and oversight. In addition, the most prestigious ministries such as METI again appear to be the drivers of value.

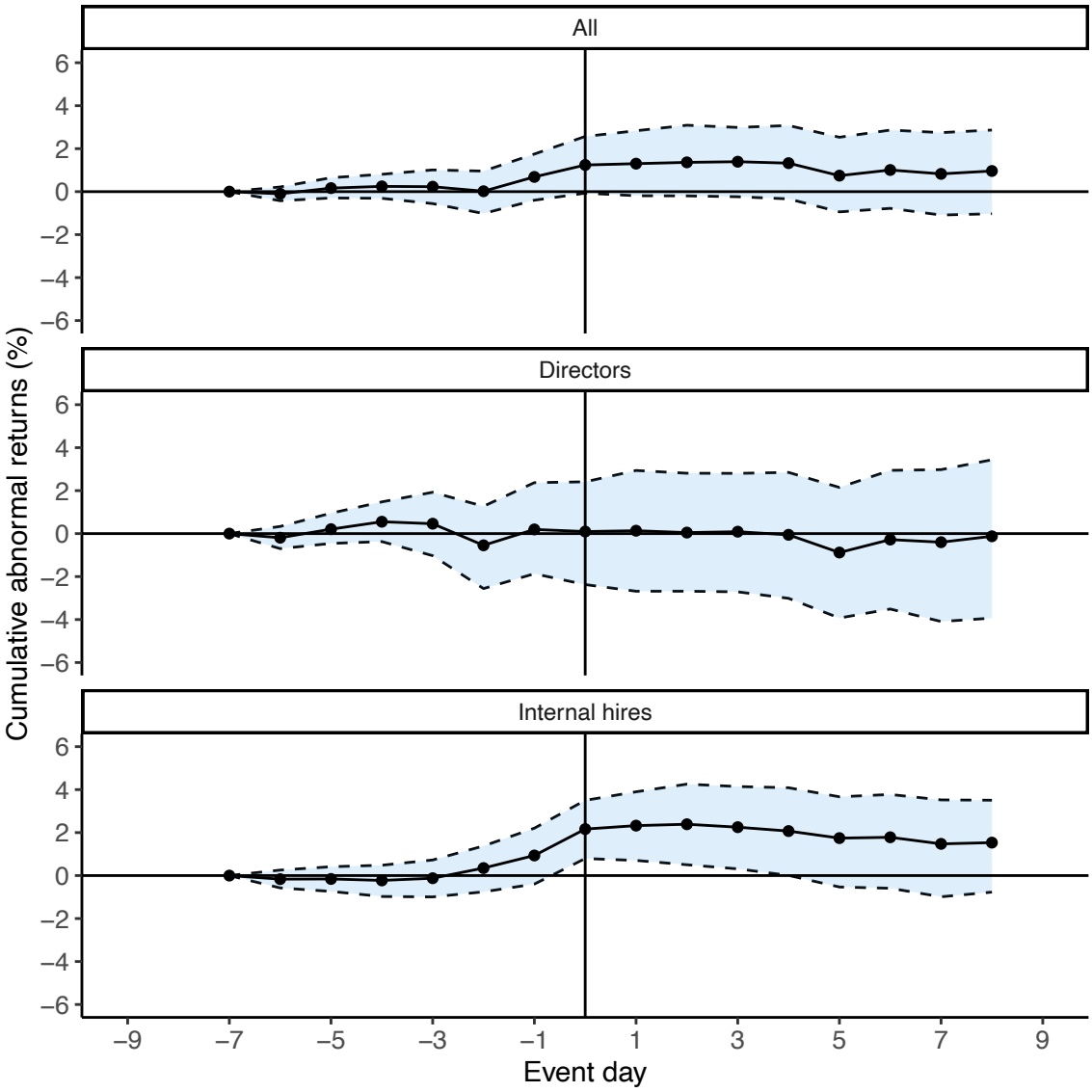


Figure 6: Cumulative abnormal returns from assistant vice-minister and vice-minister appointments

Note: Tabular results can be found in Table A14, Table A15, and Table A16.

Robustness

Three potential inferential threats to the event study estimates are: (1) the CARs are driven by factors unrelated to *amakudari* hires, (2) the effects are underestimated as investors knew about the appointments prior to the news releases, and (3) model misspecification.

To address the first concern, I re-estimate CARs while substituting the real event dates with time-shifted placebo dates. I shift the actual event days forward and backward by the following daily increments: -200, -100, -50, -25, -10, -5, 5, 10, 25, 50, 100, 200. We should not observe significant abnormal returns when performing an identical test on dates where no hire occurred, as this would raise concerns that the abnormal returns were caused by factors other than the hires. There are no significant CARs on any shifted dates except when shifted backwards by 50 days and forward by five days. The results at -50 days are negative and sensitive to changes in the event window, and results at +5 days are at a time in which abnormal returns are still positive and volatile (see Figure A29 and Figure 6).

There is some evidence that investors may have information about hires prior to the dates identified from newspaper reports given positive trends in the pre-event period. However, while such *a priori* information may call our exact point estimates into question, it would cause an underestimation of the magnitude of the effect on the event day.

To gauge the sensitivity of the estimates to changes in model specification, I re-calculate all estimates using a constant mean return model (i.e., with no market index control), calculate confidence intervals using the classic t-test and the Wilcoxon rank-test,[37] and estimate effects using additional event windows. Estimates remain virtually unchanged using the t-test, Wilcoxon rank test, and using different event windows (Figure A31, Figure A32), and significance levels increase using a constant mean return model (Figure A30).

[37]The Wilcoxon rank test is a non-parametric statistical technique that can be used to compare differences between matched samples.

Beyond for-profit firms: benefits to nonprofits

Roughly half of civil servants initially take up posts in the nonprofit sector after leaving the bureaucracy (see Figure 1). While civil servants joining NPOs is qualitatively well-documented, the data reveal the scale of the phenomenon, the patterns of employment that take place, and the volume of contracts these organizations receive. Particularly striking are the direct pipelines of civil servants that flow from specific ministries to specific nonprofit "public interest corporations" each year (see Figure A4). For example, the Japan Forest Foundation[38] hired 41 officials from the MAFF from 2009-2019, and in the same period received 305 contracts from MAFF totaling over 2.5 billion yen. Similarly, the Japan Construction Information Center[39] hired 21 officials from MLIT and received 67 contracts totaling over 1.15 billion yen, 48 and 1.07 billion yen of which came from MLIT.

In order to systematically test if the pipelines of revolving door hiring from ministries to NPOs are providing tangible benefits to NPOs, I therefore used new data on all subsidies and contracts granted to NPOs and a two-way-fixed-effects (TWFE) estimation strategy to examine if NPOs receive higher value contracts when former officials are in director positions at their organizations.

Data

The Japanese Cabinet Office (CAO) collects and reports data on all subsidies and contracts granted to NPOs in a given year, which were scraped, cleaned, and compiled into a publicly available dataset of approximately 25,000 contracts and subsidies from ministries to the NPOs. For non-competitive-bid (i.e., negotiated) contracts, this data includes the total number of government re-employees from the Ministry that granted the contract at the NPO at the time of the contract. The data includes the name of nonprofit or public corporations in months in which a contract was granted—in other words, the universe of all contracts

[38] Japanese name: 一般財団法人日本森林林業振興会 (*ippanshadanhōjin nipponshinrinringyōshinkōkai*)
[39] Japanese name: 一般財団法人日本建設情報総合センター (*ippanshadanhōjin nipponkensetsujyōhōsōgōsentā*)

granted over a 10 year period, regardless of whether or not a former bureaucrat was on staff at the time the contract was granted. [40] [41]

This data has additional benefits over the dataset of initial *amakudari* appointments used in the previous loan and stock price analyses. The data of yearly *amakudari* appointments used in the loan and stock price analyses only allows us to observe how many individuals took their first post-bureaucracy appointment in a firm in a given year, not the total number of *amakudari* on staff in a given year. By contrast, the CAO reports allow us to view the total number of former bureaucrats currently at the nonprofit at the time of the contract.

Recall that officials cannot join organizations with which they had a direct working relationship for two-years following their initial retirement from the bureaucracy. NPOs are subject to this same two-year cooling off period, during which time they cannot hire former bureaucrats who were directly involved in the disbursement of government contracts or subsidies. Knowing the total number of bureaucrats on staff at any given time therefore allows us to view the value of contracts granted both when nonprofits have no government re-employees on staff, as well as when they do. Importantly, this includes bureaucrats whose initial appointment was not with the NPO, but instead joined the NPO after their two year cooling off period ended.

Empirical strategy

The NPO contract data takes the form of an unbalanced panel in which NPO-contract dates are observed at unevenly spaced intervals. In other words, I only posses data for months in which a contract was granted, and contracts are not granted to all NPOs in all months. In addition, units are "treated" with former bureaucrats on staff at different points in time, and units can switch from control to treatment *and* from treatment to control.

As I have no covariates to rely on for NPOs,[42] I cannot employ the same matching-

[40] Data on number of re-employees does not exist for subsidies or competitive bid contracts.

[41] Note that this implies that even the CAO monitors and tacitly acknowledges that the connections former officials bring to nonprofits may aid them in securing contracts, particularly for contracts that are not subject to a competitive bidding process.

[42] NPOs are not listed in NEEDS, and no central database of NPO attributes exists according to nonprofit

adjusted DiD design that was used for government loans. This places us in the realm of traditional TWFE estimators. However, a flurry of recent findings have shown that coefficients from TWFE models traditionally used in these cases may not represent an average of unit-level treatment effects when treatment effects are heterogeneous across time or units (as in this case). In particular, an influential paper by de Chaisemartin and D'Haultfœuille (2020) shows that TWFE models can even lead to the coefficients having the opposite sign of each of the unit-level treatment effects, as TWFE estimates are a weighted average of unit-level treatment effects and these weights can sometimes be negative due to differences in the timing of treatment or heterogeneity amongst units.

I therefore adjust my estimation strategy and use the DID_M[43] estimator proposed by de Chaisemartin and D'Haultfœuille (2020) in order to estimate the ATT. The DID_M estimator compares outcomes among groups whose treatment status switches between time $t-1$ and t, and control groups whose treatment status remains constant in time $t-1$ and t. The DID_M estimator therefore accounts for our data structure as it relies on first differences only. Formally, the DID_M estimator can be described as

$$ATT = \mathbb{E}[Y_{it}(1) - Y_{it}(0)|(D_{i,t-1} = 0, D_{i,t} = 1 \ or \ D_{i,t} = 1, D_{i,t+1} = 0)]$$

where Y are potential outcomes and D is the treatment status of unit i in time t. The DID_M estimator is then equivalent to the average of the DIDs across all pairs of consecutive time periods and across all values of the treatment. The DID_M estimator also accommodates both binary and continuous treatments, allowing us to estimate the effect of any *amakudari* appointments on contract value, as well as the marginal effect of an additional *amakudari* appointment on contract value. The treatment effect can therefore be interpreted as the average effect of the treatment on the units that experienced a change in treatment status—specifically, "switchers in" to treatment or "switchers out" of treatment. Note that this does not necessarily imply an immediate effect within a given month, but rather the

experts (Author Interview J2b).

[43] M here stands for "multiple."

effect on contract value compared to previous periods when no bureaucrats were on staff.[44]

For robustness, I include "placebo" estimates of the ATT for -3, -2, and -1 periods before treatment as a check of whether outcomes for the treated and comparison groups move in parallel prior to the staggered treatment periods. I also apply a number of other recently developed TWFE estimators that (like the DID_M esimator) account for negative weighting and allow treatment status to switch back and forth. Specifically, I use the estimators referred to by Liu, Wang and Xu (2021) as: the fixed effects counterfactual estimator (FEct), the interactive fixed effects counterfactual estimator (IFEct), and the matrix completion (MC) estimator.[45] In addition, I provide estimates using a traditional two-way (i.e., unit and time) fixed effects estimator. Finally, I run all models including both a log-transformed outcome variable and in levels.

Next, I apply Benford's Law to the value of contracts with *amakudari* bureaucrats as well as those without.[46] Benford's Law is used in forensic accounting to examine discrepancies in the natural probability of leading digits appearing in data—i.e. numbers beginning with 1, 2, 3, etc. If contracts negotiated without former bureaucrats on staff conform with Benford's Law while contracts negotiated with former bureaucrats on staff do not, this would suggest a more competitive negotiation process for non-connected NPOs on the one hand, and evidence of contract price fixing for connected NPOs on the other. To investigate this possibility, I examine the mean absolute deviation (MAD) of leading digits in contract values compared to the predicted frequency according to Benford's Law, for which Nigrini (2012) has proposed critical scores for conformity and nonconformity with Benford's Law.

[44]The timing of the bureaucratic hire compared to the timing of contract negotiation is unknown—the bureaucrat could have been hired at any point between the negotiation of a previous contract and the current.

[45]I do not go into detail regarding these estimators here. However, FEct was proposed by Liu, Wang and Xu (2021), Borusyak, Jaravel and Spiess (2021), and Butts and Gardner (2021); IFEct was proposed by Gobillon and Magnac (2016) and Xu (2017); and MC methods were proposed by Athey, Bayati, Doudchenko, Imbens and Khosravi (2021) and Kidzinski and Hastie (2018).

[46]I thank Yusaku Horiuchi for this suggestion.

Results

When examining initial appointments immediately following retirement from the bureaucracy only, I find a near zero and null effect of bureaucratic rehires on government contract value for both all subsidies and contracts as well as negotiated contracts only. However, when using the total number of bureaucratic employees at the time of the contract as the dependent variable, I find a positive and statistically significant increase in the value of negotiated contracts granted to nonprofits with *amakudari* appointees (see Figure 7). Estimates using yearly aggregated data, alternate functional forms, and using the FEct, IFEct, MC, or traditional TWFE estimators corroborate these estimates in terms of sign, magnitude, and pre-trends, and can be found in Figure A34 and Figure A35.[47]

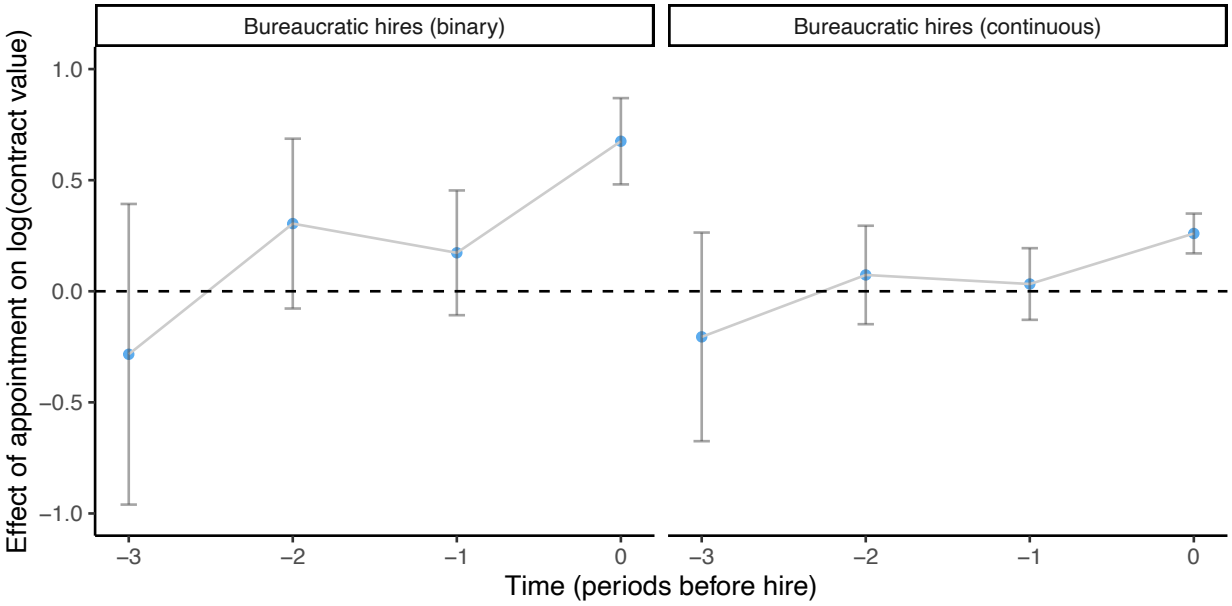


Figure 7: Effect of *amakudari* appointments on NPO negotiated contract value
Note: Tabular results can be found in Table A20 and Table A21.

These results suggest that bureaucrats may be waiting until after the end of their two-year cooling off period to join nonprofits, at which time they can use their connections to exhibit influence on contract negotiation. As the Cabinet Office NPO data only includes

[47]The results also emain substantively unchanged across functional forms. Analysis using non-transformed data benefit of being interpretable in terms of levels, and indicate that the presence of a bureaucrat in a director position is worth approximately 50 million yen in additional contract value.

director level appointments, it is also possible that only these high-level appointees posses the connections needed to negotiate higher contract values.

Additional evidence of the potential influence of former bureaucrats on contract value can be found through the application of Benford's Law. Based on Nigrini (2012)'s critical MAD scores, competitive bid contracts exhibit "close conformity" with Benford's Law, while negotiated contracts exhibit "marginally acceptable conformity," and negotiated contracts with former bureaucrats on staff exhibit "nonconformity." This suggests that negotiated contracts between former officials in particular may not be subject to hard bargaining. Visual depictions of the leading digit of contract values as predicted by Benford's Law and as observed in the NPO contract data can be found in Figure A36.

Discussion and conclusion

This paper provides the first systematic analysis of all initial revolving door placements from the bureaucracy to post-bureaucratic employment in any country, leveraging a novel, comprehensive dataset of post-bureaucracy employment in Japan. By combining this data with government loan and contract records, financial outcomes, and qualitative interviews, I analyze both the structure and economic consequences of Japan's revolving door.

Theoretically, this paper puts forward a new framework for understanding the role of the revolving door in bureaucratic systems with relatively limited compensation when compared to the private sector—institutional features of bureaucratic systems in many advanced democracies. Rather than viewing post-bureaucratic employment solely as a means for firms to gain influence, I argue that the revolving door is an important recruitment tool for ministries. Because information about a bureaucrat's rank at retirement is unavailable at the time of hiring, the system virtually guarantees all recruits some form of lucrative or secure post-retirement employment. This helps the civil service attract top talent who might otherwise choose more lucrative private sector careers from the outset. In support of this theory, I show that higher-ranking bureaucrats are more likely to be hired into for-profit firms that

may value their prestige or influence, while lower-ranking bureaucrats are more likely to move into quasi-governmental and nonprofit organizations, many of which receive significant government contracts or funding. This makes the revolving door not only a possible post-bureaucratic career benefit, but also an integral part of the bureaucratic compensation structure and recruitment pipeline.

Empirically, I find that nearly half of all revolving door hires occur in the nonprofit or public sector, and that these hires are disproportionately lower-ranking bureaucrats and those from less prestigious ministries. Ministries appear to create revolving door opportunities for lower-ranking staff by channeling funds into connected nonprofits, creating demand where private sector demand is absent. Difference-in-differences methods show that nonprofits with ex-bureaucrats on staff receive more generous government contracts. In the private sector, firms that hire high-ranking former bureaucrats—particularly from powerful economic and financial ministries such as METI and MOF—receive larger volumes of government loans, consistent with utilizing the revolving door for rent extraction. Event studies also show that these appointments generate positive stock market reactions, indicating that investors recognize their value. These findings reveal the consequences of an institutionalized bureaucratic revolving door system where individuals do not cycle back into public office.

The one-way nature of Japan's revolving door distinguishes it from other well-studied systems. For example, in France, the United Kingdom, and the United States, bureaucrats and politicians may move repeatedly between the public and private sector, or hold dual roles (if they are politicians), raising concerns about regulatory capture due to socialization, future political ambition, or conflict of interest. In Japan, however, bureaucrats exit public service upon retirement, and their incentive structure while in office is driven by the need to secure stable post-retirement employment—especially given early mandatory retirement and comparatively low public salaries. As a result, Japanese bureaucrats may tailor policy, resource allocations, or regulatory decisions to appeal to potential post-retirement employers, not because of reelection incentives or campaign contributions, but for employment security.

Although Japan's system is shaped by unique institutional and cultural factors, the underlying mechanisms are not likely to be unique. Countries with shrinking bureaucratic prestige, rising public-private pay gaps, and tightening retirement benefits may increasingly rely on revolving doors to sustain bureaucratic recruitment. Indeed, calls to institutionalize revolving door systems have recently emerged in countries like the United Kingdom, where officials note that without such mechanisms, government service will fail to attract top talent. Research shows that more prestigious UK departments are also more likely to feed into revolving door positions in the private sector (Andrews and Beynon 2024). As protections for civil servants are eroded in the United States, Departments may increasingly need to market the possibility of post-bureaucracy positions to retain recruitment. These trends suggest that Japan's model may foreshadow broader patterns in advanced democracies where the state's capacity to compete for expertise increasingly depends on informal compensation structures.

In the Japanese context, these dynamics intersect with broader issues such as the welfare state and economic stagnation. Government-connected nonprofits may serve as a public-sector analog to the "zombie lending" practices of providing low-interest government loans to uncompetitive firms in Japan's private sector. Informal "contracts" such as quasi-guaranteed post-retirement positions may function as a backdoor safety net and alternative to expanded programmatic welfare transfers—providing employment to former bureaucrats while channeling funds into politically connected organizations. This echoes previous arguments that Japan's response to economic stagnation has involved sustaining employment and institutional stability through informal channels, even at the cost of efficiency (Caballero, Hoshi and Kashyap 2008). Like the private sector case of providing zombie lending to ensure stable employment, it is unclear whether costs in terms of efficiency or resource misallocation outweigh the benefits of reduced unemployment, more successful bureaucratic recruitment, and increased worker motivation. Nonetheless, as the bureaucracy has lost prestige compared to the heyday of Japan's rapid economic development and the pay gap with the private sector

has grown for elite bureaucrats, theoretical expectations are that the maintenance of this system will become even more critical in order to guarantee new hires lucrative post-retirement positions.

From a policy perspective, this paper also highlights how transparency is undermined not only by secrecy but by fragmented and inconsistent reporting. While Japan formally discloses bureaucratic retirement data, it is dispersed across thousands of files and databases with irregular formatting. This makes it difficult for the public to trace patterns of influence or accountability. Reforming such data systems is an essential step toward meaningful transparency and oversight—not just in Japan, but in any system looking to trace the influence of institutions.

Finally, this research opens several avenues for future investigation. First, while I examine domestic outcomes such as loans and contracts, I do not study how revolving door hires affect international business strategies, regulatory alignment or language, or trade outcomes. The effects of the revolving door in international arenas and on regulatory policy decisions remain an important area for further theoretical development and empirical analysis. Second, cross-national comparisons of revolving door systems can help clarify the conditions under which revolving doors serve as tools of influence, mechanisms of state capacity, or both. I hope the public data and theoretical contributions offered here serve as a foundation for future research.

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Part II
Supporting Information

How firms, bureaucrats, and ministries benefit from the revolving door: Evidence from Japan

Table of Contents

Examples of data sources

Table A1: Amakudari dataset example

date_ret	agency	ministry_short	firm_dest_en	firm_type1_en	tse_code
2012-11-01	Aeronautical Safety College	MLIT	AIRCRAFT SAFE OPERATIONS SUPPORT CENTER	Foundation	-99
2013-10-01	Securities and Exchange Surveillance Commission	MOF	JAPAN SECURITIES DEALERS ASSOCIATION	Other association	-99
2015-06-23	Fisheries Agency	MAFF	KENKO MAYONNAISE	Stock company	2915
2016-06-23	National Tax Agency	-99	JAPAN BANK FOR INTERNATIONAL C	Stock company	-99
2015-11-01	Minister's Secretariat	MLIT	ADVANCED CONSTRUCTION TECHNOLOGY CENTER	Foundation	-99
2018-07-01	Japan Coast Guard	MLIT	NARITA INT.AIRPORT	Stock company	-99
2016-10-01	Minister's Secretariat	METI	DAIDO STEEL	Stock company	5471
2013-07-01	Minister's Secretariat	MLIT	NARITA INT.AIRPORT	Stock company	-99
2013-05-01	Public Employment Security Office	MHLW	OKAZAKI SHINKIN BANK	Shinkin bank	-99
2018-07-01	Japan Coast Guard	MLIT	JAPAN MARINE RECREATION ASSOCIATION	Foundation	-99
2015-10-01	Minister's Secretariat	MOF	SMBC CONSULTING	Stock company	-99
2017-10-01	Japan Customs	MOF	CANON	Stock company	7751
2015-04-01	Nature Conservation Bureau	MOE	REGIONAL COEXISTENCE AND SOCIETAL COOPERATION ASSOCIATION	Incorporated association	-99
2017-08-01	General	MAFF	MSandAD INSURANCE GROUP HOLDINGS	Stock company	8725
2016-06-22	Statistics Bureau	MIAC	INFOCOM RESEARCH	Stock company	-99
2015-12-01	Administrative Evaluation Bureau	MIAC	NEC	Stock company	6701
2016-07-01	Regional Development Bureau	MLIT	COASTAL DEVELOPMENT INSTITUTE OF TECHNOLOGY	Foundation	-99
2012-01-01	Civil Aviation Bureau	MLIT	RELIABILITY ENGINEERING FOUNDATION FOR AIR NAVIGATION FACILITIES	Foundation	-99
2011-06-01	Japan Coast Guard	MLIT	SANKYU	Stock company	9065
2011-09-01	National Tax Agency	-99	TEIKYO UNIVERSITY	Educational institution	-99
2015-06-26	Minister's Secretariat	METI	SHIMADZU	Stock company	7701
2012-01-01	Japan Coast Guard	MLIT	COMPUTER INSTITUTE OF JAPAN	Stock company	4826
2018-01-01	National Tax Agency	-99	MITSUI FUDOSAN	Stock company	8801
2015-01-01	Vice-Minister for Policy Coordination	MIAC	AKTIO	Stock company	-99
2012-10-01	Japan Customs	MOF	ALL NIPPON AIRWAYS	Stock company	-99
2011-07-01	Maritime Affairs Bureau	MLIT	MARITIME HUMAN RESOURCE INSTITUTE	Foundation	-99
2011-06-01	Regional Legal Affairs Bureau	MOJ	JAPAN ASSOCIATION FOR PUBLIC HUMAN RESOURCES DEVELOPMENT	Foundation	-99
2018-07-01	Japan Coast Guard	MLIT	WAKACHIKU CONSTRUCTION	Stock company	1888
2013-07-01	Regional Development Bureau	MLIT	JAPAN FEDERATION OF CONSTRUCTION CONTRACTORS	Incorporated association	-99
2013-11-01	Rural Development Bureau	MAFF	MAEDA	Stock company	1824
2014-06-01	Industrial Science and Technology Policy and Environment Bureau	METI	TOKYO UNIVERSITY OF SCIENCE	Educational institution	-99
2016-04-01	Industrial Safety Supervisory Bureau	METI	MITSUBISHI MATERIALS	Stock company	5711
2014-09-01	Small and Medium Enterprise Agency	METI	OSAKA UNIVERSITY	Educational institution	-99
2013-11-01	Science and Technology Policy Research Institute	MEXT	NATIONAL GRADUATE INSTITUTE FOR POLICY STUDIES	Educational institution	-99
2016-06-22	National Tax Agency	-99	JMS	Stock company	7702
2018-07-01	National Research Institute of Fire and Disaster	MIAC	ENEOS HOLDINGS	Stock company	5020
2010-10-01	Manufacturing Industries Bureau	METI	INTERNATIONAL BUSINESS MACHINE	Stock company	-99
2014-07-01	Japan Coast Guard	MLIT	TOKYO GAS	Stock company	9531
2013-07-15	Kyushu Regional Agricultural Administration Office	MAFF	MIRAI GROUP	Stock company	-99
2017-06-01	Minister's Secretariat	-99	J-OIL MILLS	Stock company	2613
2018-05-24	Public Prosecutors Office	MOJ	FAMILYMART	Stock company	-99
2017-11-01	Japan Customs	MOF	SOJITZ	Stock company	2768
2015-10-01	Japan Fair Trade Comission	-99	NIPPON TELEGRAPH AND TELEPHONE	Stock company	-99
2017-05-01	Japan Meteorological Agency	MLIT	JAPAN METEOROLOGICAL BUSINESS SUPPORT CENTER	Foundation	-99
2015-11-01	Labor Standard Bureau	MHLW	HEALTH AND SAFETY TECHNOLOGY EXAMINATION ASSOCIATION	Foundation	-99
2017-12-01	General	MHLW	TORAY INDUSTRIES	Stock company	3402
2018-09-01	Japan Customs	MOF	SANKYU	Stock company	9065
2011-04-01	Japan Meteorological Agency	MLIT	JAPAN METEOROLOGICAL BUSINESS SUPPORT CENTER	Foundation	-99
2018-06-01	Minister's Secretariat	MLIT	NATIONAL GRADUATE INSTITUTE FOR POLICY STUDIES	Educational institution	-99
2017-10-30	National Tax Agency	-99	TKC	Stock company	9746

Additional literature on *amakudari*

Previous literature — empirics

Few empirical studies examine correlations between *amakudari* and specific outcomes, and those that do rely on convenience samples. These studies find that: between 2001-2004 firms with former bureaucrats from the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) on staff were more likely to win bids for government contracts from MLIT (Asai, Kawai and Nakabayashi 2021), that 125 regional banks that hired 200 officials from the Ministry of Finance (MOF) between 1977 and 1991 tend have reduced capital adequacy levels and more non-performing loans (Horiuchi and Shimizu 2001), and that 266 banks with 204 MOF and Bank of Japan *amakudari* officials on their boards of directors between 1977-1993 had lower profits and engaged in more risky lending (Van Rixtel 2002).

Past empirical analyses therefore suggest that *amakudari* is not a practice regularly undertaken by the highest performing or most dynamic firms—a view shared by many interviewees. A review of the literature on *amakudari* concludes that "despite the longstanding interest and sometimes heated debate of scholars, one of the most striking things about this literature is the lack of serious data analysis" (Grimes 2005). Theoretical benefits of *amakudari* to firms therefore remains a subject of debate, and empirical adjudication is limited.

Previous literature — institutional details

Additional literature addresses which bureaucrats and/or ministries want to send officials to which organizations, which organizations desire which bureaucrats, and how the process in which bureaucrats get matched to organizations happens. Mizoguchi and Van Quyen (2012) model *amakudari* as an auction in which the ministry asks each of the firms that are interested in obtaining the service of the retiring bureaucrat for its valuation of the bureaucrat, and then chooses the firm with the highest virtual valuation. They conclude that firms that make risky investments and/or need bailouts or desire government contracts should be willing to pay top dollar for high-ranking Ministry of Finance and Ministry of Economy, Trade, and Industry bureaucrats. Blumenthal (1985) similarly concludes that "when companies get into trouble, outside managers are sought to solve the problems," and that top economy ministry bureaucrats are desired as managers in these cases. Usui and Colignon (1995) argue that *amakudari* is valuable for firms that wish to "absorb the uncertainties of markets and government contract allocations," and that "the high quality of MoF and MITI [now METI] officials and their networks of information make retiring bureaucrats from these two ministries attractive for private companies to hire."

In terms of which bureaucrats want to go to which organizations and the process in which bureaucrats get matched to organizations, the majority of the literature assumes that bureaucrats want to go to the organizations that will pay them the most. Usui and Colignon (1995) suggest that future analysis could "examine the supply and demand or push and pull sides of the process by identifying the relationships between each ministry and each private firm, for each *amakudari* placement," but to my knowledge such a study has not been conducted.

Additional descriptive statistics

Retirements by firm and firm type

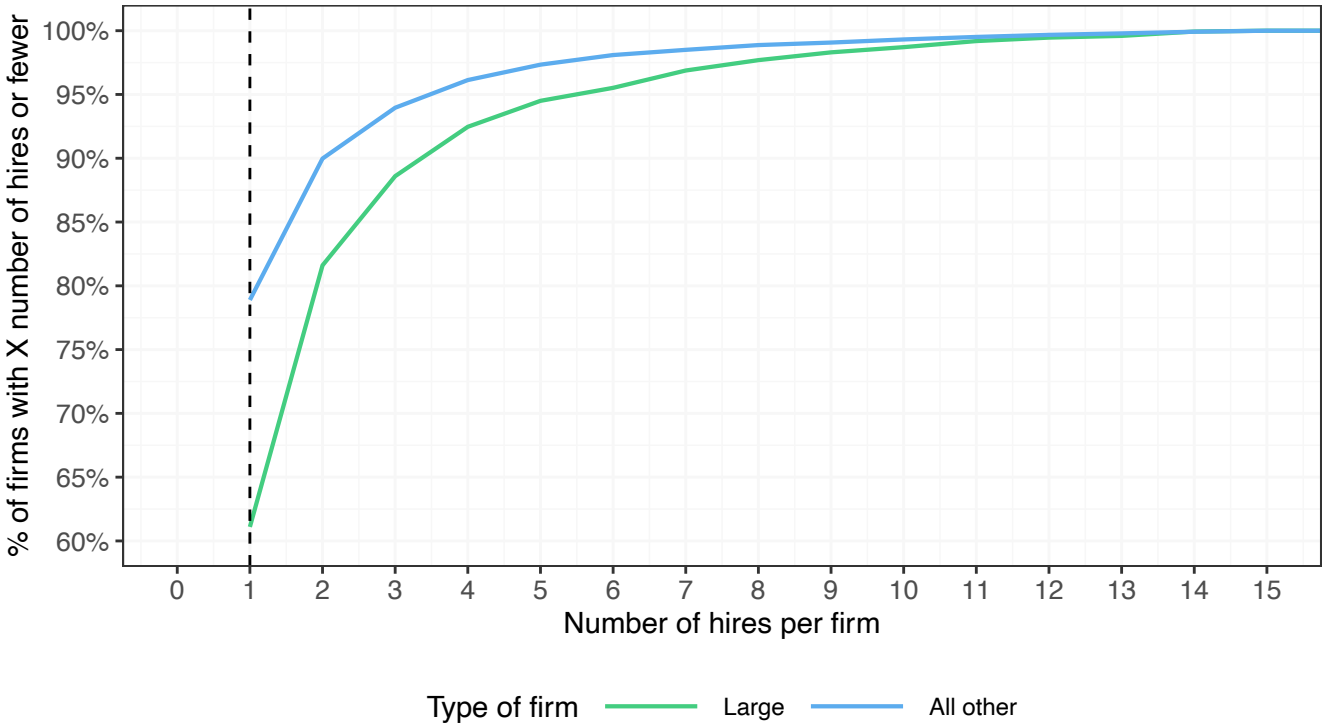


Figure A1: Empirical cumulative distribution function of number of hires per firm

Note: Large firms are those listed in the Nikkei NEEDS financial database.

Retirements by industry

Industry	Count amakudari	Percent of firms	Percent of amakudari	Difference
Services	474	15.9	14.6	-1.3
Finance	262	3.7	8.5	4.8
Construction	259	9.7	8.5	-1.2
Banks	255	0.6	7.8	7.2
Insurance	248	0.3	3.7	3.4
Land Transportation	243	2.8	5.8	3.0
Electric Appliances	196	4.1	5.1	1.0
Wholesale Trade	167	16.3	5.2	-11.1
Warehousing and Harbor transportation	128	1.6	4.5	2.9
Real Estate	125	4.9	4.0	-0.9

Figure A2: Top 10 *amakudari* destinations vs. overall economy

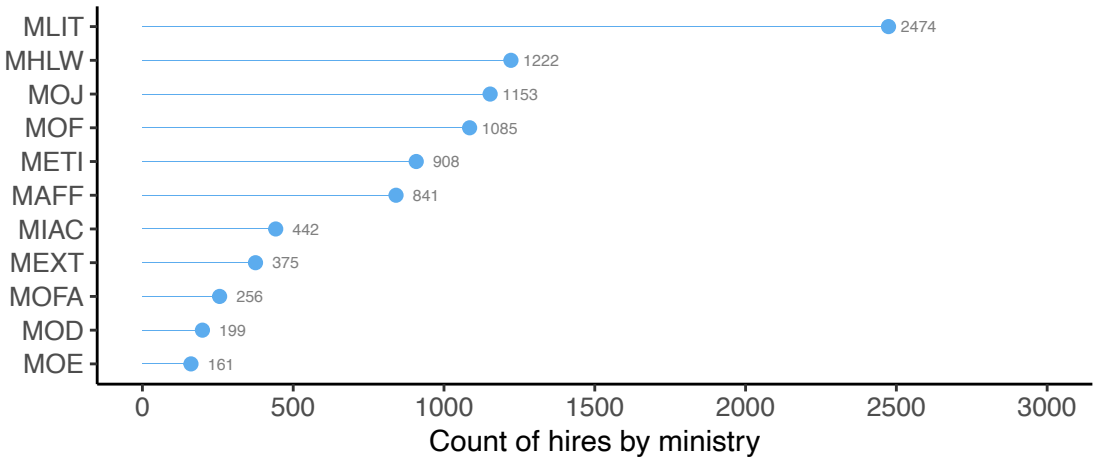
Note: "Percent of firms" only includes firms with financial information in the NEEDS database.

Table A2: Amakudari industry destinations vs. overall economy

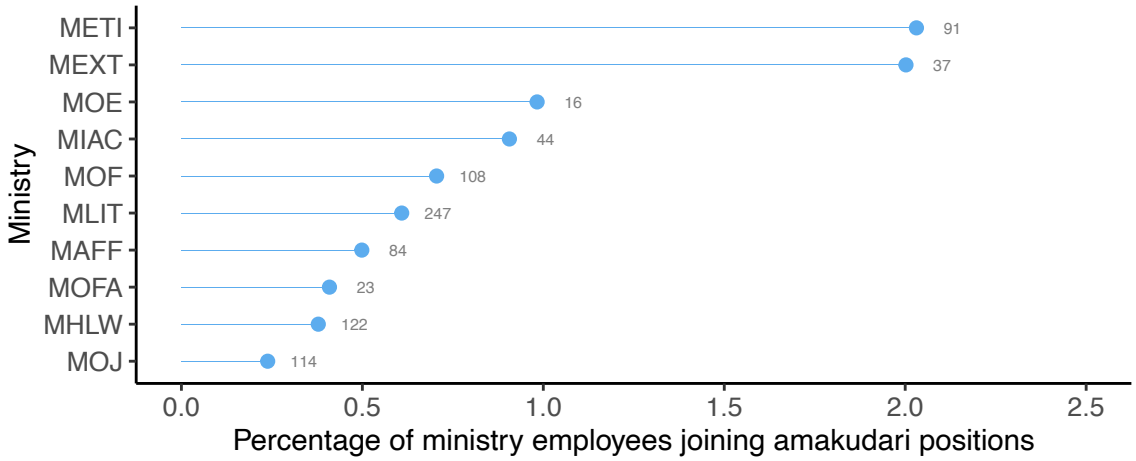
Industry	Count amakudari	Percent of firms	Percent of amakudari	Difference
Services	474	15.9	14.6	-1.3
Finance	262	3.7	8.5	4.8
Construction	259	9.7	8.5	-1.2
Banks	255	0.6	7.8	7.2
Insurance	248	0.3	3.7	3.4
Land Transportation	243	2.8	5.8	3.0
Electric Appliances	196	4.1	5.1	1.0
Wholesale Trade	167	16.3	5.2	-11.1
Warehousing and Harbor transportation	128	1.6	4.5	2.9
Real Estate	125	4.9	4.0	-0.9
Electric Power & Gas	118	0.6	3.2	2.6
Information & Communication	109	2.5	3.5	1.0
Machinery	101	4.1	3.1	-1.0
Transport Equipment	88	1.9	3.2	1.3
Retail Trade	83	5.7	3.1	-2.6
Chemicals	72	3.0	2.5	-0.5
Air Transportation	70	0.2	2.0	1.8
Foods	62	3.3	2.2	-1.1
Marine Transportation	49	0.8	1.7	0.9
Iron & Steel	38	1.1	0.9	-0.2
Other Products	34	3.9	1.2	-2.7
Nonferrous Metals	25	0.8	0.9	0.1
Pharmaceutical	23	0.7	0.8	0.1
Glass & Ceramics Products	22	1.9	0.7	-1.2
Textile & Apparels	22	4.2	0.8	-3.4
Metal Products	21	2.4	0.8	-1.6
Precision Instruments	18	1.0	0.7	-0.3
Oil & Coal Products	17	0.2	0.6	0.4
Mining	5	0.3	0.2	-0.1
Rubber Products	4	0.4	0.2	-0.2
Pulp & Paper	2	0.9	0.1	-0.8
Fishery, Agriculture & Forestry	1	0.3	0.0	-0.3

Note: "Percent economy" calculation is the total number of firms in each industry divided by all firms in the Nikkei NEEDS database.

Retirements by ministry



(a) Total *amakudari* appointments by former ministry (all years)



(b) Mean *amakudari* appointments as a percentage of ministry employees (all years)

Figure A3: Amakudari appointments by ministry

Note: Ministry of Defense (MOD) excluded from adjusted figures. Data on total MOD employees is unavailable as Japan Statistical Yearbook data only includes only regular (8 hours per day) employees, and excludes members of the Japan Self Defense Forces (JSDF). Official numbers therefore exclude JSDF members and civilian MOD employees without 8-hour workdays. I thank Samuel Leiter and an anonymous MOD official for this insight.

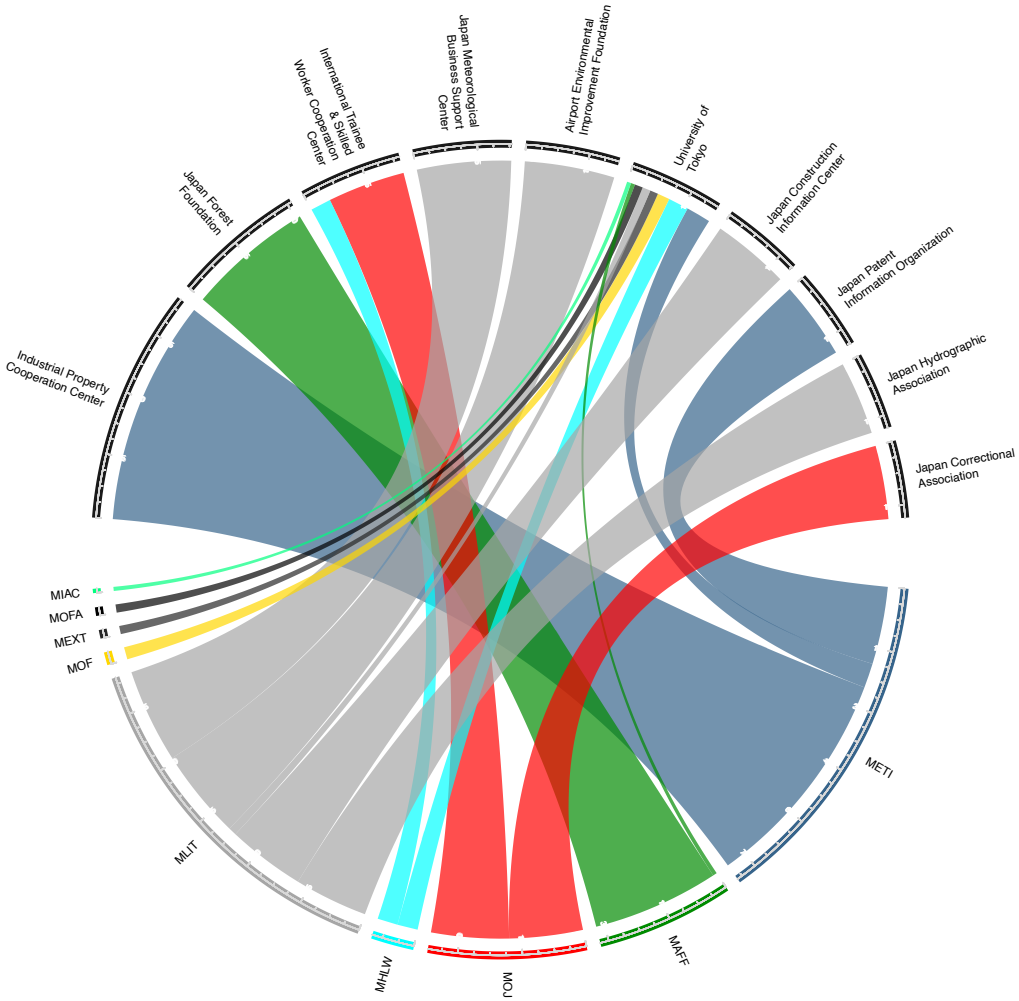


Figure A4: Flows from ministries to top ten public interest corporations (all years)

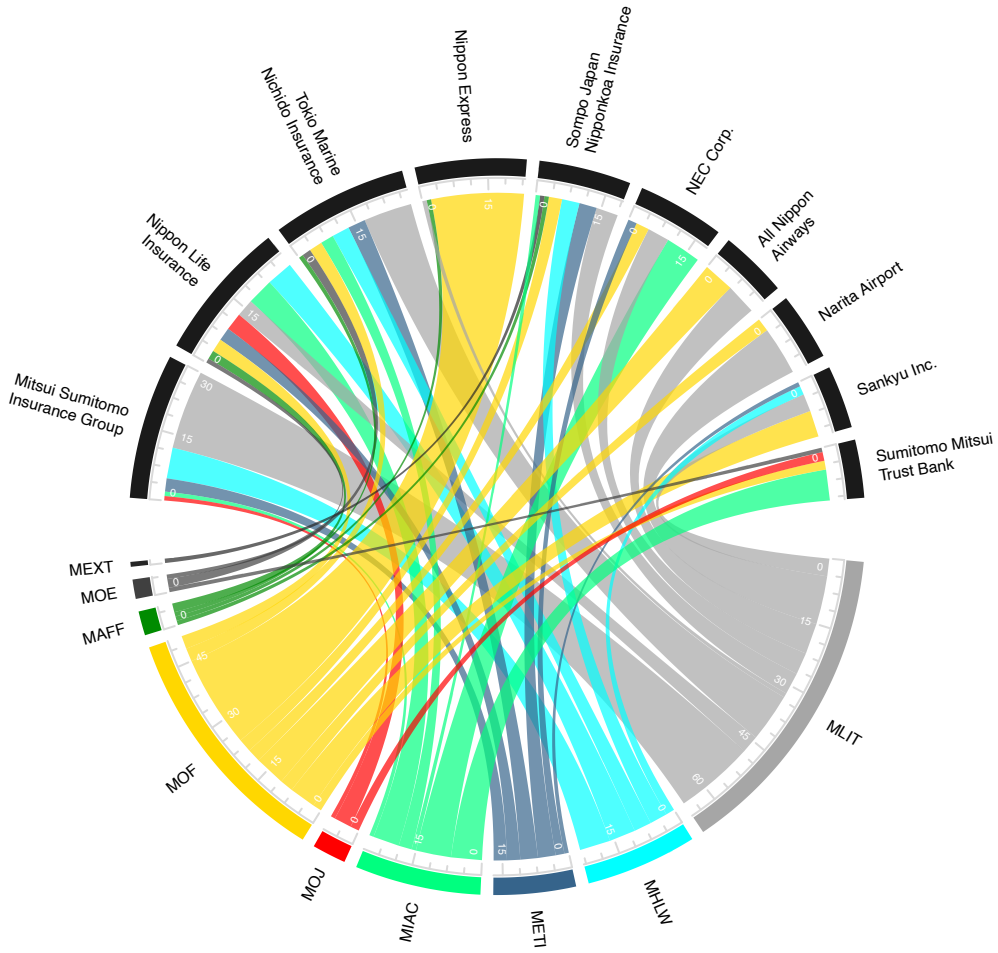
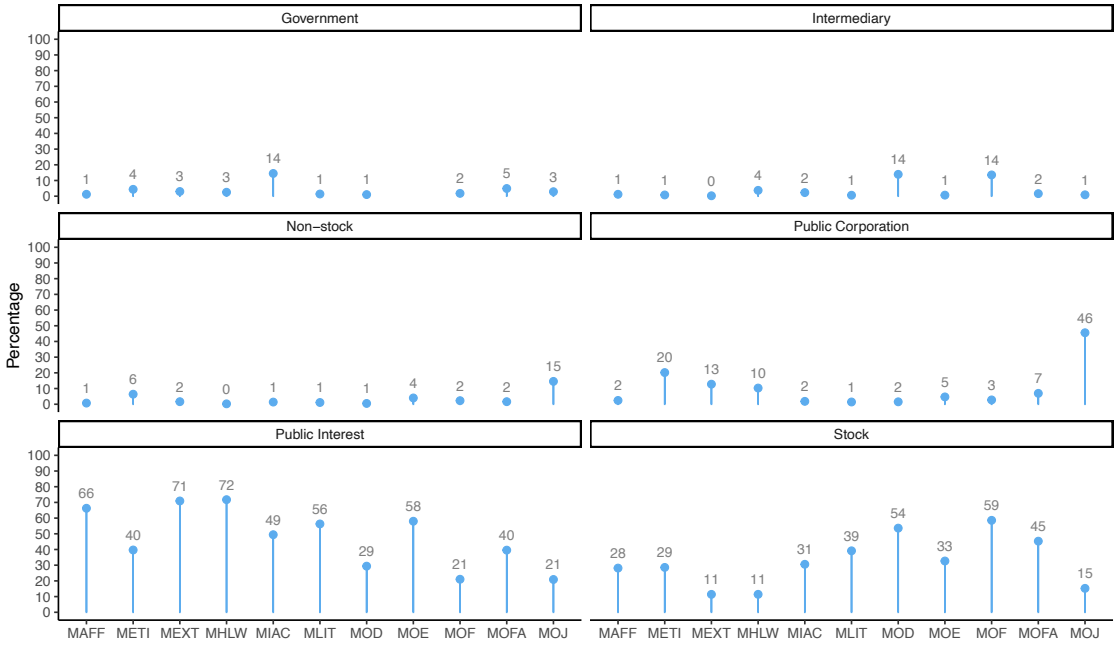
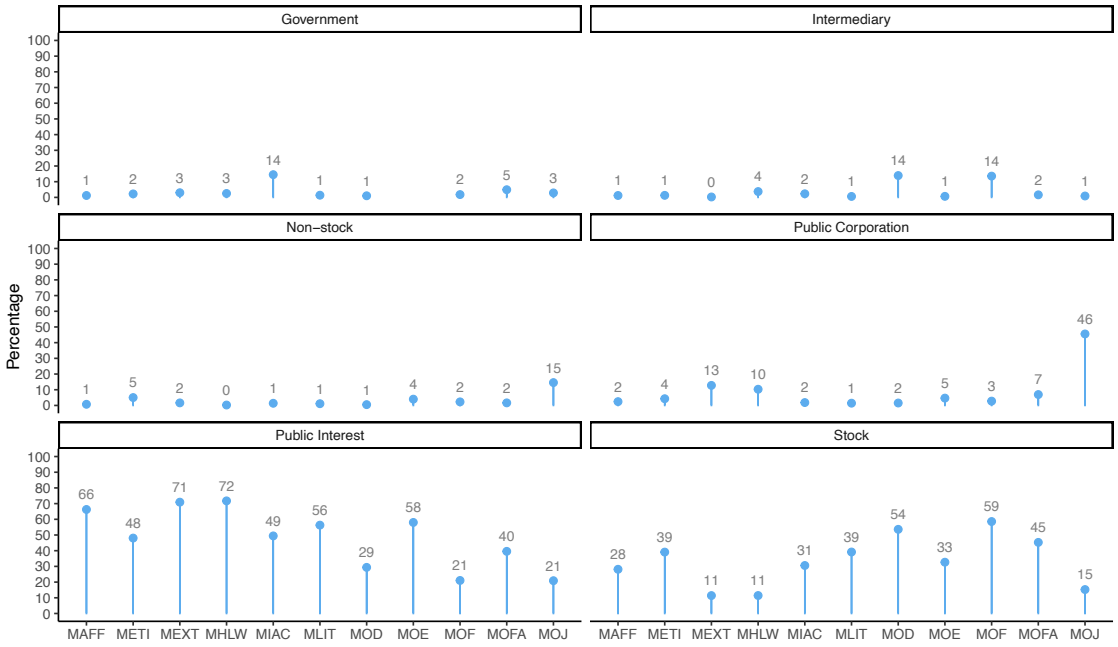


Figure A5: Flows from ministries to top ten private corporations (all years)

The top corporations by number of *amakudari* hires tend to draw from a diverse array of ministries.



(a) Percentage of retirees in each firm type by ministry



(b) Percentage of retirees in each firm type by ministry, excluding METI Patent Office

Figure A6: Percentage of retirees in each firm type by ministry

Table A3: Age of retirement: mean and quantiles (all years)

Firm type	Firm sub-type	Mean	5	25	Median	75	95
Unclassified		59	53	59	60	61	63
Government		58	47	58	60	60	62
Private corporation	Intermediary	59	56	57	59	60	60
Private corporation	Non-stock	59	46	60	60	60	61
Private corporation	Public Interest	59	55	58	60	60	61
Private corporation	Stock	59	54	58	59	60	61
Public corporation		59	54	58	59	60	62

Age of retirement

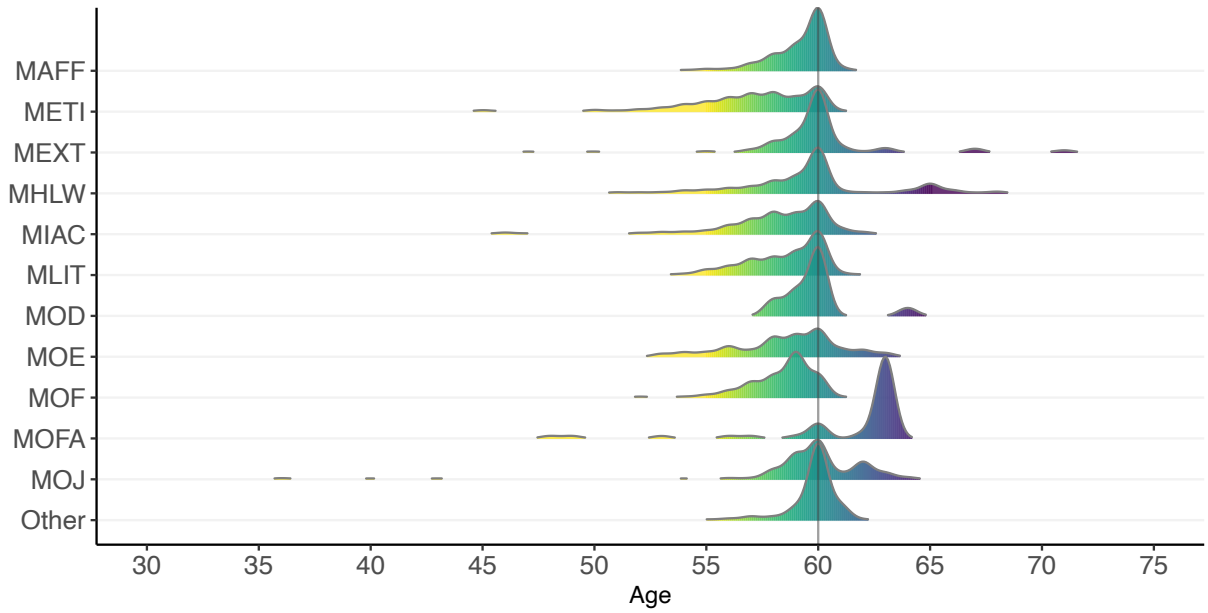


Figure A7: Age of exit from ministry, by ministry

Note: Vertical line at "mandatory" retirement age of 60.

Firm financials

	Amakudari (N=711)		No amakudari (N=5100)			
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**Diff. in Means**	**p**
Number of amakudari	3.02	4.73	0.00	0.00	-3.02	<0.01
Total government loans	4.29	18.88	0.39	6.20	-3.89	<0.01
Total private loans	28.84	92.20	5.61	28.31	-23.23	<0.01
Total assets	4024.22	21618.16	152.45	910.75	-3871.77	<0.01
Total liabilities	3542.80	20529.55	111.66	828.90	-3431.14	<0.01
Operating revenue	763.15	1903.71	78.04	269.44	-685.11	<0.01
Gross profit	169.36	469.07	19.40	78.94	-149.96	<0.01
EBITDA	85.05	246.94	7.02	39.40	-78.03	<0.01
Leverage	3.24	4.84	3.03	4.44	-0.22	0.30
Employees	14729.80	35799.86	1698.24	4498.09	-13031.55	<0.01
Temporary employees	4748.39	14918.97	893.74	2931.38	-3854.66	<0.01
Return on investment	4.94	60.37	11.45	113.39	6.51	0.03
Return on equity	4.05	20.44	-0.05	89.58	-4.10	0.01
Reserve ratio	65.02	92.79	126.69	261.07	61.67	<0.01
Missing	0.04	0.18	0.19	0.39	0.15	<0.01

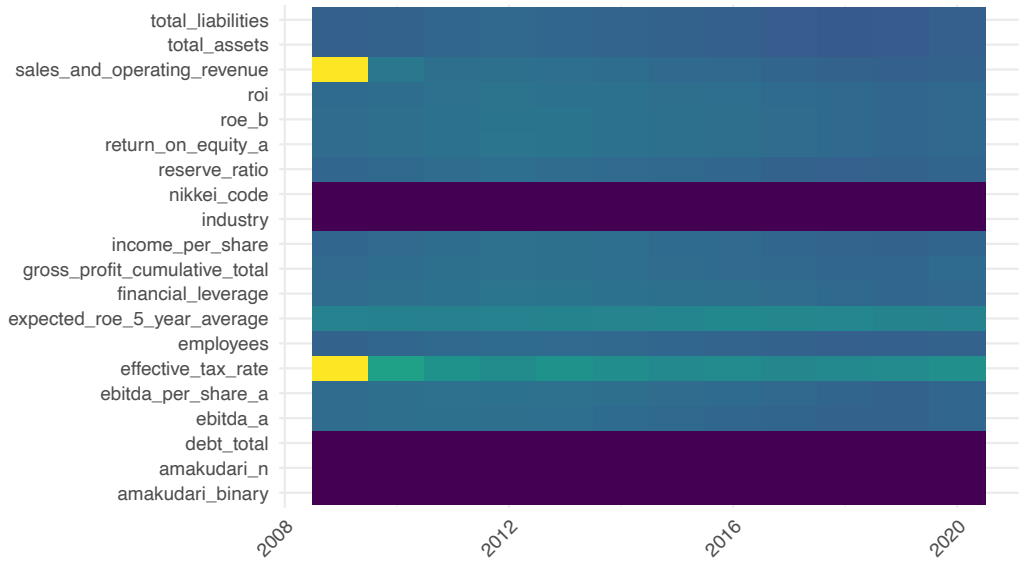
Table A4: For-profit firm financial data by *amakudari* status

Notes: Firm-level means across all years 2009-2019. Includes all firms for which government loan data exists in the NEEDS financial database. Loans, assets, liabilities, revenue, profit, and EBITDA in billion yen.

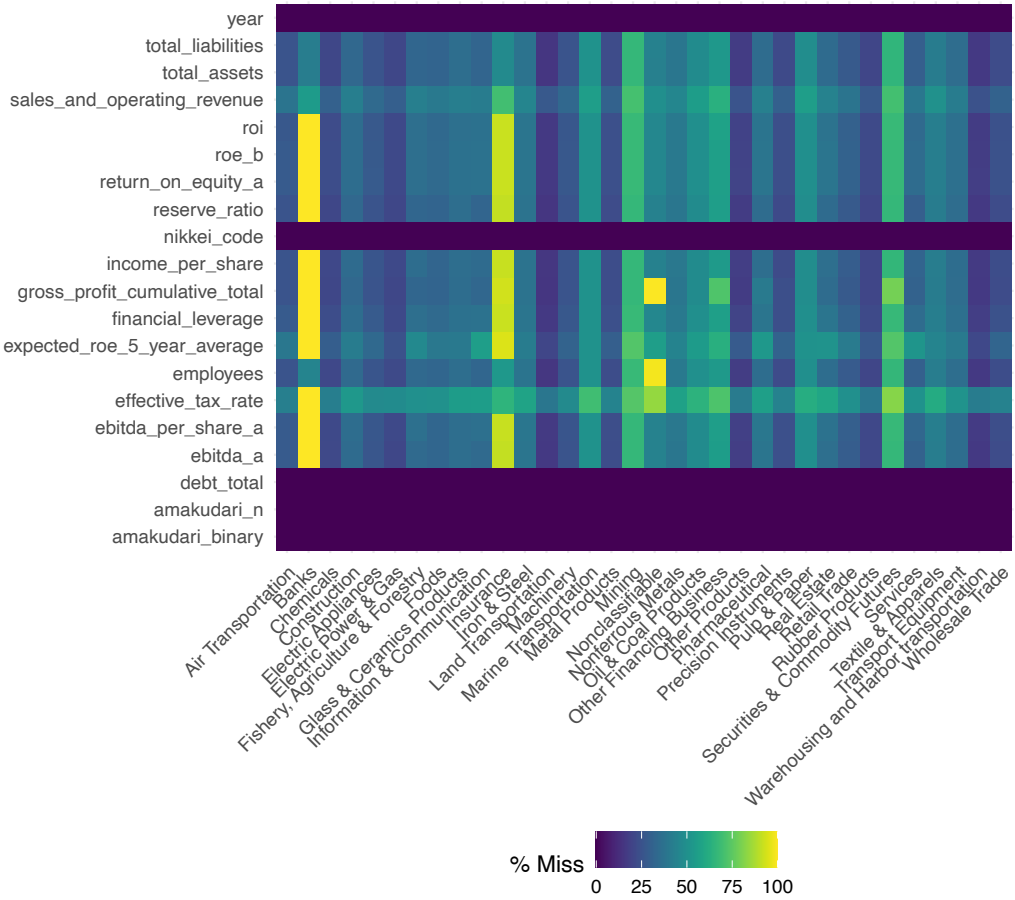
	No public loans (N=4820)		Public loans (N=991)			
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**Diff. in Means**	**p**
Number of amakudari	0.29	1.77	0.77	2.52	0.48	<0.01
Total assets	735.96	8449.58	391.20	1219.81	-344.76	<0.01
Total liabilities	655.80	8036.91	272.00	950.07	-383.80	<0.01
Operating revenue	124.20	645.87	306.06	1037.25	181.86	<0.01
Gross profit	28.42	168.80	61.34	190.15	32.92	<0.01
Return on investment	14.84	322.74	18.38	220.85	3.53	0.68
EBITDA	11.83	88.03	29.63	93.25	17.80	<0.01
Return on equity	-12.79	1424.56	-2.33	155.09	10.46	0.64
Leverage	4.32	37.71	4.28	6.42	-0.04	0.95
Reserve ratio	126.27	611.64	59.78	89.62	-66.49	<0.01
Employees	2542.09	11590.18	5749.02	18528.88	3206.93	<0.01
Temporary employees	1204.17	5115.74	2447.99	10078.88	1243.81	<0.01
Total government loans	0.00	0.00	5.10	21.02	5.10	<0.01
Total private loans	3.23	23.58	33.84	84.16	30.61	<0.01

Table A5: For-profit firm financial data by government loan status

Notes: Firm-level means across all years 2009-2019. Includes all firms for which government loan data exists in the NEEDS financial database. Loans, assets, liabilities, revenue, profit, and EBITDA in billion yen.



(a) Financial data missingness by year



(b) Financial data missingness by industry

Loan analysis

Descriptive statistics

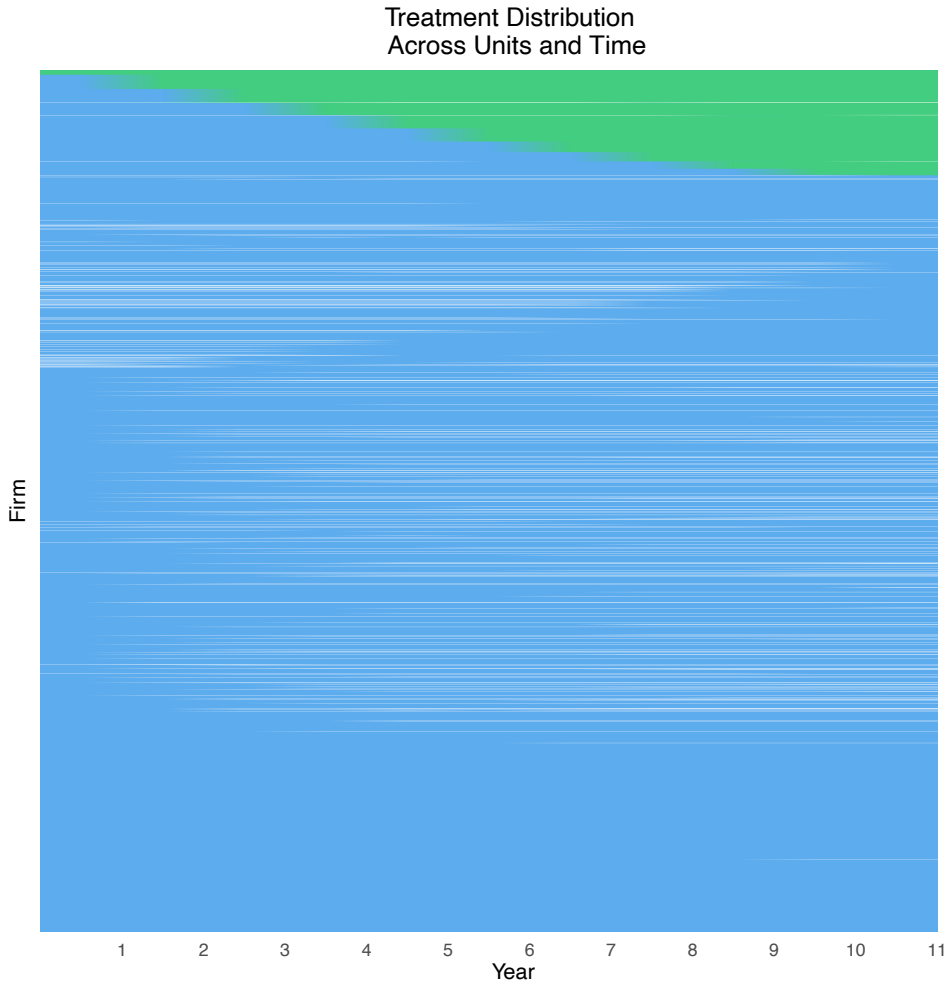


Figure A9: Distribution of treatment and control status of all firms in loan analysis

Note: Treated firms in green and control firms in blue. White areas depict missing data.

Effects by ministry

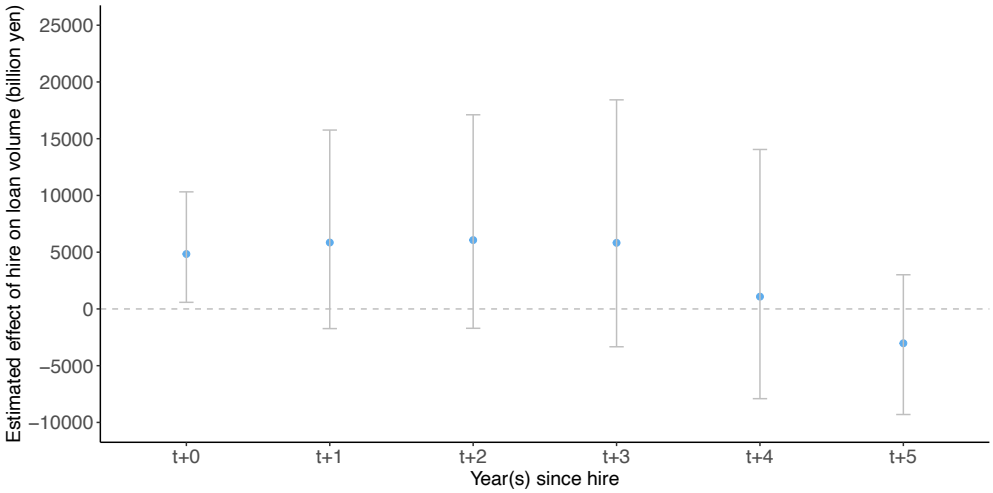


Figure A10: Estimated effect of bureaucratic hires on size of government loan received, METI re-hires only

Note: Tabular results can be found in Table A7.

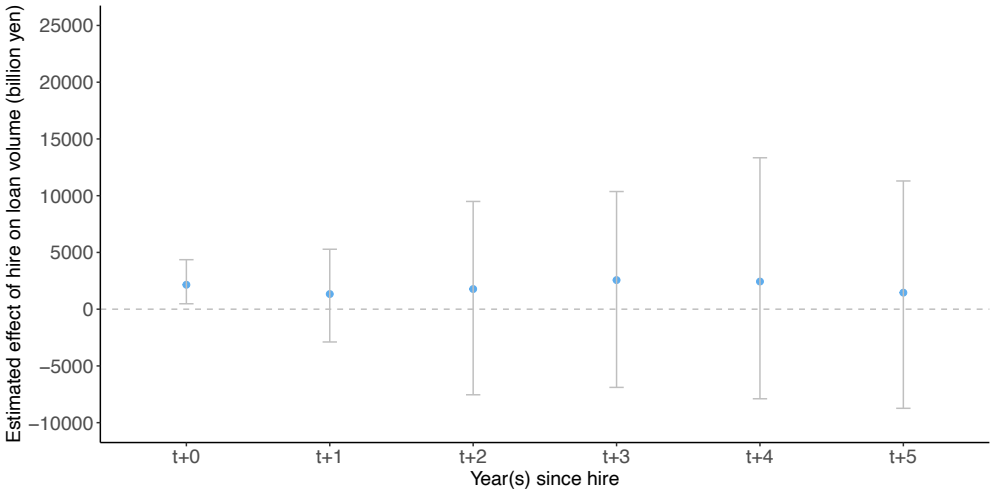


Figure A11: Estimated effect of bureaucratic hires on size of government loan received, MOF re-hires only

Note: Tabular results can be found in Table A8.

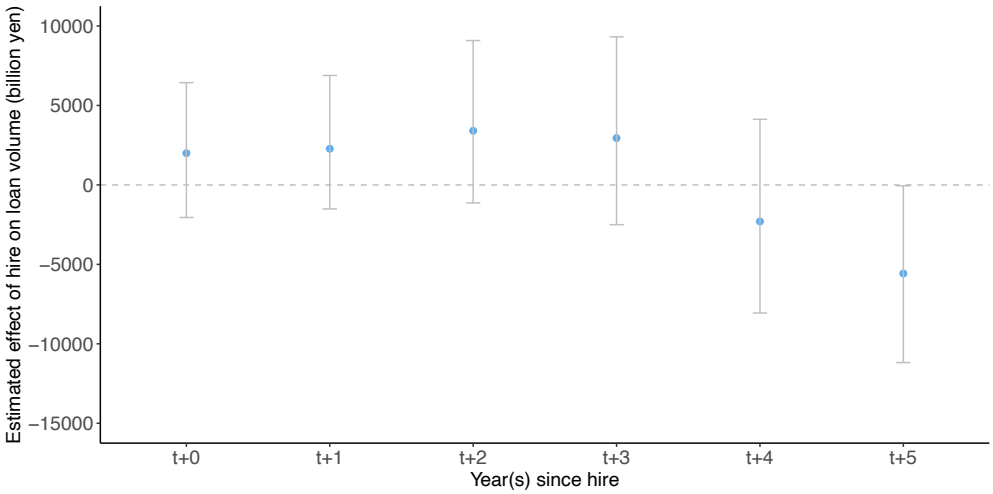


Figure A12: Estimated effect of bureaucratic hires on size of government loan received, all ministries other than METI and MOF

Note: Tabular results can be found in Table A10.

Tabular results

Table A6: Estimated effect of bureaucratic hires on size of government loans received, by year afer hire

Time window	Estimate	SE	95% CI lower	95% CI upper
t+0	810.22	813.98	-758.69	2,340.21
t+1	1,444.96	1,088.45	-617.01	3,686.78
t+2	2,753.18	1,326.34	312.63	5,506.05
t+3	3,153.69	1,710.44	-46.38	6,757.87
t+4	2,028.75	1,805.32	-1,335.91	5,748.67
t+5	489.80	1,641.46	-2,639.04	3,995.84

Note: Matched sets = 444

Table A7: Estimated effect of bureaucratic hires on size of government loans received, METI re-hires only

Time window	Estimate	SE	95% CI lower	95% CI upper
t+0	4,839.34	2,526.42	582.92	10,315.10
t+1	5,850.87	4,584.92	-1,732.86	15,761.23
t+2	6,065.97	4,848.95	-1,705.76	17,107.01
t+3	5,824	5,677.01	-3,333.77	18,423
t+4	1,082.36	5,669.50	-7,906.57	14,050.62
t+5	-3,024.54	3,198.90	-9,303.84	3,010.77

Note: Matched sets = 67

Table A8: Estimated effect of bureaucratic hires on size of government loans received, MOF re-hires only

Time window	Estimate	SE	95% CI lower	95% CI upper
t+0	2,151.10	988.31	477.10	4,361.63
t+1	1,333.66	2,062.18	-2,888.21	5,282.42
t+2	1,775.08	4,101.66	-7,542.83	9,493.07
t+3	2,563.39	4,281.40	-6,891.22	10,366.60
t+4	2,435.80	5,093.48	-7,893.75	13,341.59
t+5	1,456.66	4,976.09	-8,734.25	11,296.23

Note: Matched sets = 91

Table A9: Estimated effect of bureaucratic hires on size of government loans received, METI and MOF re-hires only

Time window	Estimate	SE	95% CI lower	95% CI upper
t+0	4,137.73	1,457.14	1,644.35	7,484.99
t+1	3,894.44	2,743.28	-879.56	9,998.44
t+2	6,565.70	3,094.20	1,383.07	13,432.94
t+3	7,719.78	3,396.88	2,034.02	15,331.04
t+4	6,845.47	3,823.15	73.34	15,286.93
t+5	4,128.65	3,102.98	-1,348.69	10,956.64

Note: Matched sets = 142

Table A10: Estimated effect of bureaucratic hires on size of government loans received, all ministries other than METI and MOF

Time window	Estimate	SE	95% CI lower	95% CI upper
t+0	1,996.94	2,180.07	-2,050.40	6,435.91
t+1	2,274.63	2,207.79	-1,511.89	6,888.23
t+2	3,407.35	2,694.68	-1,135.04	9,087.35
t+3	2,947.01	3,104.04	-2,501.55	9,316.04
t+4	-2,303.94	3,086.54	-8,058.49	4,130.70
t+5	-5,575.68	2,802.31	-11,181.27	-53.91

Note: Matched sets = 225

Table A11: Estimated effect of bureaucratic hires on size of government loans received, requiring 2 lag periods

Time window	Estimate	SE	95% CI lower	95% CI upper
t+0	-639.83	827.68	-2,343.11	837.51
t+1	-533.29	930.44	-2,442.88	1,160.96
t+2	1,327.78	1,304.65	-1,199.34	3,933.31
t+3	1,409.77	1,832.70	-1,879.36	5,325.40
t+4	535.33	1,982.26	-3,001.40	4,727.60
t+5	-116.82	1,882.88	-3,486.48	3,683.78

Note: Matched sets = 349

Table A12: Estimated effect of bureaucratic hires on size of government loans received, METI and MOF re-hires only, requiring 2 lag periods

Time window	Estimate	SE	95% CI lower	95% CI upper
t+0	2,433.57	1,032.06	585	4,644.45
t+1	331.53	2,072.43	-3,374.64	4,556.62
t+2	3,489.13	2,627.73	-1,076.92	9,368.39
t+3	4,206.09	2,819.80	-672.19	10,334.71
t+4	5,054.28	3,606.21	-785.86	13,376.25
t+5	3,093.22	3,329.61	-2,785.24	10,434.72

Note: Matched sets = 118

Table A13: Estimated effect of bureaucratic hires on size of private loans received

Time window	Estimate	SE	95% CI lower	95% CI upper
t+0	-3,328.28	4,328.68	-12,998.45	4,325.57
t+1	-5,470.80	5,206.24	-16,754.42	3,932.10
t+2	-7,131.97	5,585.83	-18,519.22	2,768.17
t+3	1,790.87	6,612.90	-10,056.12	15,683.24
t+4	-12,494.41	8,889.79	-29,776.99	4,813.61
t+5	-13,167.75	8,269.36	-28,668.40	3,532.50

Note: Matched sets = 444

Loan robustness

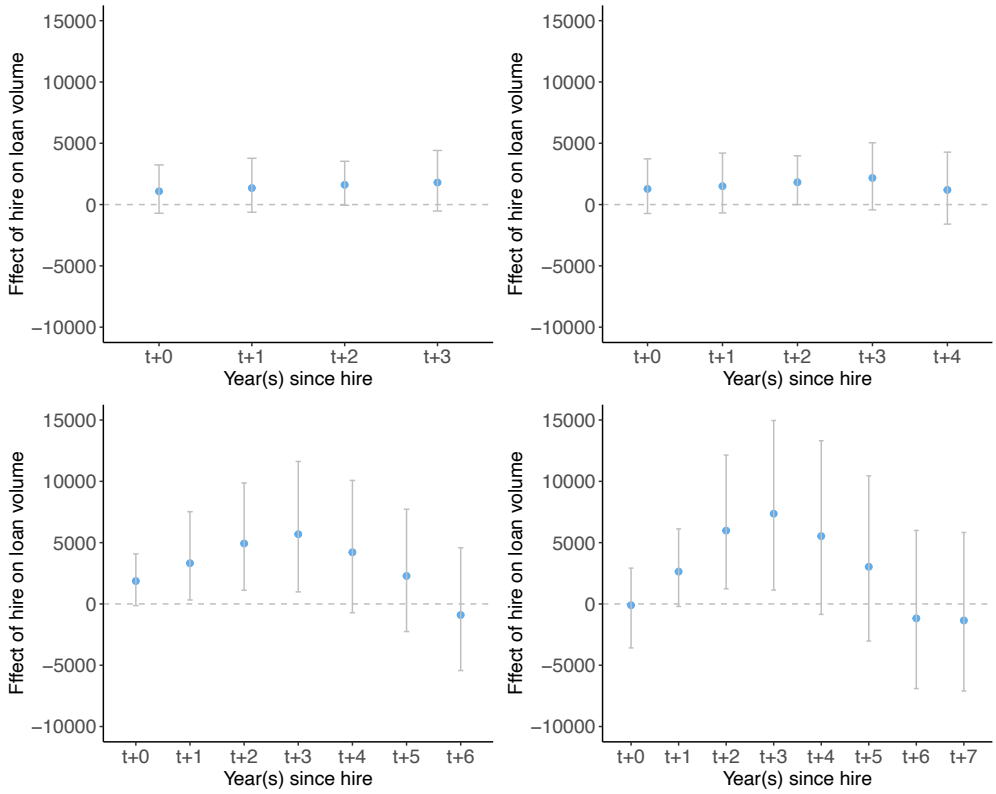


Figure A13: Estimated effect of bureaucratic hires on size of government loan received, by year after hire and lead window

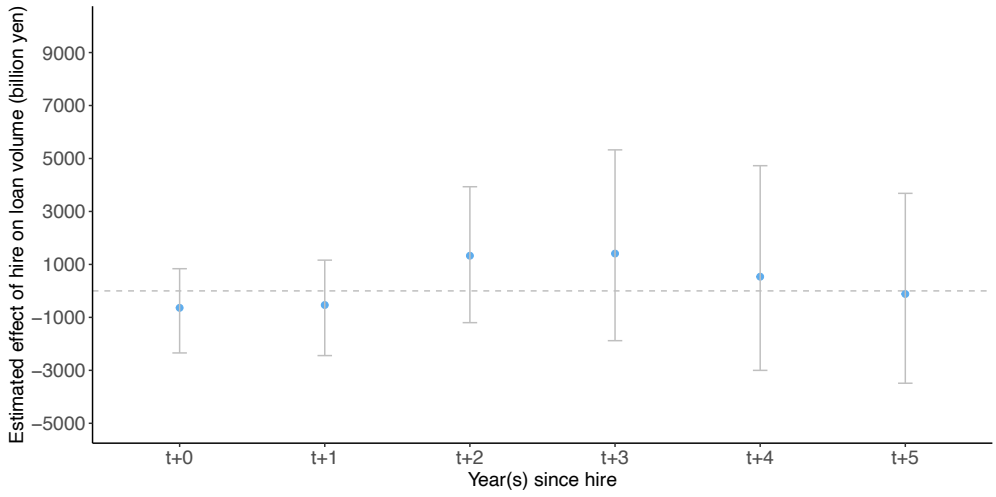


Figure A14: Estimated effect of bureaucratic hires on size of government loan received, by year after hire (restricted to matches in two periods prior to treatment)

Note: Tabular results can be found in Table A11.

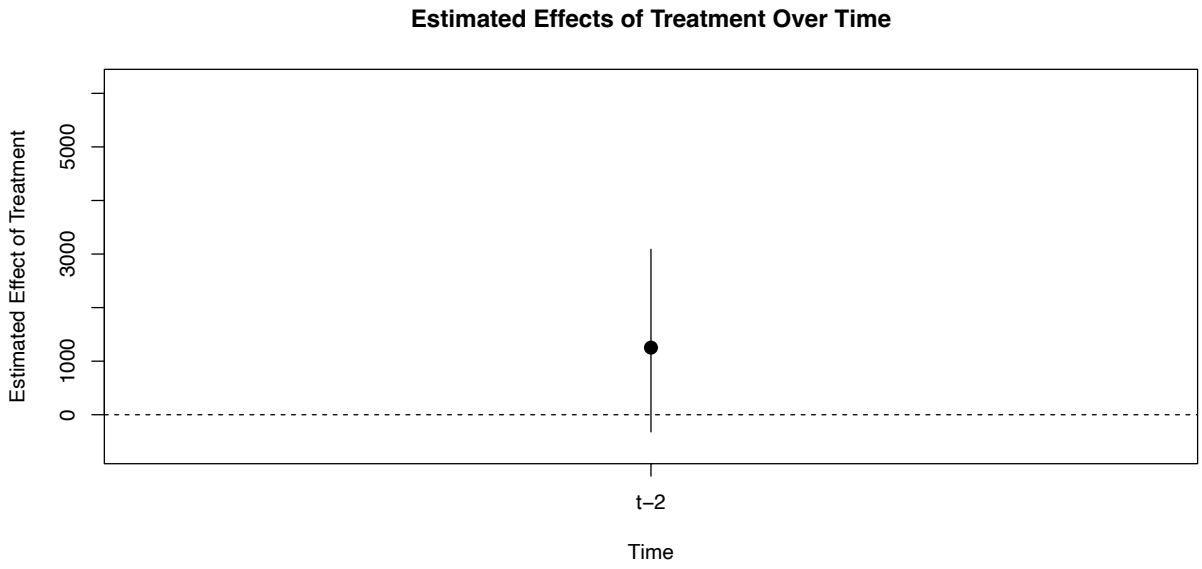


Figure A15: Placebo test of effect of bureaucratic hires on size of government loan received, by year before hire (restricted to matches in two periods prior to treatment)

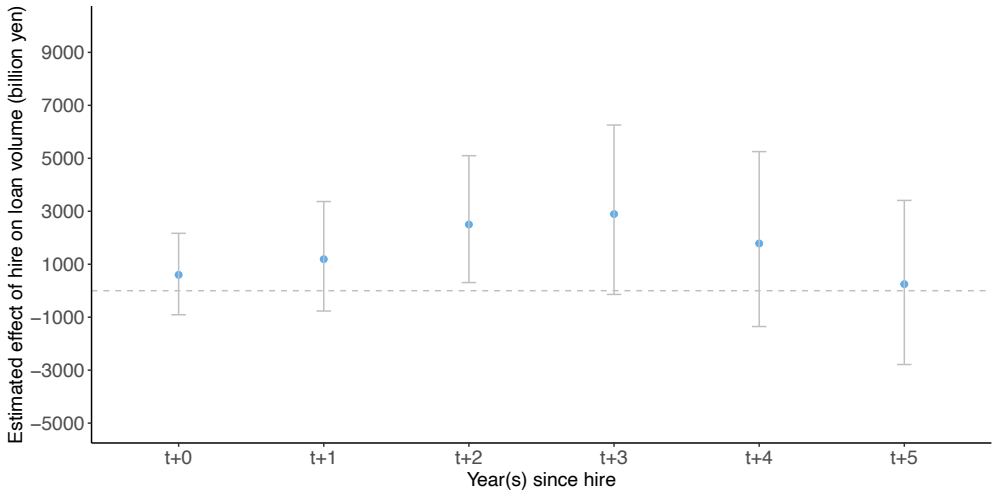
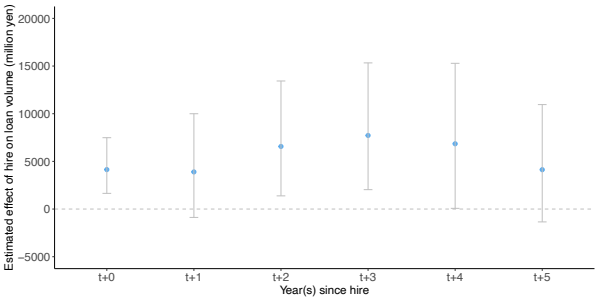
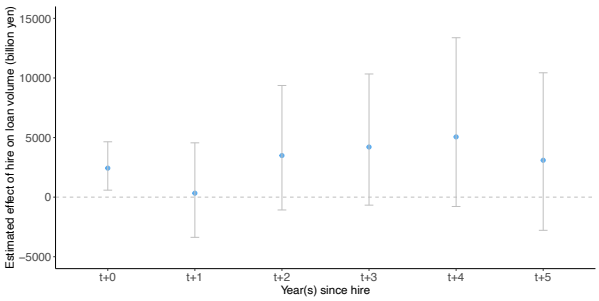


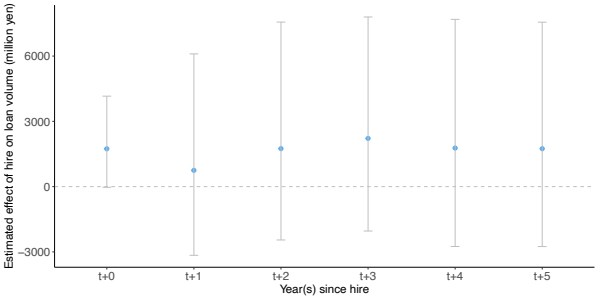
Figure A18: Estimated effect of bureaucratic hires on size of government loan received, by year after hire, including additional plausibly post-treatment covariates (leverage, reserve ratio, roe, roi)



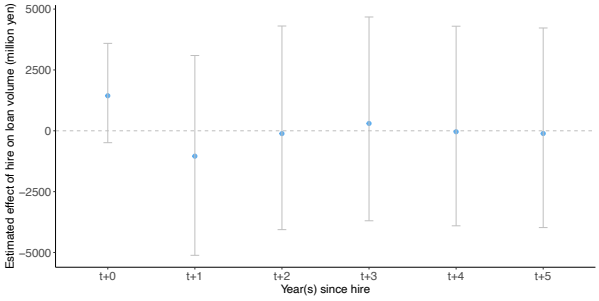
(a) 1-period match



(b) 2-period match

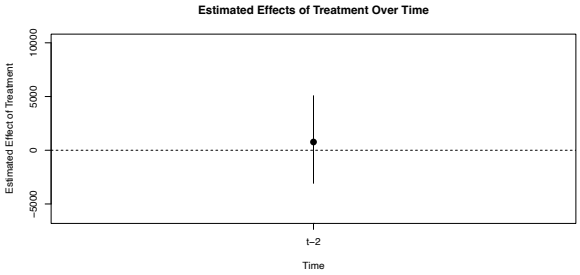


(c) 3-period match

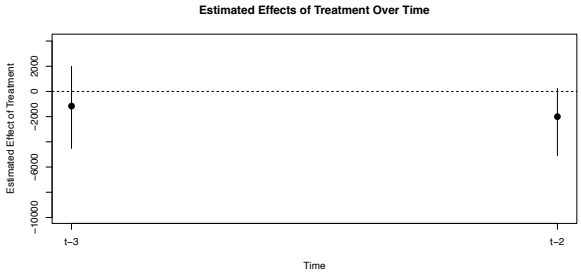


(d) 4-period match

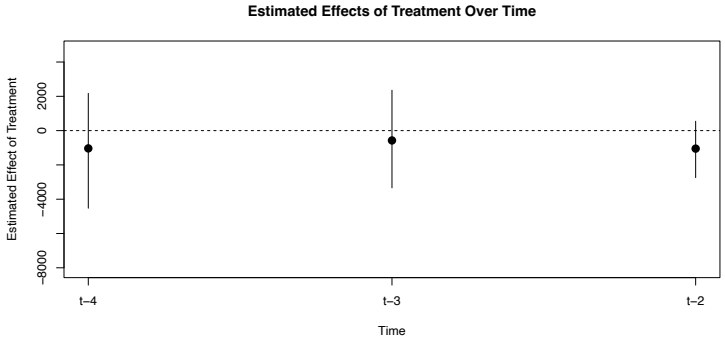
Figure A16: Estimated effects of METI and MOF hires on size of government loan received, by year after hire, with varying pre-treatment matching windows (1 to 4 periods).



(a) 2-period placebo



(b) 3-period placebo



(c) 4-period placebo

Figure A17: Placebo tests of effect of METI and MOF hires on size of government loan received, by year before hire (varying number of pre-treatment periods).

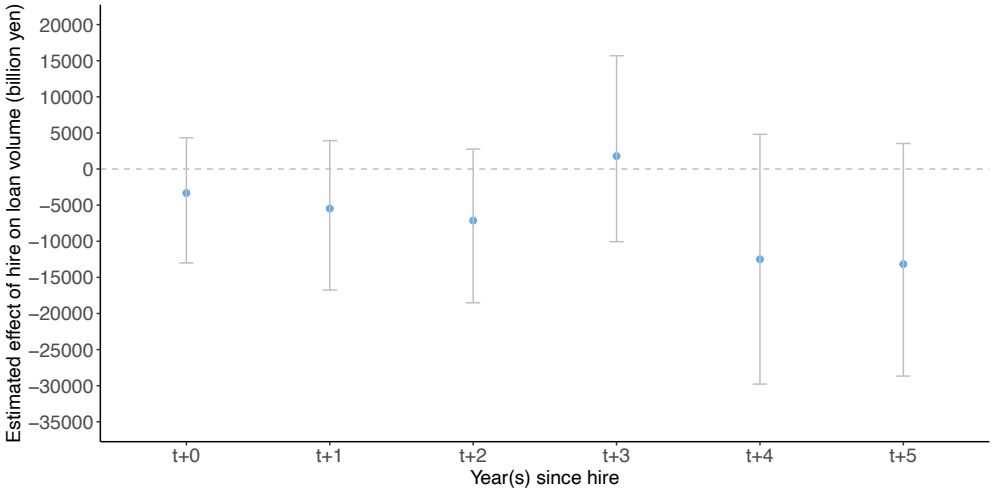
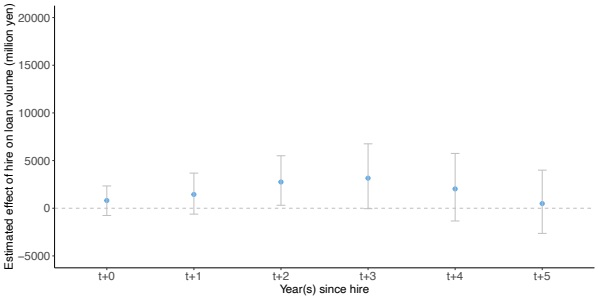
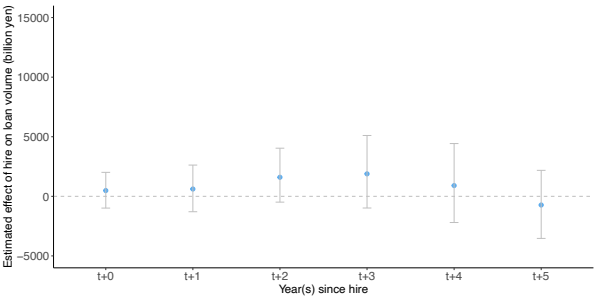


Figure A19: Estimated effect of bureaucratic hires on size of private loans received, by year after hire

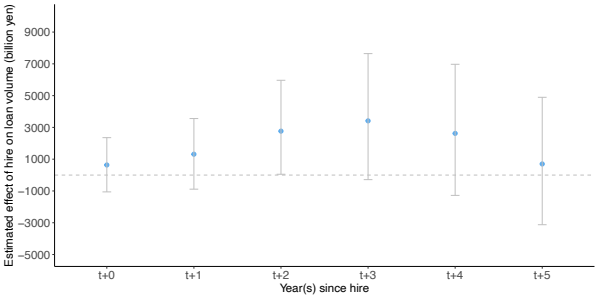
Note: Tabular results can be found in Table A13.



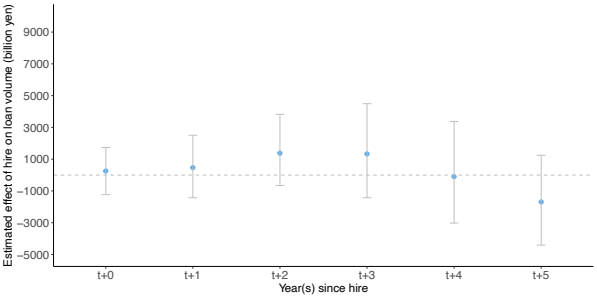
(a) Mahalanobis matching



(b) Propensity score matching

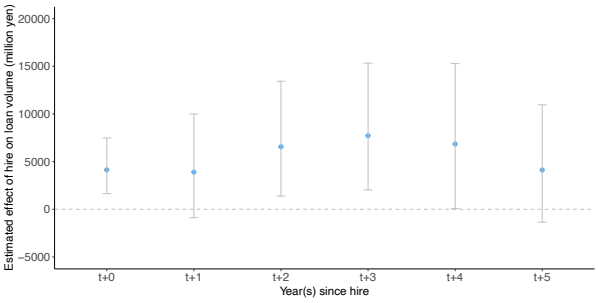


(c) Covariate balanced propensity scores (CBPS)

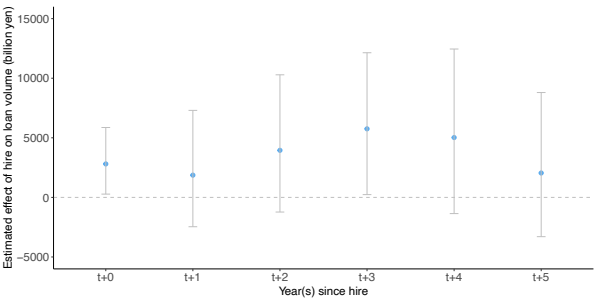


(d) CBPS with marginal structural model (MSM)

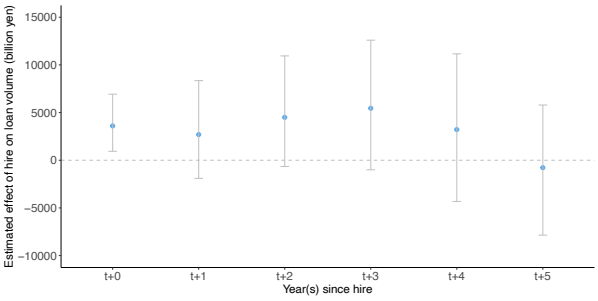
Figure A20: Estimated effects of bureaucratic hires on size of government loans received, by year after hire, using alternative matching methods.



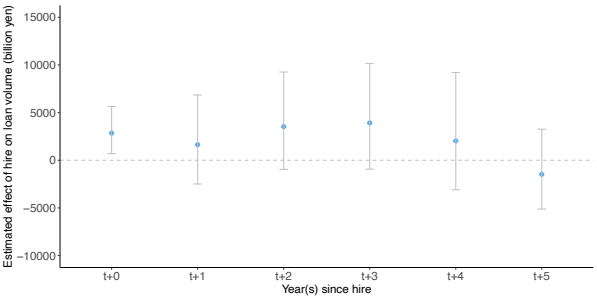
(a) Mahalanobis matching



(b) Propensity score matching

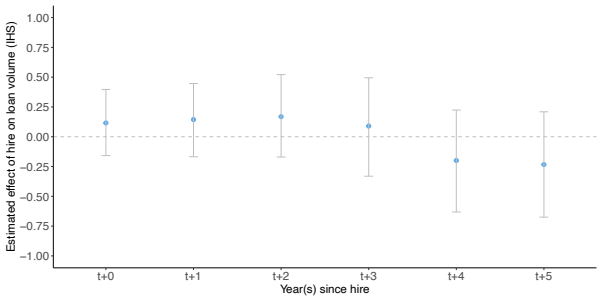


(c) CBPS

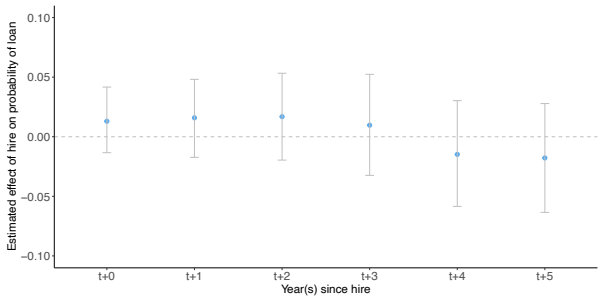


(d) CBPS with MSM

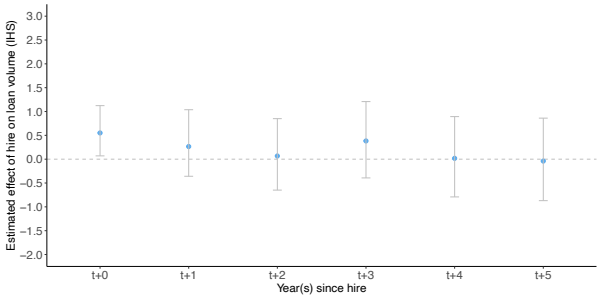
Figure A21: Estimated effects of METI and MOF hires on size of government loan received, by year after hire, using alternative matching methods.



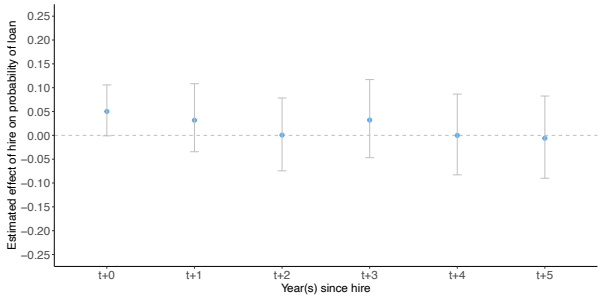
(a) All hires, inverse hyperbolic sine



(b) All hires, binary outcome



(c) METI/MOF hires, inverse hyperbolic sine



(d) METI/MOF hires, binary outcome

Figure A22: Estimated effects of bureaucratic hires on size of government loan received, by year after hire, using alternative outcome variable transformations.

Matching balance

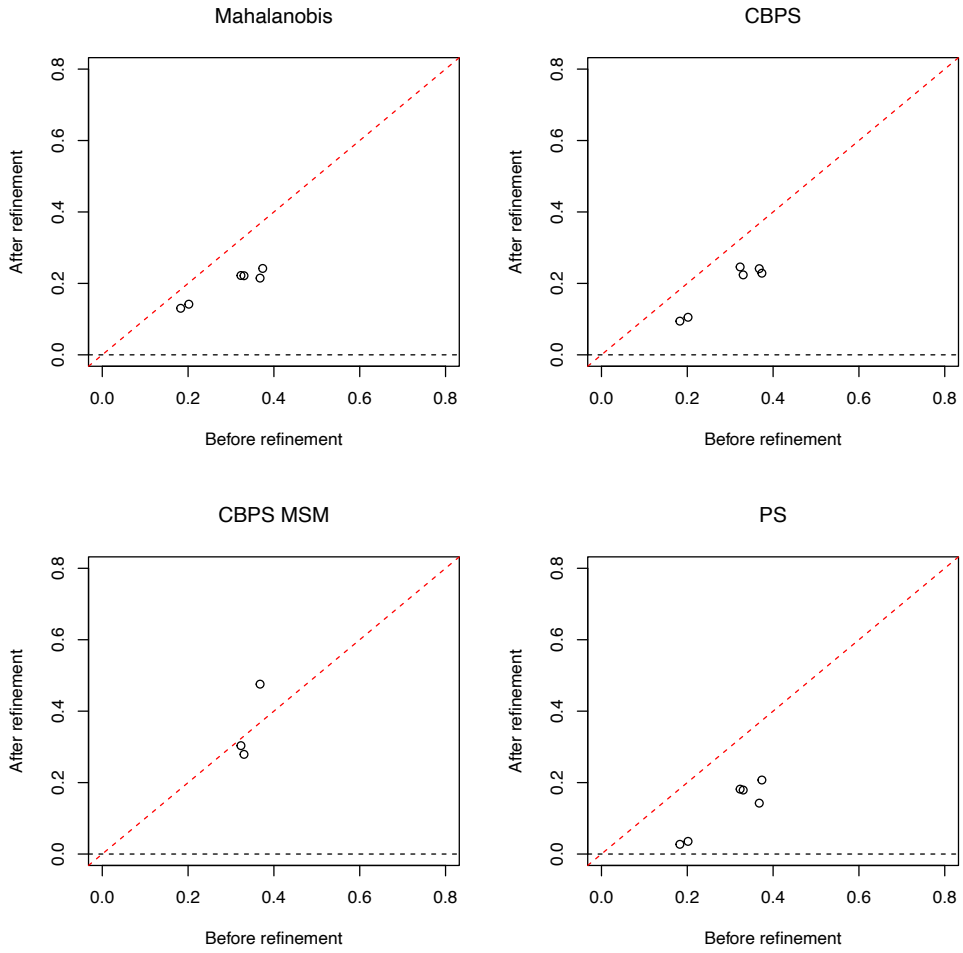


Figure A23: Balance of firm financials before and after matching

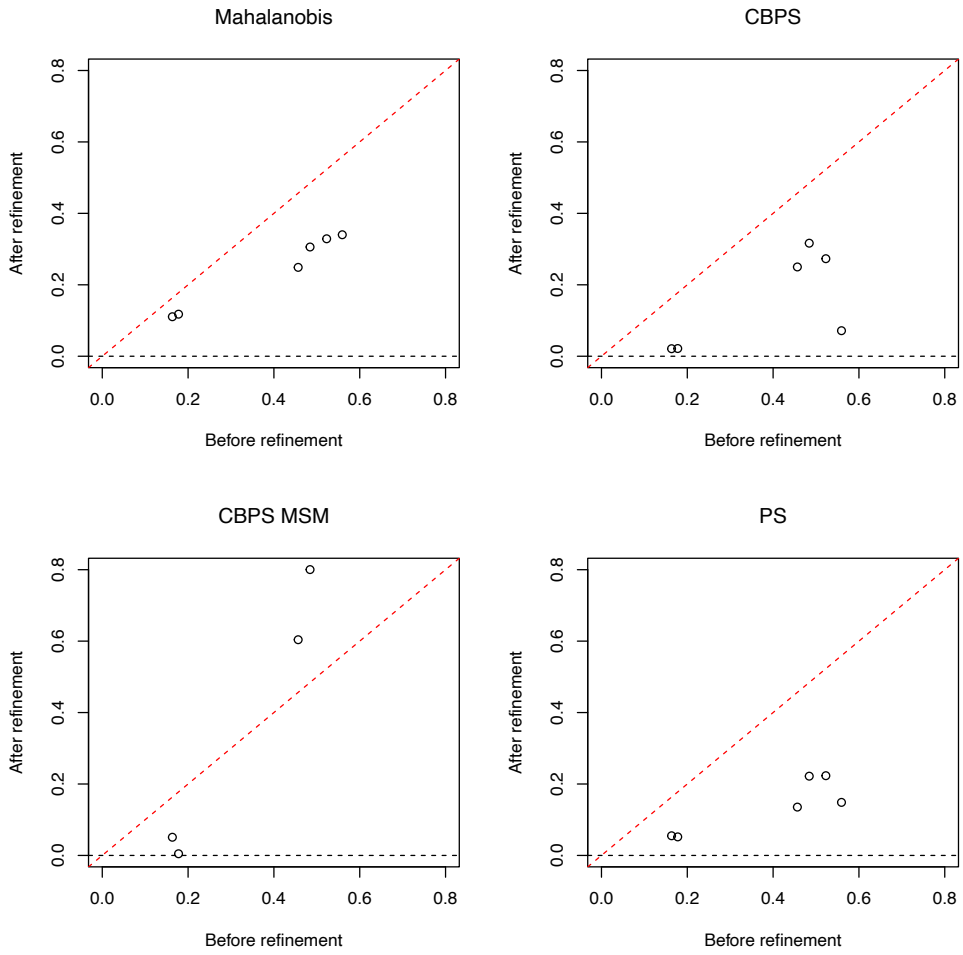


Figure A24: Balance of firm financials before and after matching (METI and MOF hires only)

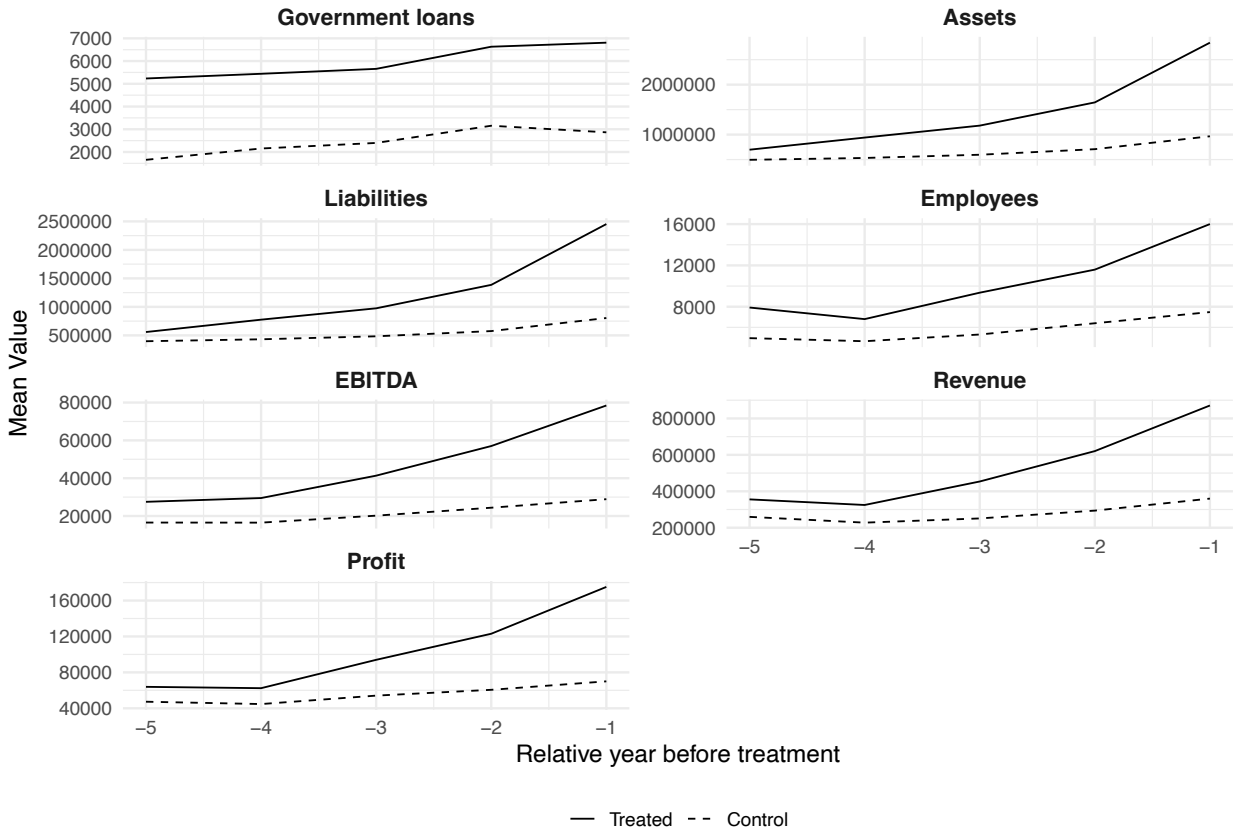


Figure A25: Mean value of government loans and covariates in pre-treatment periods, post 1-period lag matching

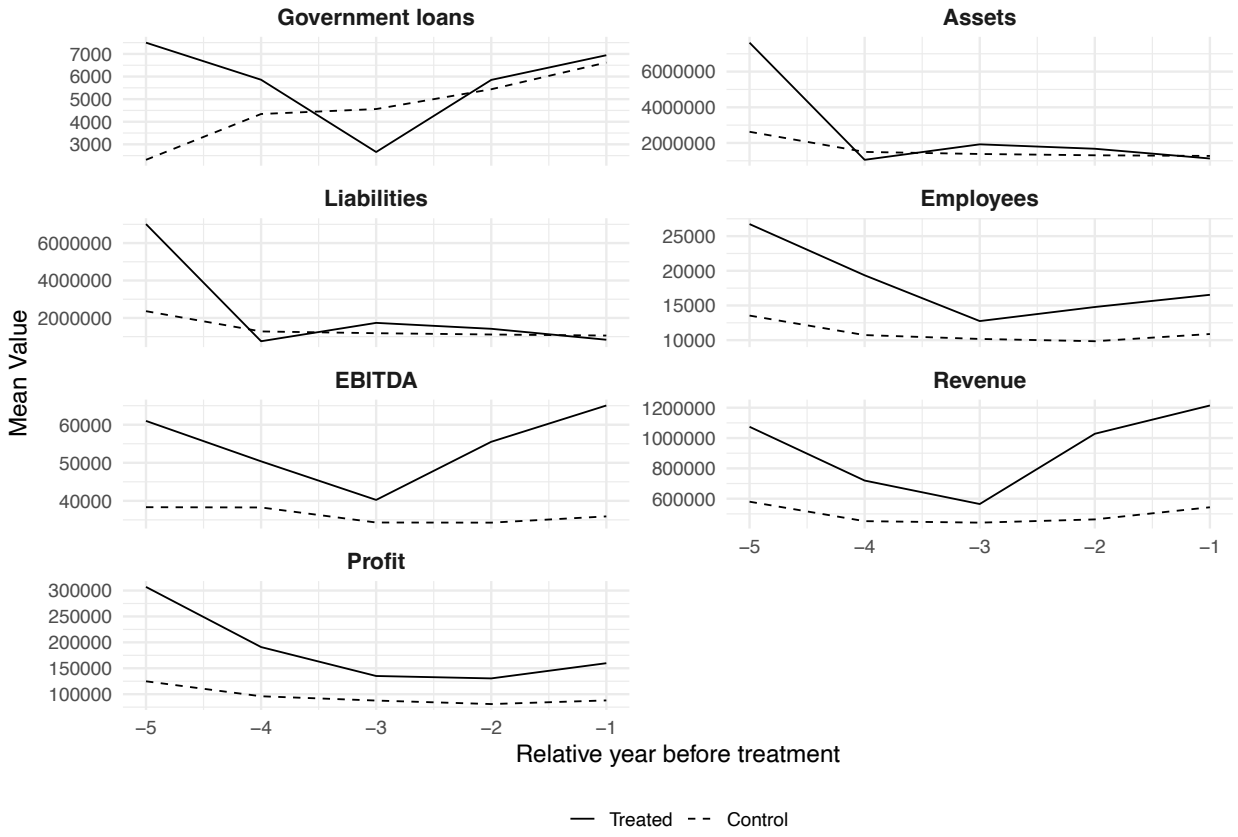


Figure A26: Mean value of government loans and covariates in pre-treatment periods, post 1-period lag matching (METI and MOF hires only)

Event studies

Tabular results

Table A14: Cumulative abnormal returns from assistant vice-minister and vice-minister appointments

Event Day	Estimate	95% CI lower	95% CI upper
-7	0	0	0
-6	-0.1	-0.42	0.22
-5	0.16	-0.29	0.65
-4	0.25	-0.31	0.81
-3	0.23	-0.55	1.01
-2	0.02	-1.02	0.95
-1	0.69	-0.4	1.75
0	1.24	-0.07	2.57
1	1.3	-0.19	2.83
2	1.36	-0.2	3.09
3	1.39	-0.23	2.99
4	1.33	-0.34	3.07
5	0.74	-0.94	2.53
6	1.01	-0.77	2.86
7	0.83	-1.09	2.74
8	0.96	-1.03	2.86

Note: Total events = 47

Table A15: Cumulative abnormal returns from assistant vice-minister and vice-minister appointments, outside director appointments

Event Day	Estimate	95% CI lower	95% CI upper
-7	0	0	0
-6	-0.19	-0.7	0.33
-5	0.21	-0.45	0.95
-4	0.55	-0.37	1.47
-3	0.46	-1.03	1.92
-2	-0.54	-2.56	1.27
-1	0.19	-1.87	2.37
0	0.1	-2.37	2.41
1	0.13	-2.68	2.93
2	0.05	-2.68	2.81
3	0.09	-2.71	2.8
4	-0.06	-3.01	2.85
5	-0.88	-3.93	2.15
6	-0.28	-3.51	2.94
7	-0.4	-4.09	2.97
8	-0.12	-3.93	3.43

Note: Total events = 19

Table A16: Cumulative abnormal returns from assistant vice-minister and vice-minister appointments, internal appointments

Event Day	Estimate	95% CI lower	95% CI upper
-7	0	0	0
-6	-0.17	-0.57	0.25
-5	-0.16	-0.73	0.41
-4	-0.23	-0.97	0.48
-3	-0.12	-0.99	0.72
-2	0.35	-0.75	1.37
-1	0.93	-0.39	2.2
0	2.16	0.8	3.5
1	2.32	0.71	3.9
2	2.39	0.51	4.25
3	2.25	0.31	4.14
4	2.07	0.01	4.09
5	1.74	-0.53	3.66
6	1.78	-0.59	3.77
7	1.47	-0.98	3.52
8	1.53	-0.77	3.5

Note: Total events = 25

Table A17: Cumulative abnormal returns after hiring former vice-ministers as consultants

Event Day	Estimate	95% CI lower	95% CI upper
-7	0	0	0
-6	-0.41	-1.07	0.21
-5	-0.5	-1.9	0.66
-4	-0.37	-2	1.06
-3	-0.05	-1.88	1.56
-2	-0.36	-2.53	1.8
-1	1.12	-1.55	3.77
0	2.14	-0.18	4.7
1	3.21	0.32	5.95
2	3.47	-0.16	6.73
3	3.07	-0.62	6.36
4	2.76	-1.07	5.92
5	2.51	-1.38	5.54
6	1.58	-2.87	5.1
7	0.73	-3.86	3.75
8	0.7	-3.72	3.74

Note: Total events = 9

Table A18: Cumulative abnormal returns from assistant vice-minister and vice-minister appointments, METI appointments

Event Day	Estimate	95% CI lower	95% CI upper
-7	0	0	0
-6	0.05	-0.34	0.47
-5	0.26	-0.21	0.76
-4	0.35	-0.29	1.04
-3	0.69	-0.22	1.69
-2	0.71	-0.29	1.82
-1	1.25	-0.16	2.71
0	2.34	0.71	4.01
1	2.41	0.48	4.51
2	2.23	0.31	4.42
3	2.08	0.22	4.19
4	1.84	-0.11	4.05
5	1.21	-0.74	3.38
6	1.91	-0.11	4.24
7	2.13	0.08	4.62
8	2.46	0.4	4.75

Note: Total events = 27

Table A19: Cumulative abnormal returns from assistant vice-minister and vice-minister appointments, appointments from ministries other than METI

Event Day	Estimate	95% CI lower	95% CI upper
-7	0	0	0
-6	-0.3	-0.81	0.22
-5	0.04	-0.78	0.91
-4	0.1	-0.79	1.05
-3	-0.4	-1.64	0.67
-2	-0.92	-2.66	0.6
-1	-0.07	-1.72	1.39
0	-0.25	-2.18	1.43
1	-0.2	-2.42	1.74
2	0.2	-2.17	2.25
3	0.46	-2.13	2.86
4	0.63	-2.01	3.25
5	0.11	-2.83	2.69
6	-0.21	-3.23	2.42
7	-0.93	-4.26	1.89
8	-1.05	-4.51	1.92

Note: Total events = 20

Subgroup effects

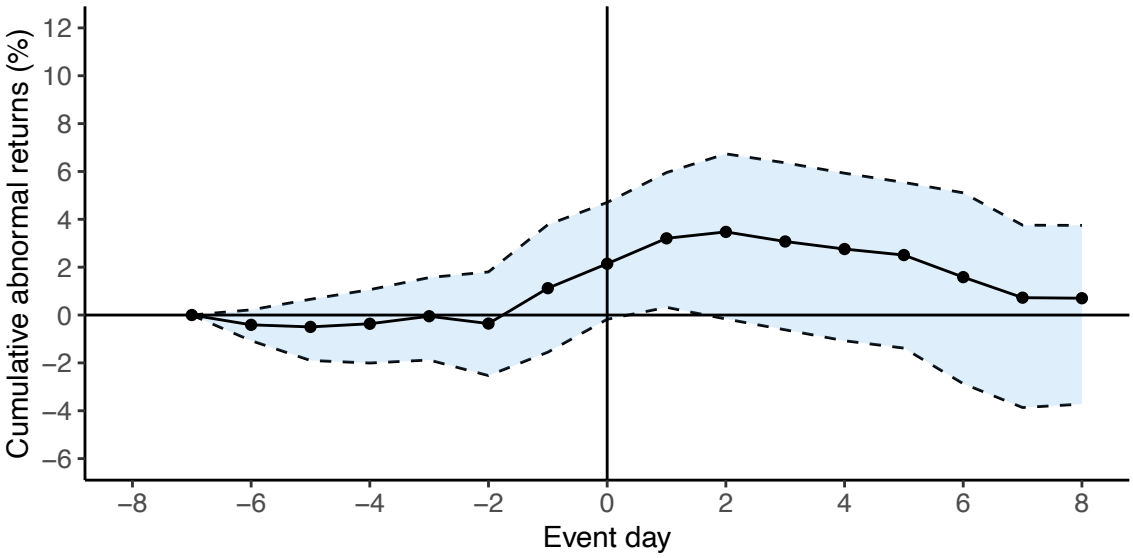


Figure A27: Cumulative abnormal returns after hiring former vice-ministers as consultants

Note: Tabular results can be found in Table A17.

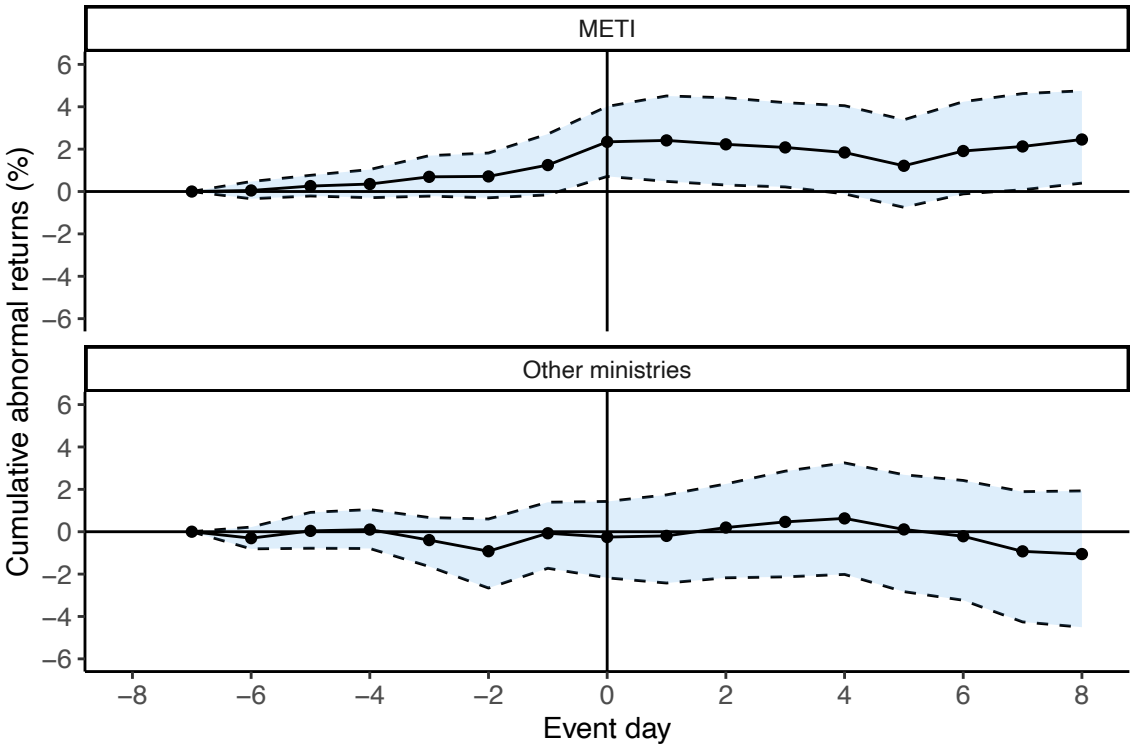


Figure A28: Cumulative abnormal returns from assistant vice-minister and vice-minister appointments from METI vs. other ministries

Note: Tabular results can be found in Table A18 and Table A19.

Stock robustness

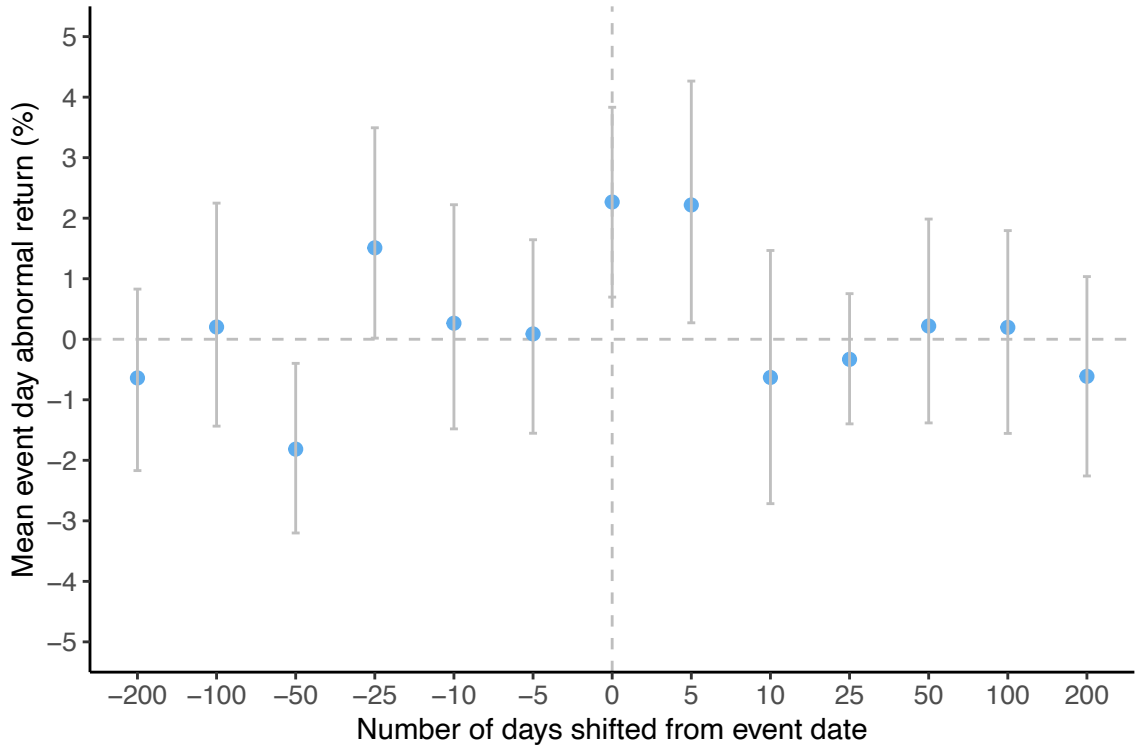


Figure A29: Time-shifted placebo sensitivity analysis of mean event day abnormal return for internal hires

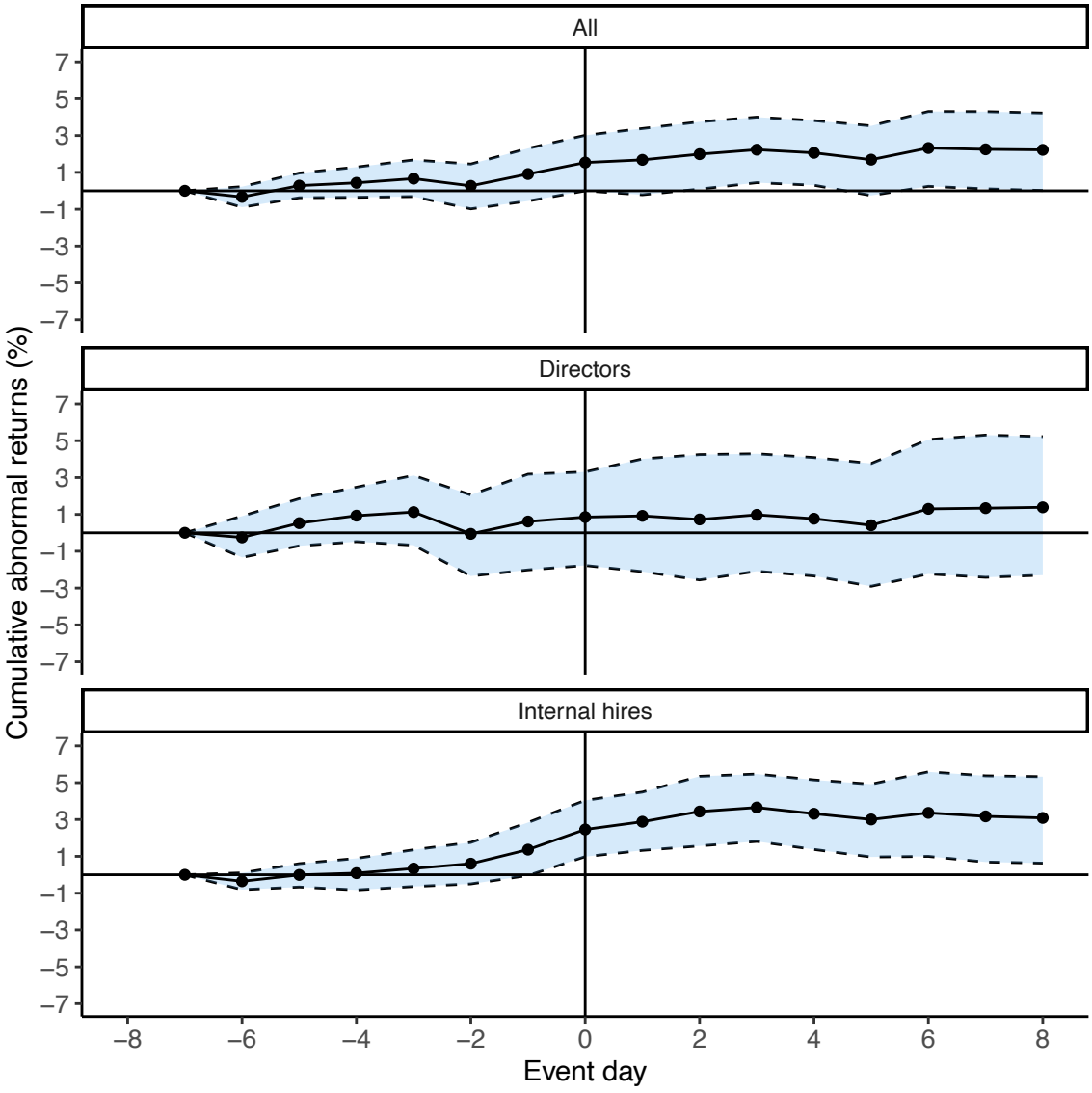


Figure A30: Cumulative abnormal returns from assistant vice-minister and vice-minister appointments (constant mean return model)

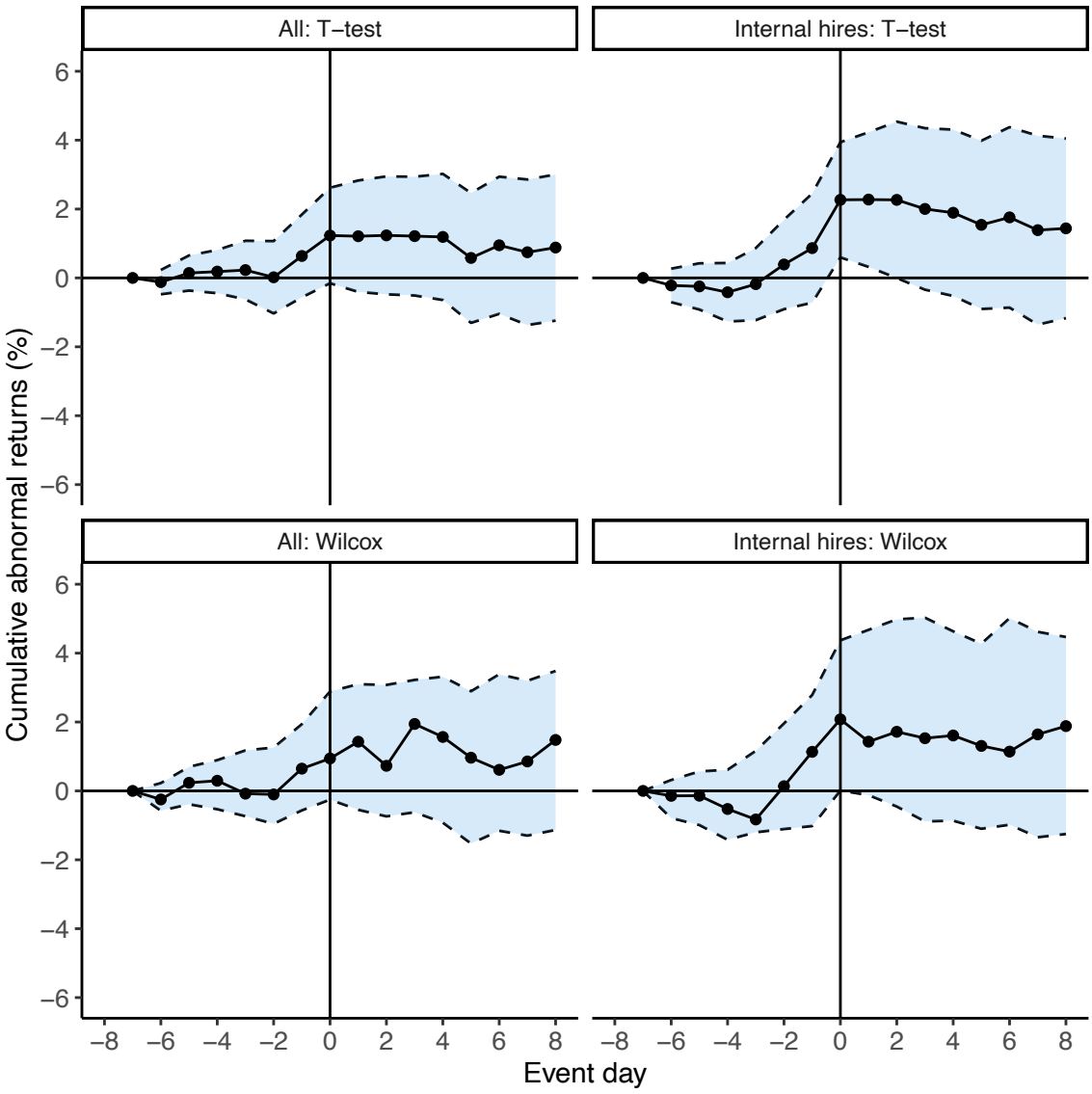


Figure A31: Cumulative abnormal returns from assistant vice-minister and vice-minister appointments (95% CIs from t-test and Wilcoxon rank test)

Note: Wilcoxon rank test charts plot median CARs rather than mean.

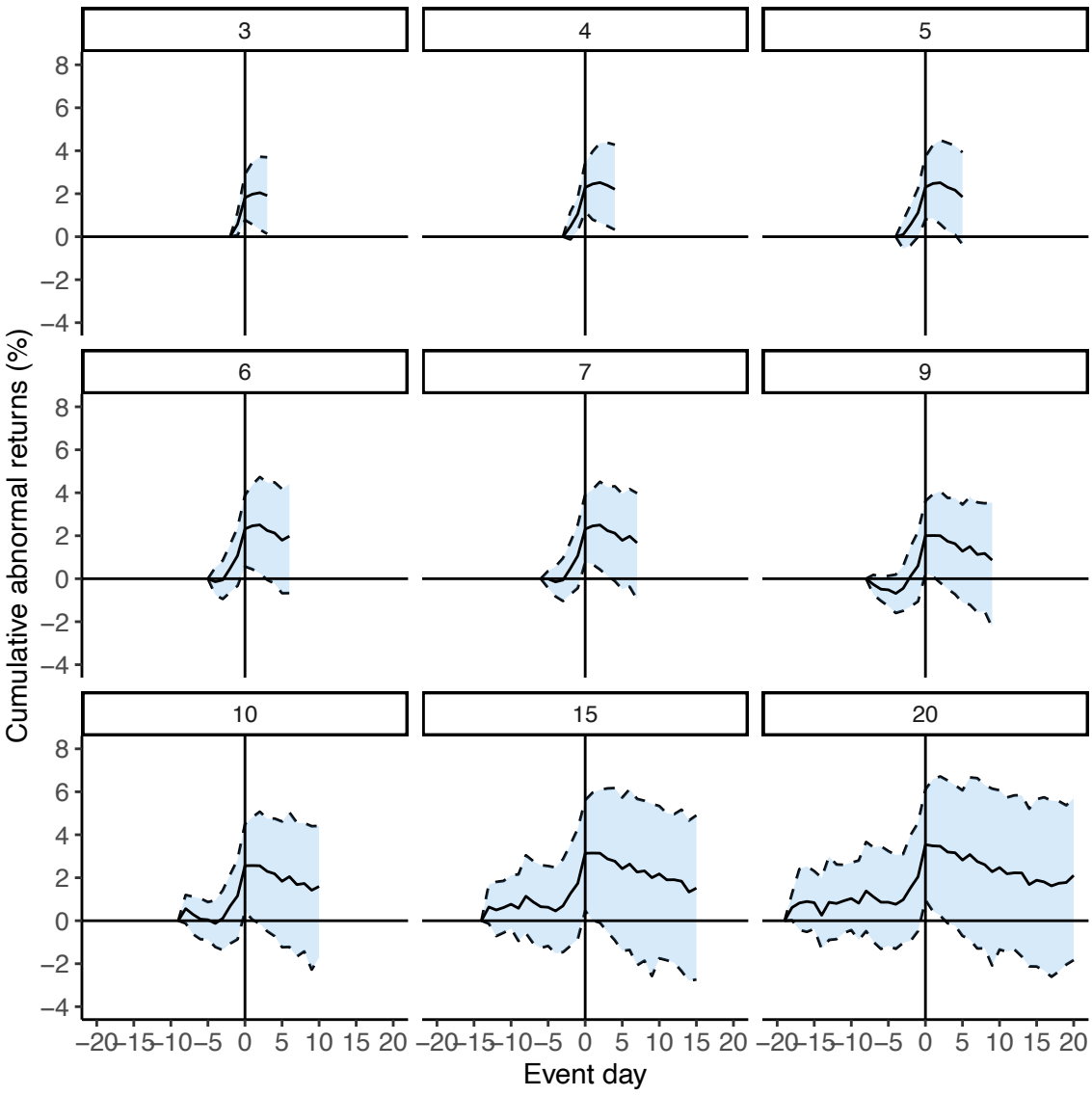


Figure A32: Cumulative abnormal returns from internal assistant vice-minister and vice-minister appointments, by event window

Nonprofit contract value

Tabular results

Table A20: Effect of amakudari appointments on NPO negotiated contract value (binary outcome)

time	Effect	SE	N
3	-0.28	0.35	728
2	0.3	0.2	1150
1	0.17	0.14	1723
0	0.68	0.1	2865

Table A21: Effect of amakudari appointments on NPO negotiated contract value (continuous outcome)

time	Effect	SE	N
3	-0.21	0.24	590
2	0.07	0.11	988
1	0.03	0.08	1508
0	0.26	0.05	2711

NPO robustness

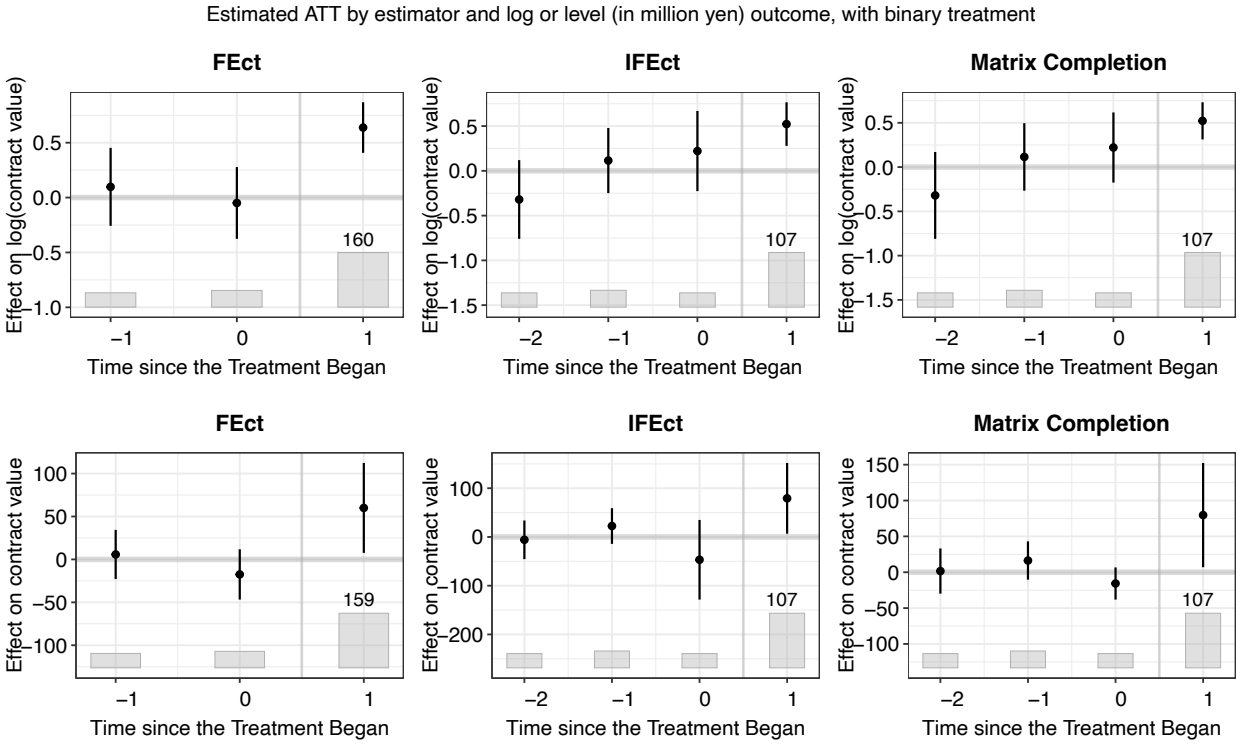


Figure A33: FEct, IFEct, and MC estimators: effect of *amakudari* appointments on NPO negotiated contract value, monthly aggregated data

Table A22

	Dependent variable:			
	Contract value (log)		Contract value (million yen)	
	(1)	(2)	(3)	(4)
Hires (binary)	0.416***		31.755*	
	(0.071)		(18.378)	
Hires (continuous)		0.092***		−0.550
		(0.019)		(4.789)
Observations	6,575	6,575	6,575	6,575
Note:				*p<0.1; **p<0.05; ***p<0.01

Table A23: Two-way fixed effects estimates of *amakudari* appointments on NPO negotiated contract value, monthly aggregation

Table A24

	Dependent variable:			
	Contract value (log)		Contract value (million yen)	
	(1)	(2)	(3)	(4)
Hires (binary)	0.274***		6.180	
	(0.085)		(41.165)	
Hires (continuous)		0.082***		4.352
		(0.019)		(9.318)
Observations	3,480	3,480	3,480	3,480
Note:				*p<0.1; **p<0.05; ***p<0.01

Table A25: Two-way fixed effects estimates of *amakudari* appointments on NPO negotiated contract value, yearly aggregation

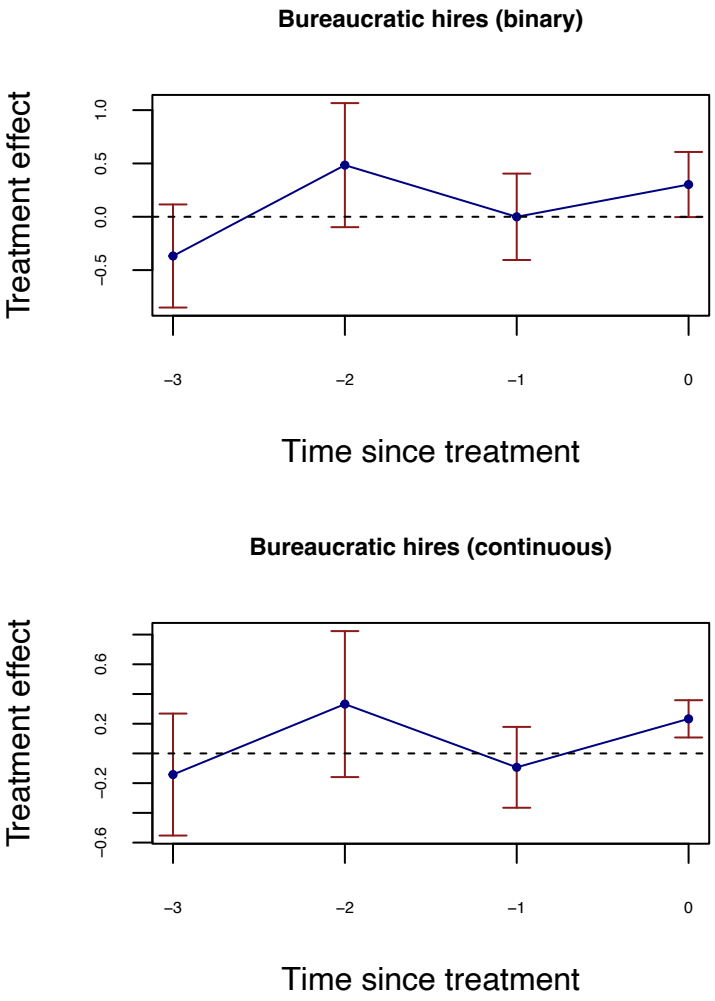


Figure A34: DID_M **estimator effect of *amakudari* appointments on log(NPO negotiated contract value), yearly aggregated data**

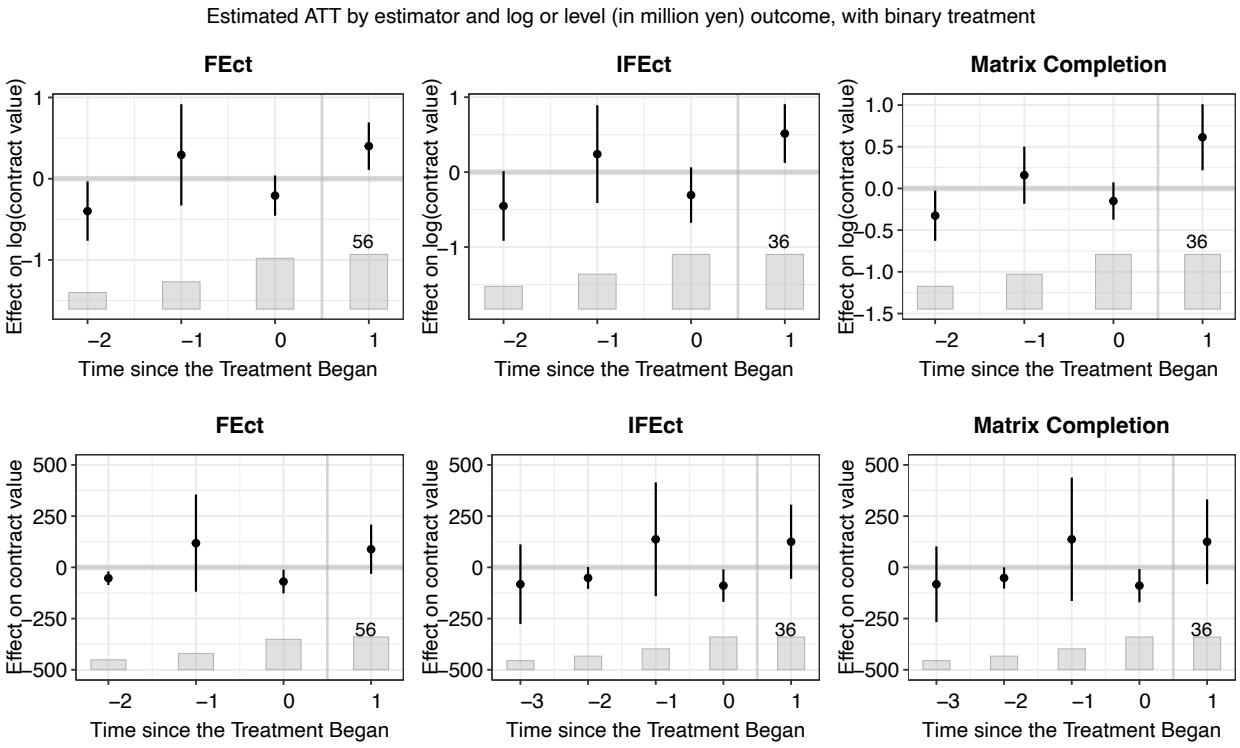
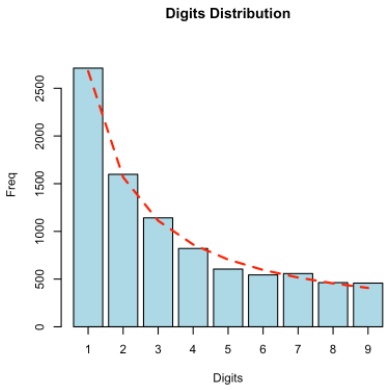
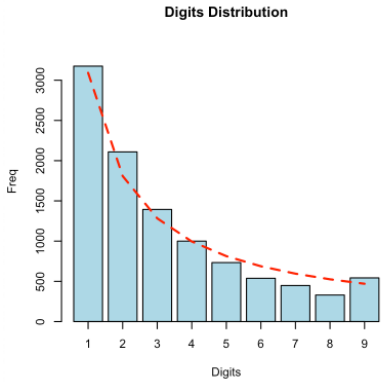


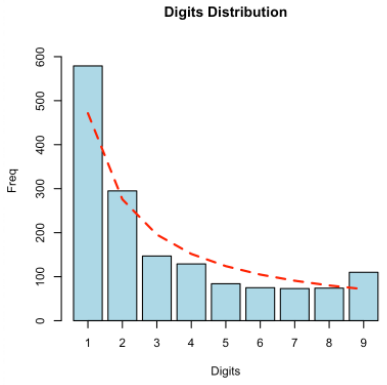
Figure A35: FEct, IFEct, and MC estimators: effect of *amakudari* appointments on NPO negotiated contract value, yearly aggregated data



(a) Competitive bid contracts



(b) Negotiated contracts



(c) Negotiated contracts when former bureaucrat in director position

Figure A36: Distribution of first digits: actual distribution in blue and predicted distribution according to Benford's Law in red