Part II
Supporting Information

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

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Limitations on data availability

Full replication data is available for all descriptive statistics and estimates in the "Data", "Is there a bifurcated job market for former civil servants?", "Do investors reward firms for bureaucratic hires?", and "Do nonprofits with bureaucratic connections receive more lucrative contracts?" sections. Replication data is not available for descriptive statistics and estimates in the "Do firms that hire bureaucrats secure more government loans?" section, as these analyses rely on proprietary data from Nikkei Inc. Analyses in this section can be replicated using the provided replication code and the universe of firm financial information and government loan data from Nikkei NEEDS for years 2009 - 2019. Please contact the author at t.n.incerti@uva.nl for more detailed information.

Replication files for the creation and cleaning of the *Amakudata* dataset can be found at: https://github.com/tincerti/amakudata. The cleaned *Amakudata* dataset is provided at Harvard Dataverse. A dashboard that allows users to explore and download the data can also be found at https://trevorincerti.shinyapps.io/amakudashboard/. Replication files for the creation and cleaning of the jNPO nonprofit contract and subsidy dataset can be found at: https://github.com/tincerti/jNPO. The cleaned jNPO dataset is provided at Harvard Dataverse.

Interview protocols are provided but full interview transcripts are not made publicly available for the purpose of confidentiality.

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.

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 descriptive statistics

Retirements by firm and firm type

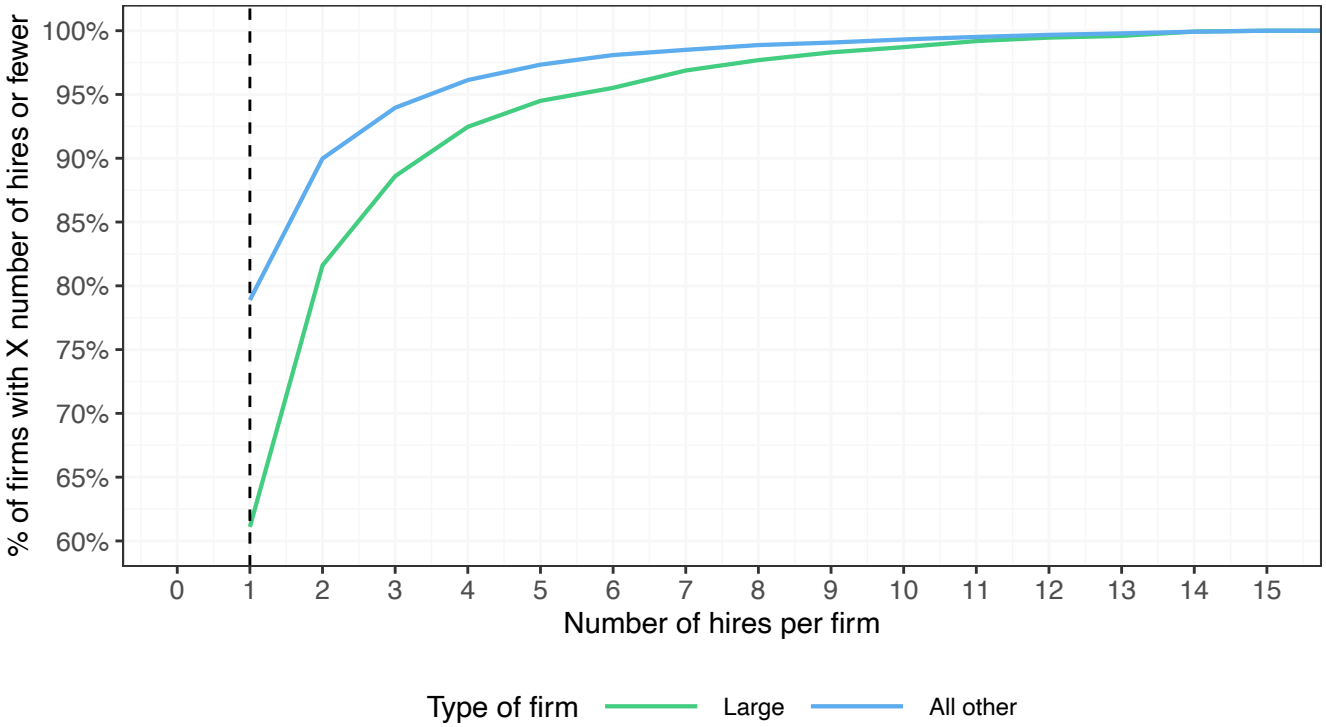


Figure A1: Empirical cumulative distribution function of number of hires per firm

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

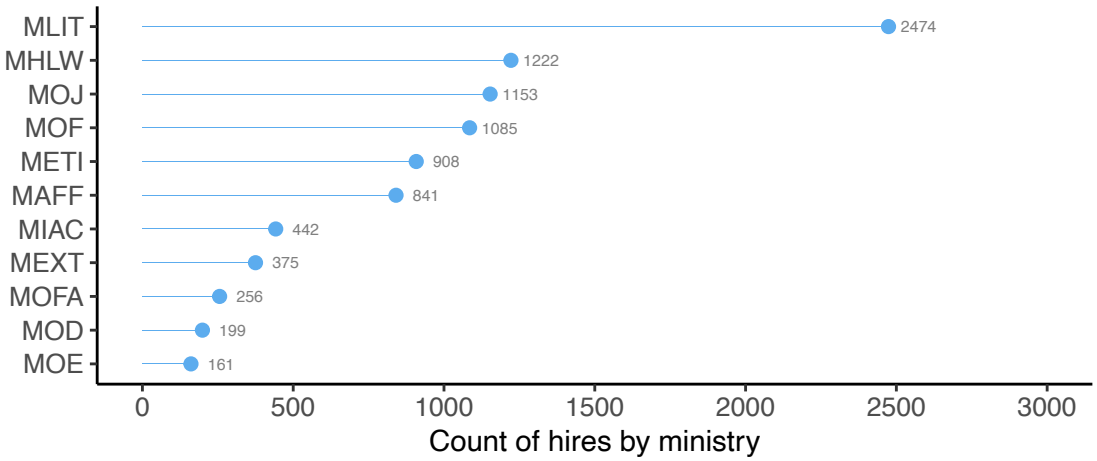
Note: "Percent of firms" only includes firms with financial information in the NEEDS database.

Table A2: Amakudari industry destinations vs. overall economy

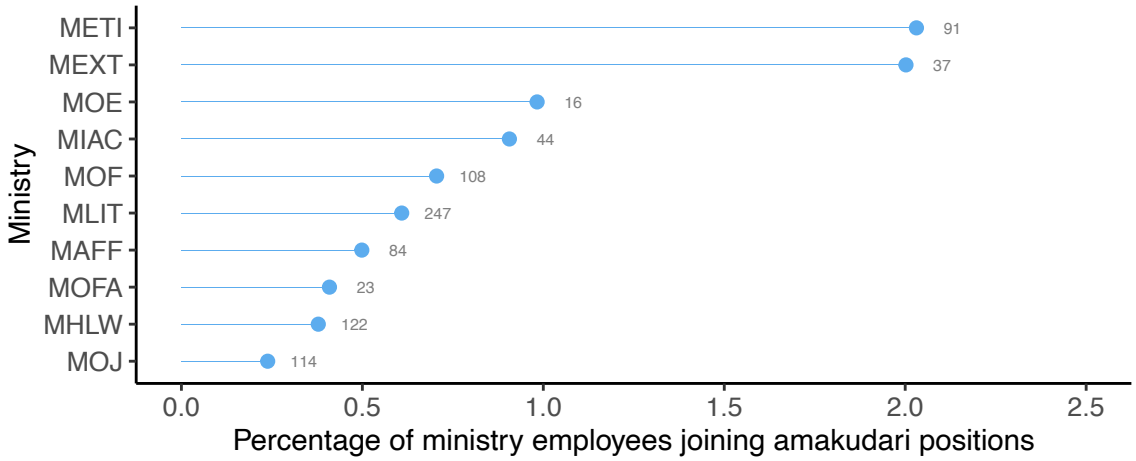
Industry	Count amakudari	Percent of firms	Percent of amakudari	Difference
Services	474	15.9	14.6	-1.3
Finance	262	3.7	8.5	4.8
Construction	259	9.7	8.5	-1.2
Banks	255	0.6	7.8	7.2
Insurance	248	0.3	3.7	3.4
Land Transportation	243	2.8	5.8	3.0
Electric Appliances	196	4.1	5.1	1.0
Wholesale Trade	167	16.3	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.

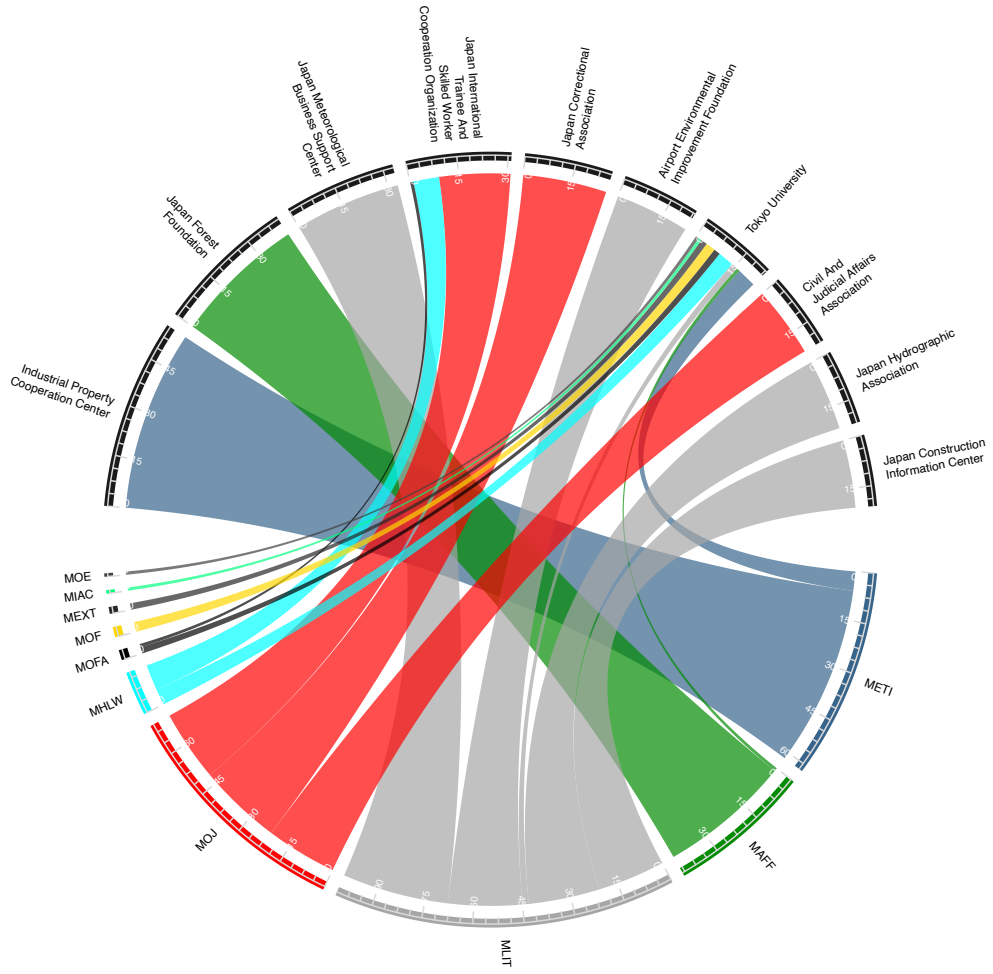


Figure A4: Flows from ministries to top ten public interest corporations (all years)

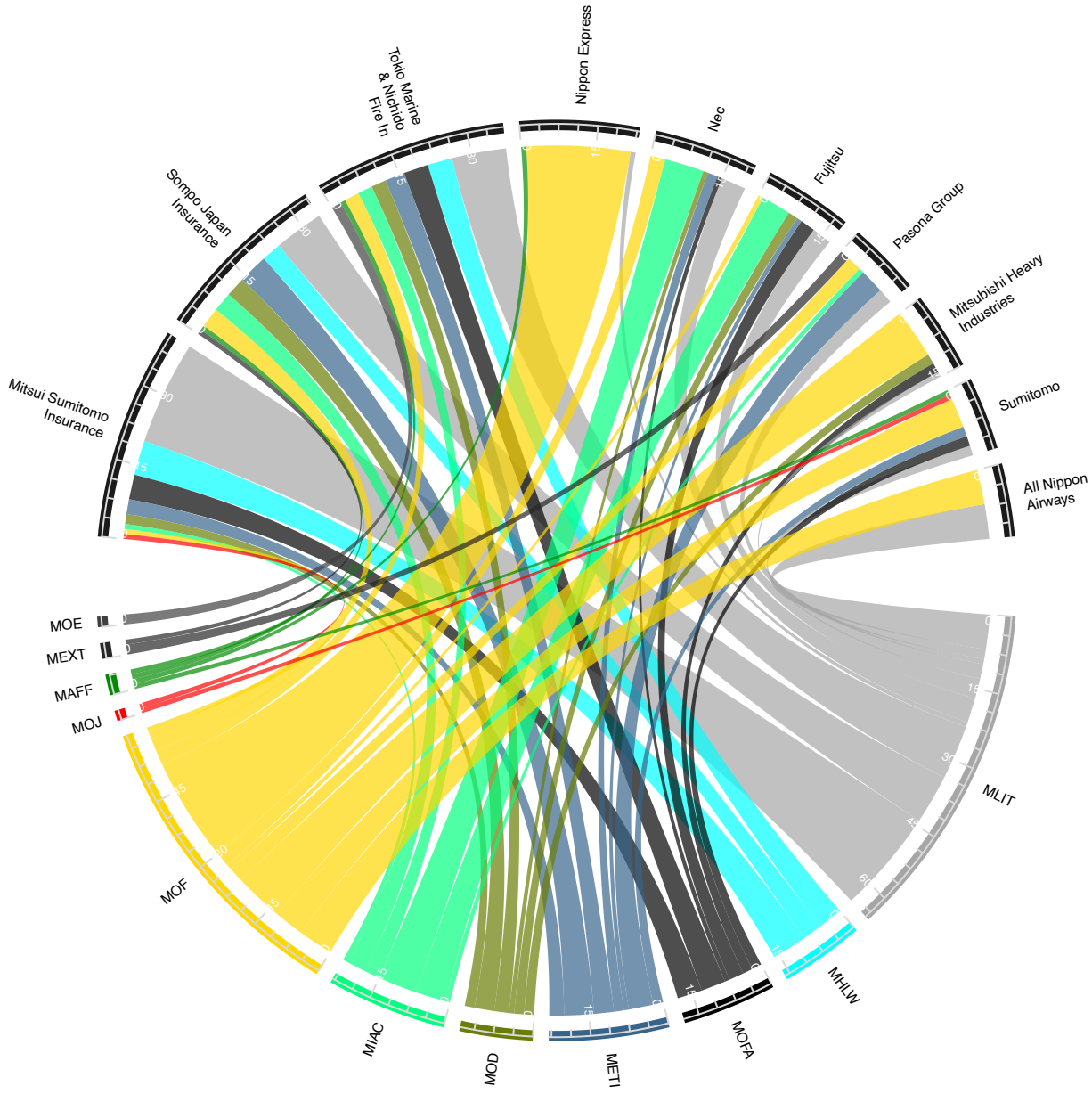
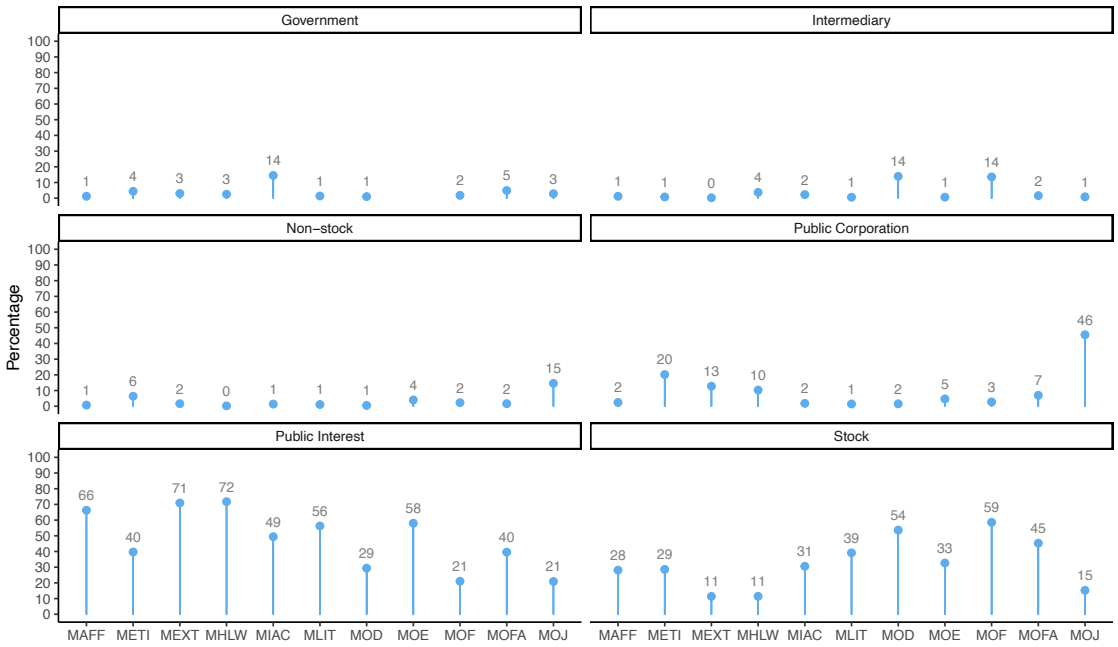
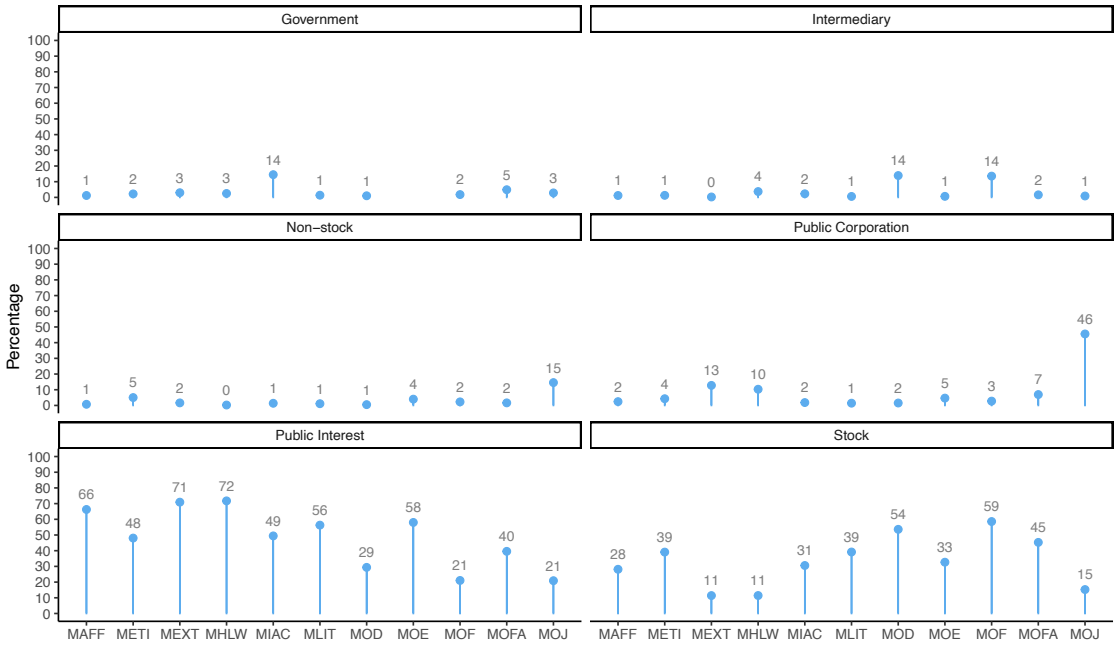


Figure A5: Flows from ministries to top ten private corporations (all years)

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	52	59	60	61	64
Government		58	45	58	60	60	63
Private corporation	Intermediary	59	56	57	59	60	61
Private corporation	Non-stock	59	46	60	60	60	61
Private corporation	Public Interest	59	55	58	60	60	63
Private corporation	Stock	59	55	58	60	60	62
Public corporation		59	54	58	59	60	63

Age of retirement

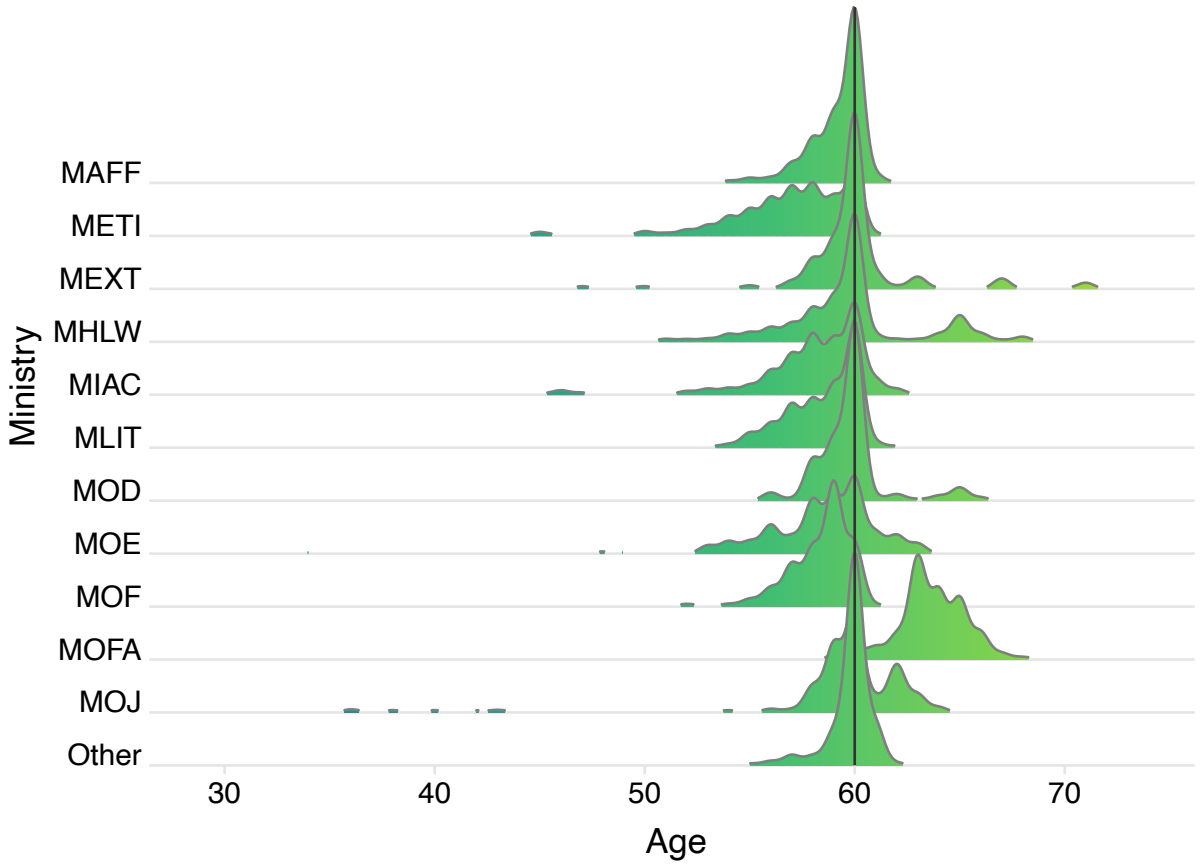


Figure A7: Age of exit from ministry, by ministry

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

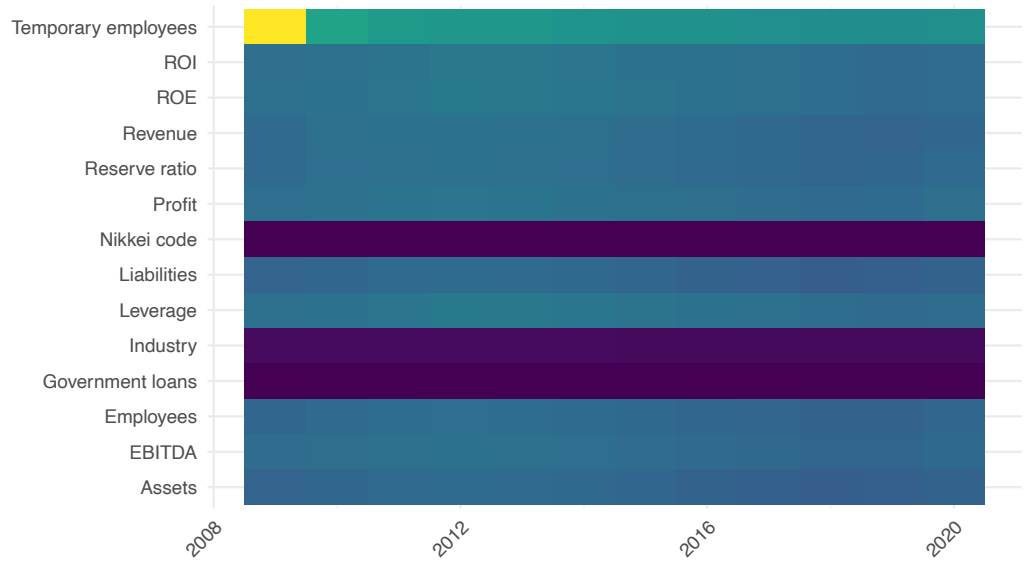
Table A4: For-profit firm financial data by *amakudari* status

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.

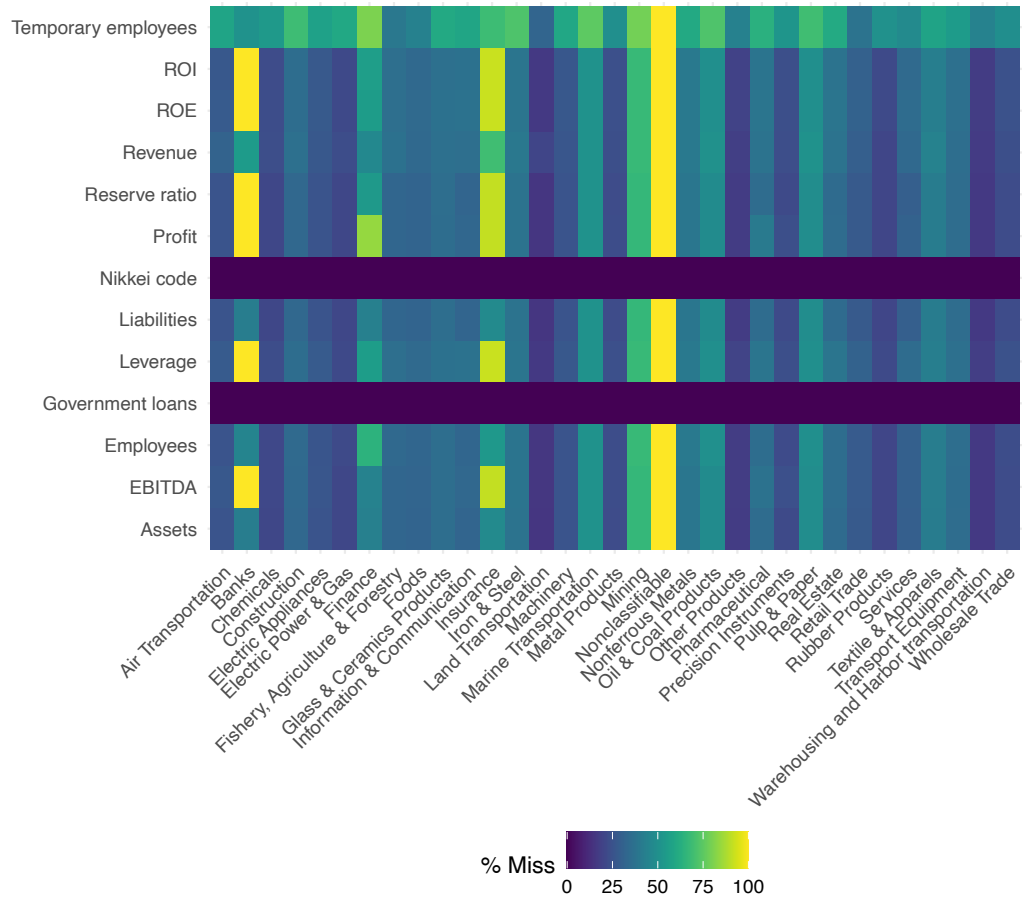
	No public loans (N=4820)		Public loans (N=991)			
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**Diff. in Means**	**p**
Number of amakudari	0.29	1.77	0.77	2.52	0.48	<0.01
Total assets	735.96	8449.58	391.20	1219.81	-344.76	<0.01
Total liabilities	655.80	8036.91	272.00	950.07	-383.80	<0.01
Operating revenue	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

Figure A8: Financial data missingness

Loan analysis

Descriptive statistics

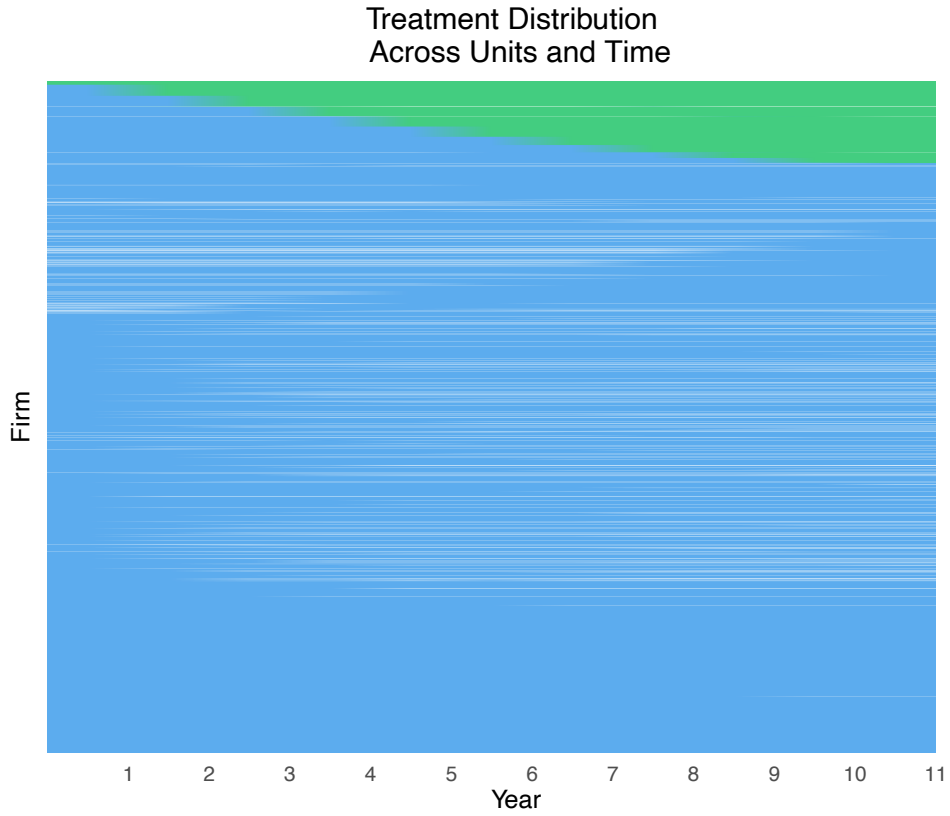


Figure A9: Distribution of treatment and control status of all firms in loan analysis

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

Effects by ministry

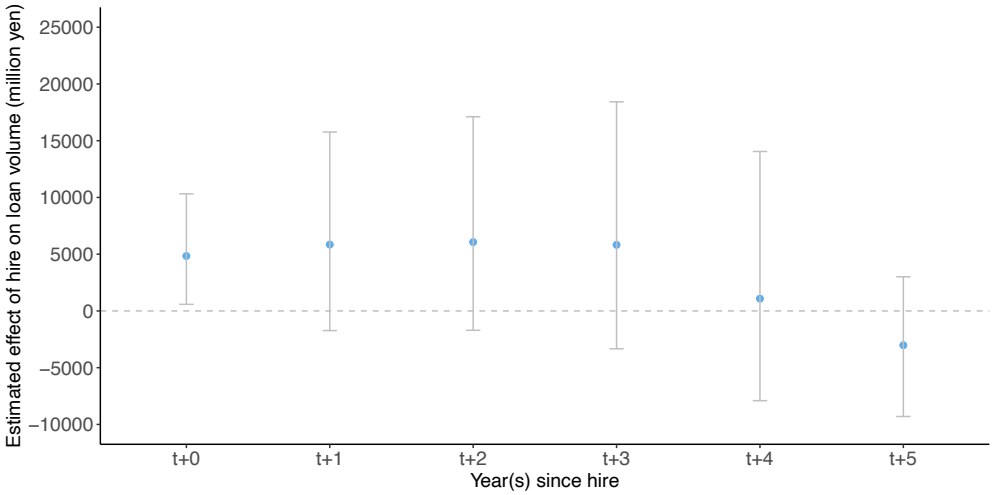


Figure A10: Estimated effect of bureaucratic hires on size of government loan received, METI re-hires only

Note: Tabular results can be found in Table A7.

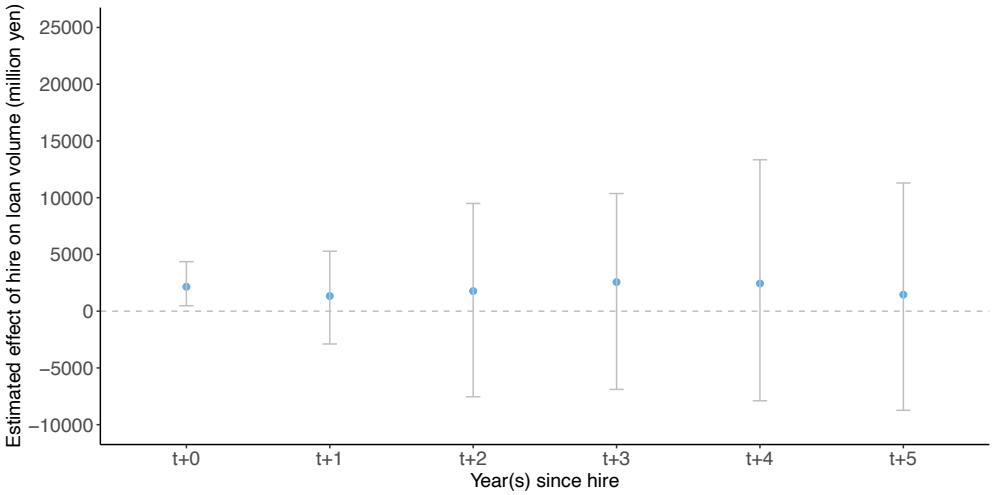


Figure A11: Estimated effect of bureaucratic hires on size of government loan received, MOF re-hires only

Note: Tabular results can be found in Table A8.

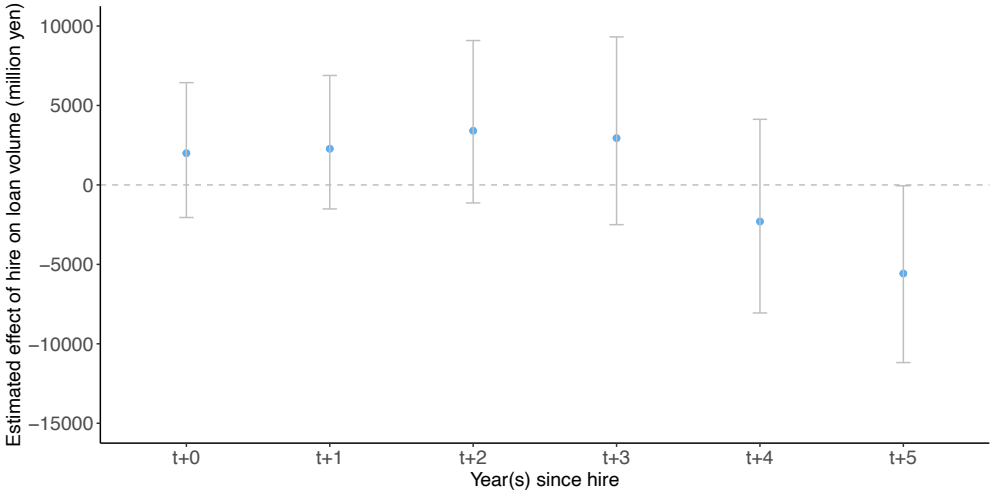


Figure A12: Estimated effect of bureaucratic hires on size of government loan received, all ministries other than METI and MOF

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 = 349

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

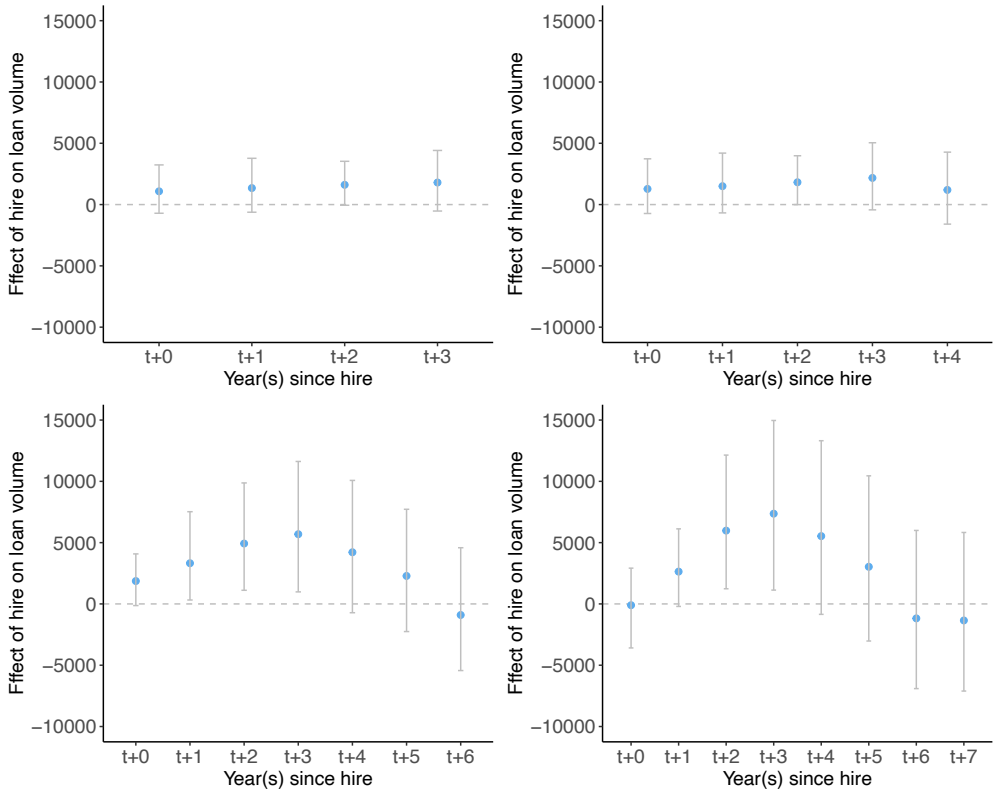


Figure A13: Estimated effect of bureaucratic hires on size of government loan received, by year after hire and lead window

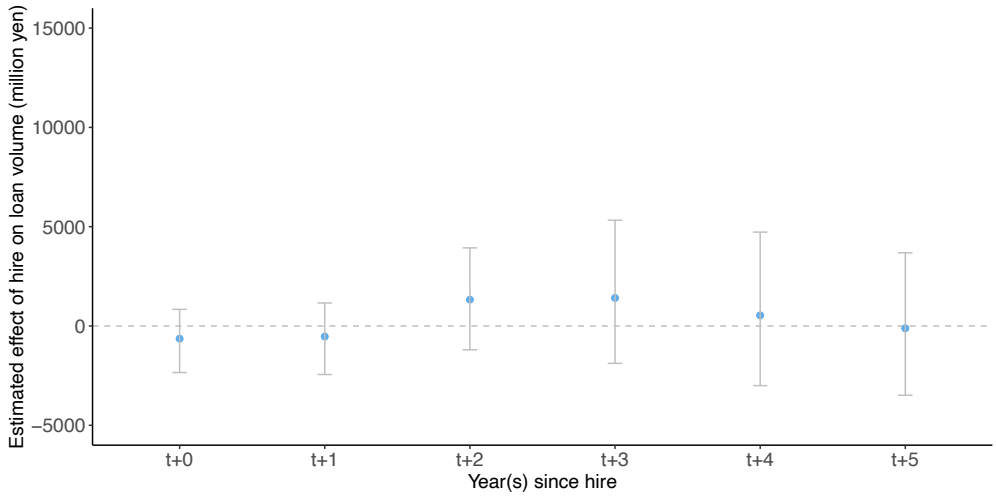


Figure A14: Estimated effect of bureaucratic hires on size of government loan received, by year after hire (restricted to matches in two periods prior to treatment)

Note: Tabular results can be found in Table A11.

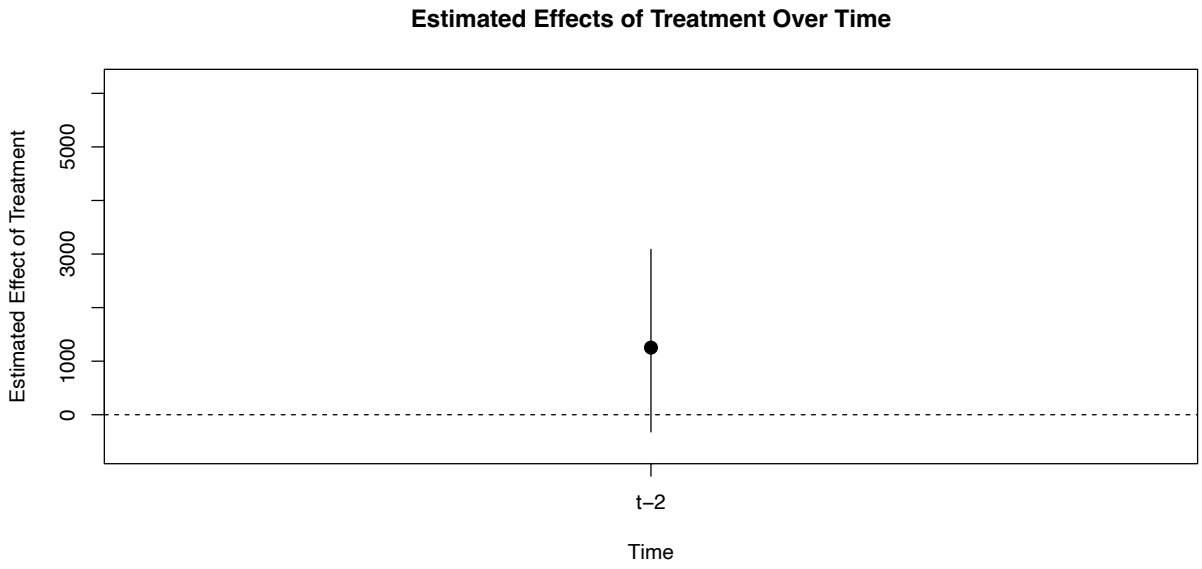


Figure A15: Placebo test of effect of bureaucratic hires on size of government loan received, by year before hire (restricted to matches in two periods prior to treatment)

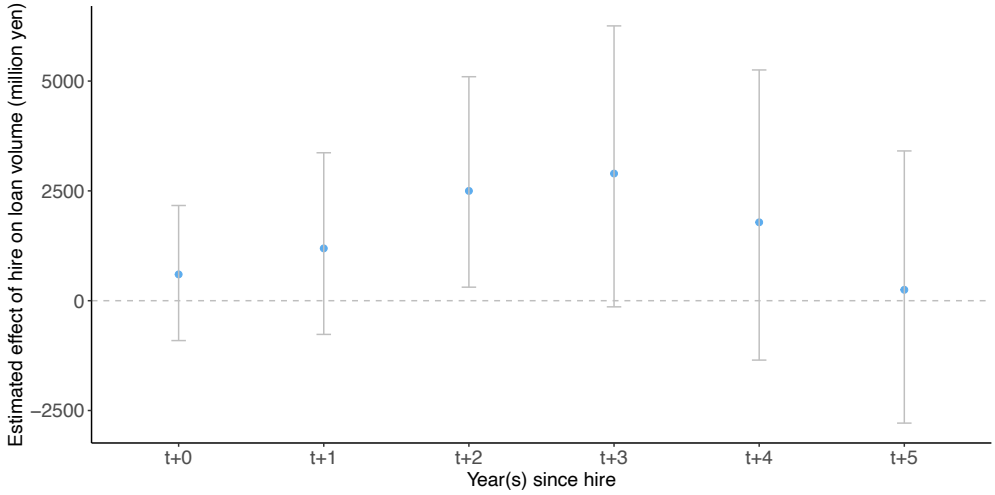
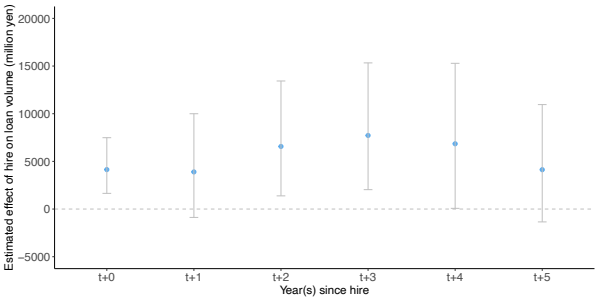
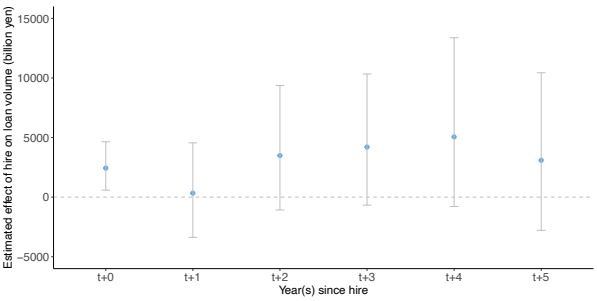


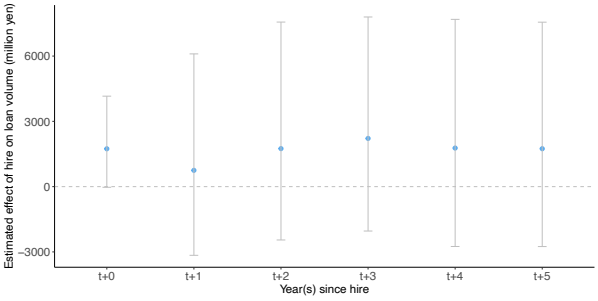
Figure A18: Estimated effect of bureaucratic hires on size of government loan received, by year after hire, including additional plausibly post-treatment covariates (leverage, reserve ratio, roe, roi)



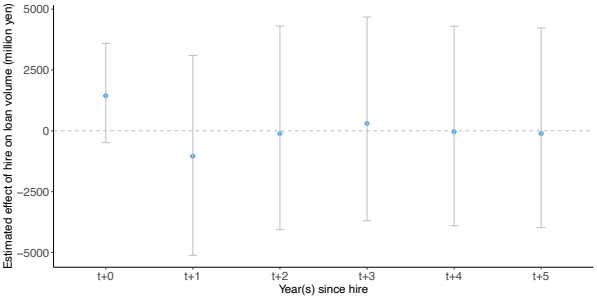
(a) 1-period match



(b) 2-period match

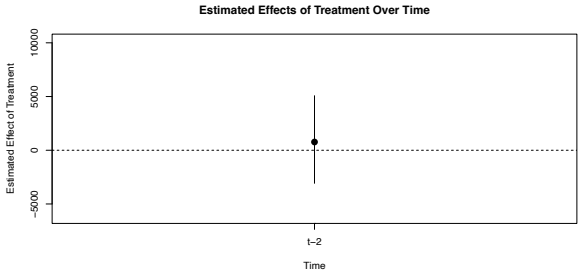


(c) 3-period match

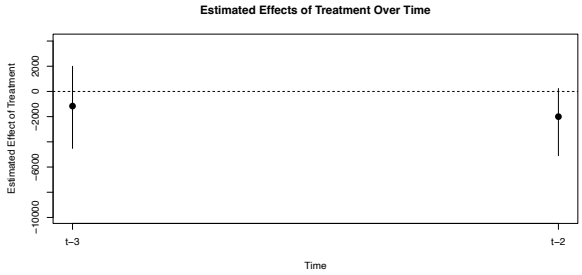


(d) 4-period match

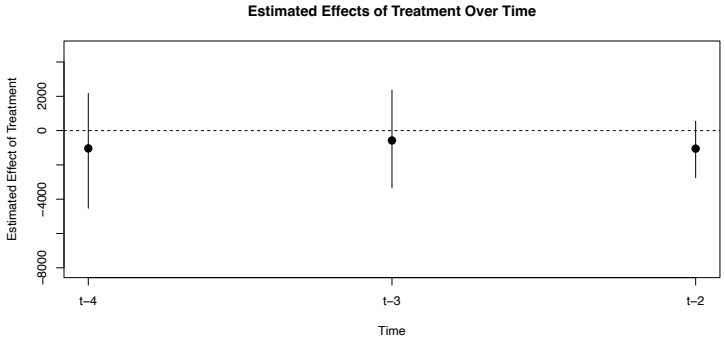
Figure A16: Estimated effects of METI and MOF hires on size of government loan received, by year after hire, with varying pre-treatment matching windows (1 to 4 periods).



(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).

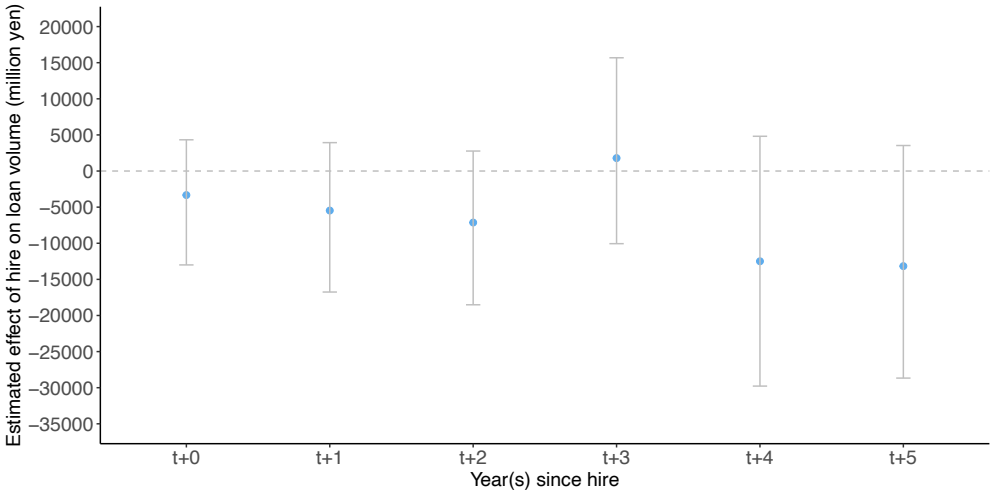
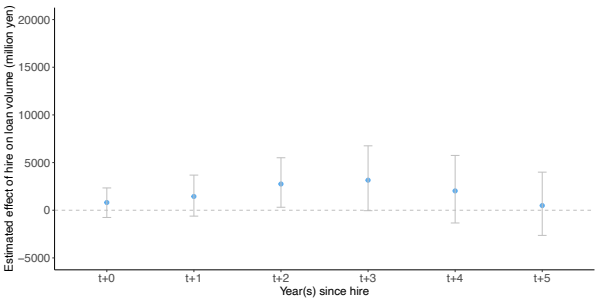
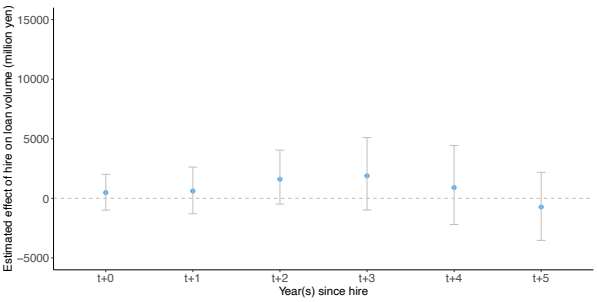


Figure A19: Estimated effect of bureaucratic hires on size of private loans received, by year after hire

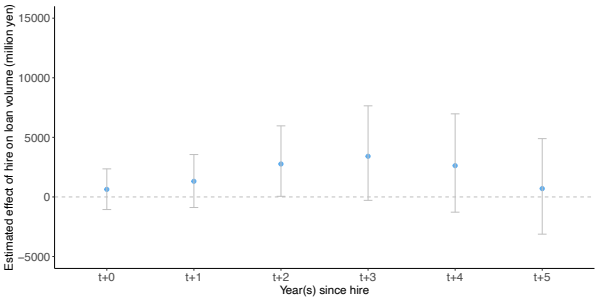
Note: Tabular results can be found in Table A13.



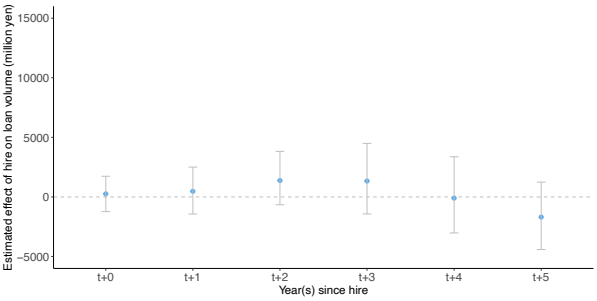
(a) Mahalanobis matching



(b) Propensity score matching

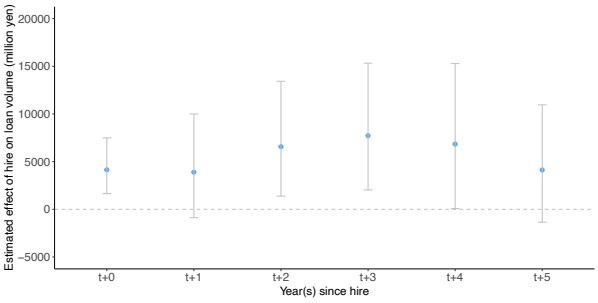


(c) Covariate balanced propensity scores (CBPS)

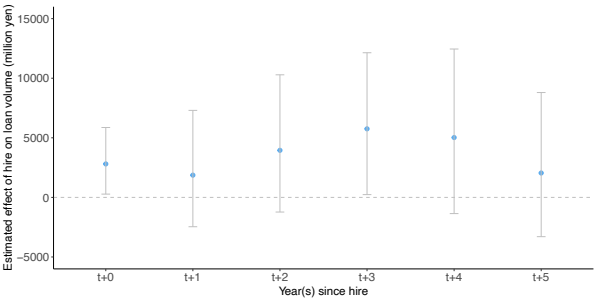


(d) CBPS with marginal structural model (MSM)

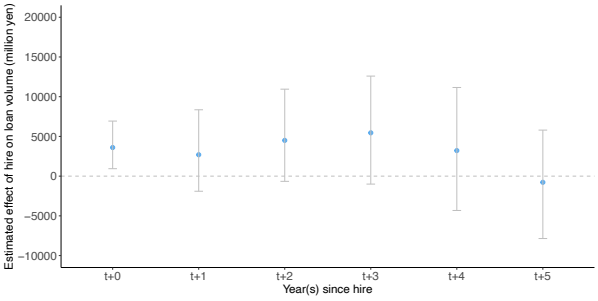
Figure A20: Estimated effects of bureaucratic hires on size of government loans received, by year after hire, using alternative matching methods.



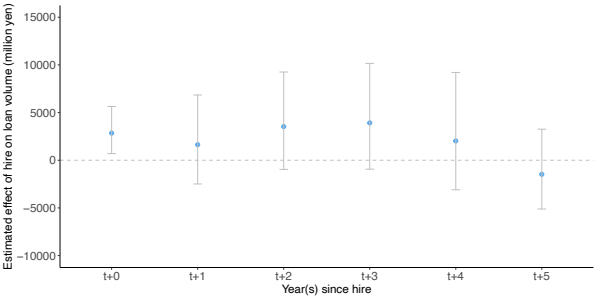
(a) Mahalanobis matching



(b) Propensity score matching

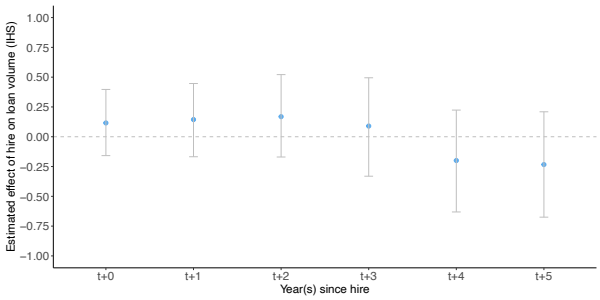


(c) CBPS

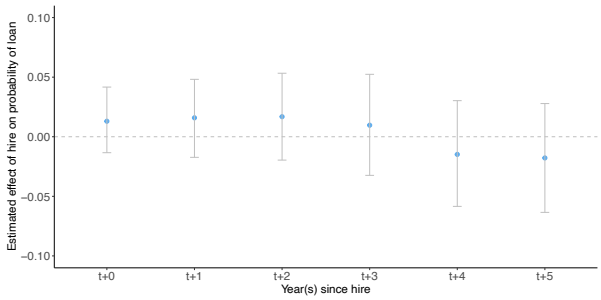


(d) CBPS with MSM

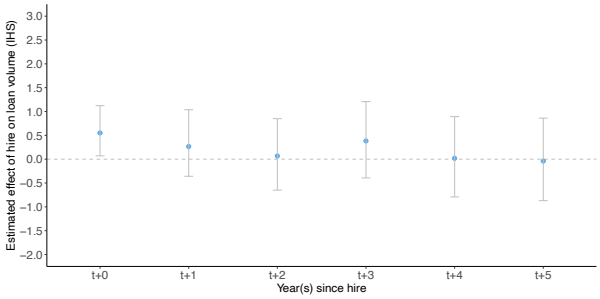
Figure A21: Estimated effects of METI and MOF hires on size of government loan received, by year after hire, using alternative matching methods.



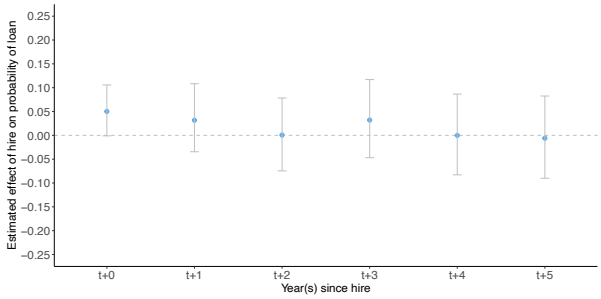
(a) All hires, inverse hyperbolic sine



(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

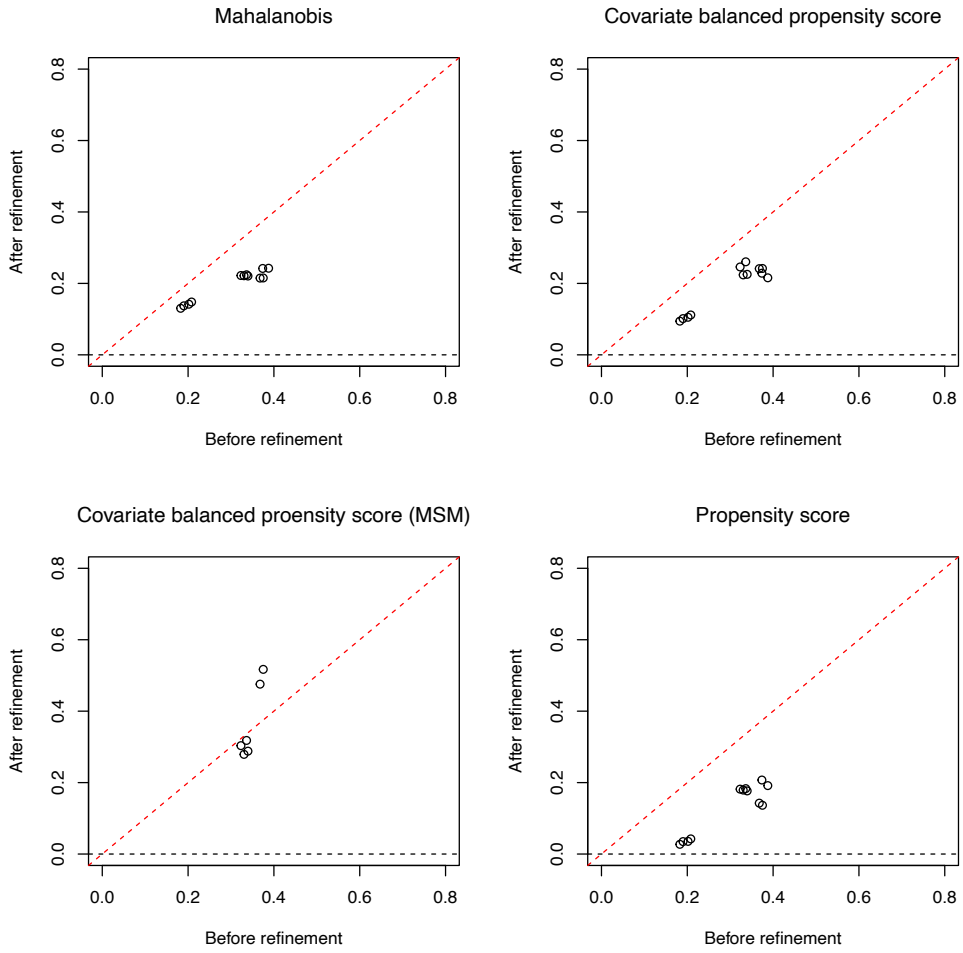


Figure A23: Balance of firm financials before and after matching

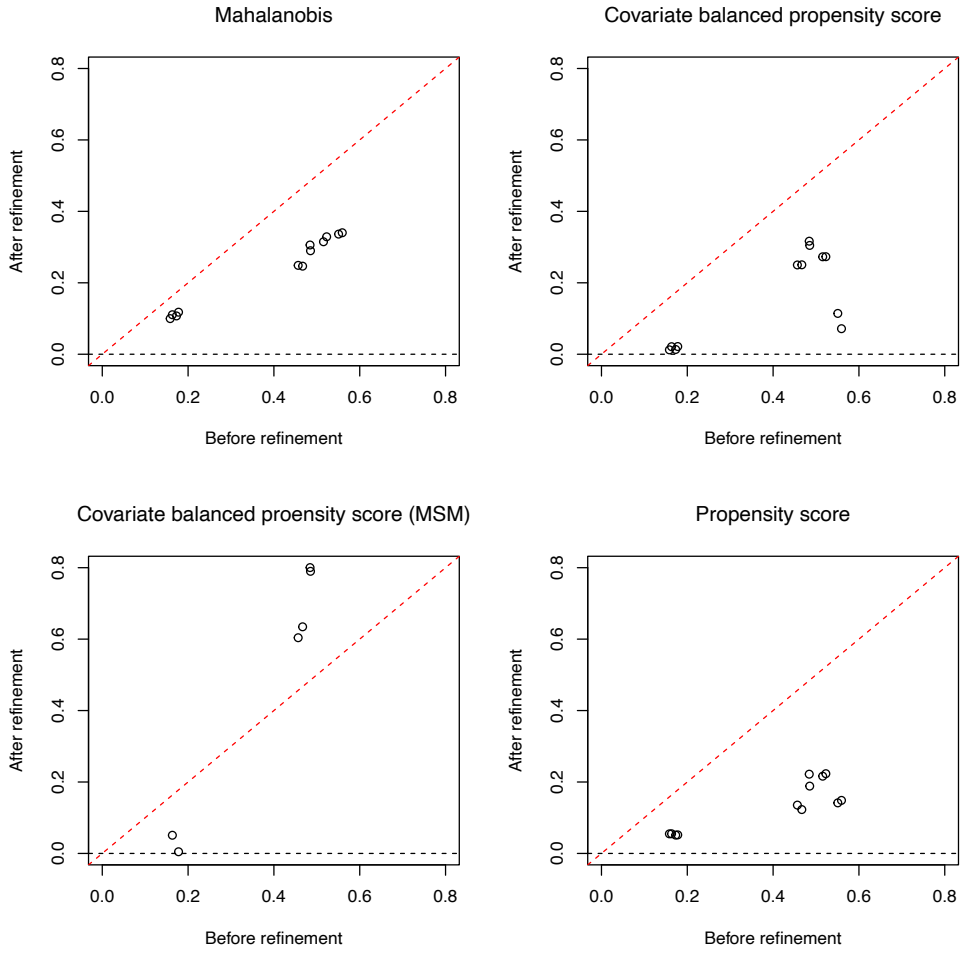


Figure A24: Balance of firm financials before and after matching (METI and MOF hires only)

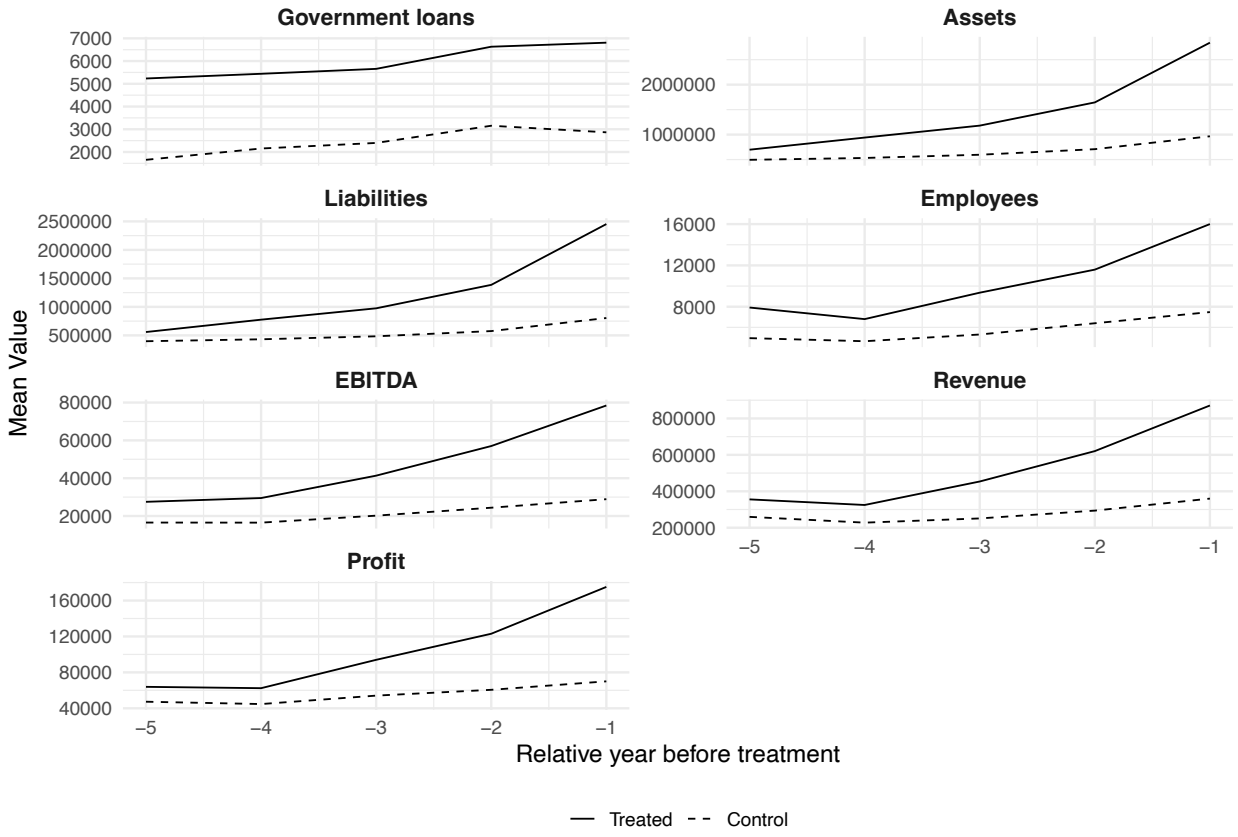


Figure A25: Mean value of government loans and covariates in pre-treatment periods, post 1-period lag matching

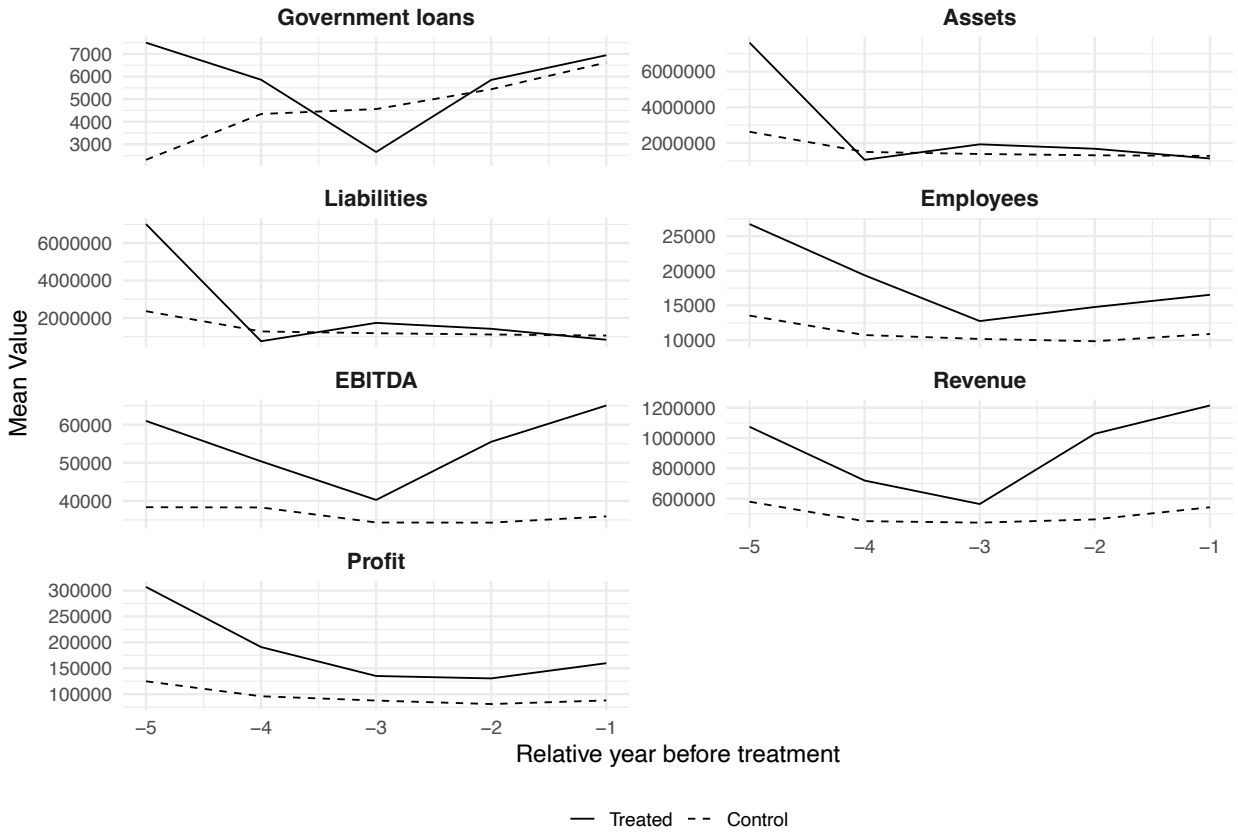


Figure A26: Mean value of government loans and covariates in pre-treatment periods, post 1-period lag matching (METI and MOF hires only)

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	0.17	-0.29	0.65
-4	0.25	-0.31	0.81
-3	0.23	-0.55	1.01
-2	0.02	-1.01	0.96
-1	0.69	-0.39	1.75
0	1.24	-0.07	2.57
1	1.31	-0.18	2.83
2	1.37	-0.19	3.09
3	1.4	-0.23	2.99
4	1.33	-0.33	3.08
5	0.75	-0.93	2.53
6	1.01	-0.77	2.87
7	0.83	-1.08	2.74
8	0.97	-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	-2.55	1.27
-1	0.19	-1.86	2.37
0	0.1	-2.37	2.41
1	0.14	-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	-3.92	2.15
6	-0.28	-3.5	2.95
7	-0.4	-4.08	2.98
8	-0.12	-3.92	3.44

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	-0.22	-0.97	0.49
-3	-0.12	-0.99	0.72
-2	0.35	-0.75	1.38
-1	0.94	-0.39	2.21
0	2.17	0.81	3.5
1	2.33	0.72	3.9
2	2.4	0.52	4.25
3	2.26	0.34	4.15
4	2.08	0.03	4.08
5	1.75	-0.51	3.66
6	1.79	-0.56	3.77
7	1.49	-0.98	3.55
8	1.55	-0.76	3.53

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	-2.01	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	3.2	0.32	5.95
2	3.47	-0.16	6.72
3	3.07	-0.62	6.35
4	2.75	-1.08	5.92
5	2.5	-1.39	5.53
6	1.58	-2.87	5.1
7	0.72	-3.87	3.75
8	0.7	-3.73	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	0.7	-0.22	1.69
-2	0.72	-0.29	1.82
-1	1.25	-0.15	2.71
0	2.35	0.72	4.02
1	2.42	0.49	4.51
2	2.23	0.31	4.42
3	2.09	0.22	4.2
4	1.85	-0.1	4.08
5	1.23	-0.73	3.39
6	1.92	-0.09	4.25
7	2.14	0.09	4.62
8	2.47	0.42	4.76

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	1.04
-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	1.42
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	2.68
6	-0.21	-3.23	2.41
7	-0.93	-4.25	1.89
8	-1.05	-4.51	1.92

Note: Total events = 20

Subgroup effects

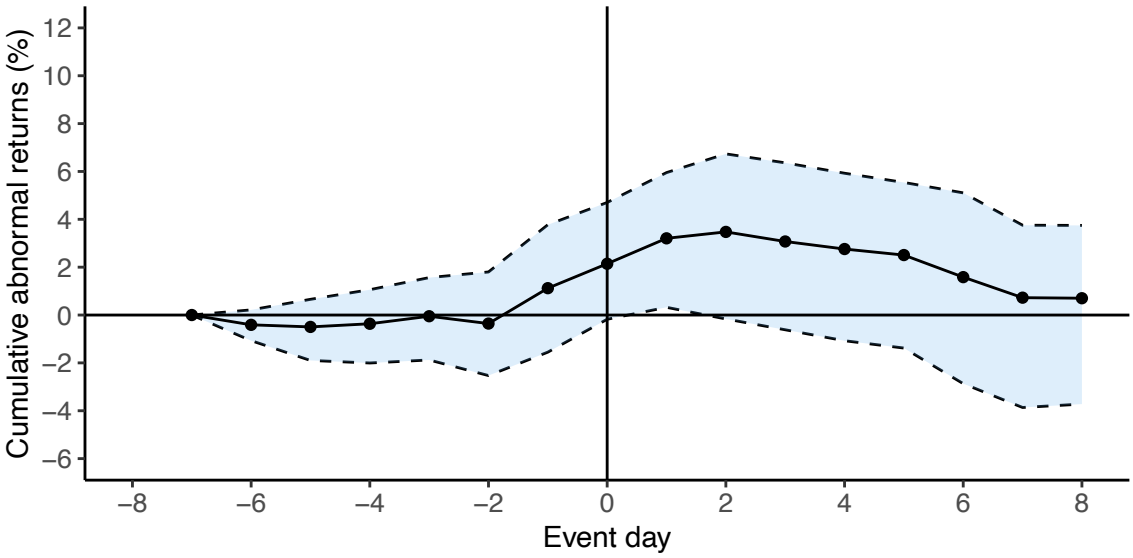


Figure A27: Cumulative abnormal returns after hiring former vice-ministers as consultants

Note: Tabular results can be found in Table A17.

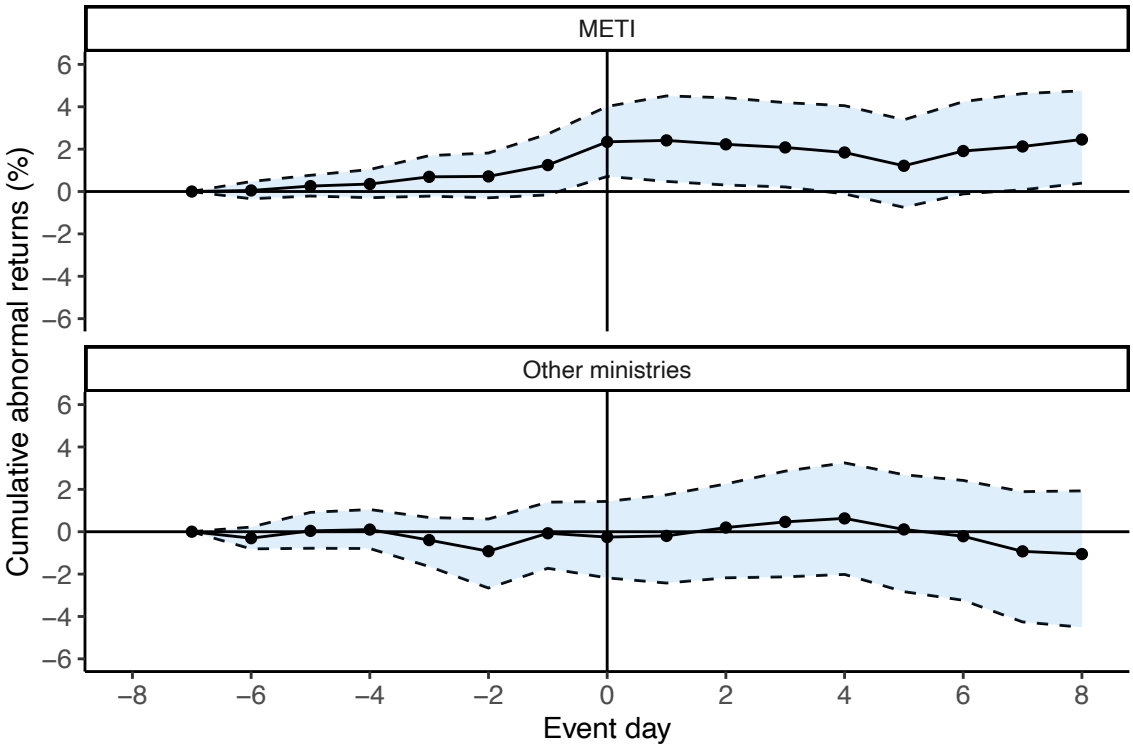


Figure A28: Cumulative abnormal returns from assistant vice-minister and vice-minister appointments from METI vs. other ministries

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

Stock robustness

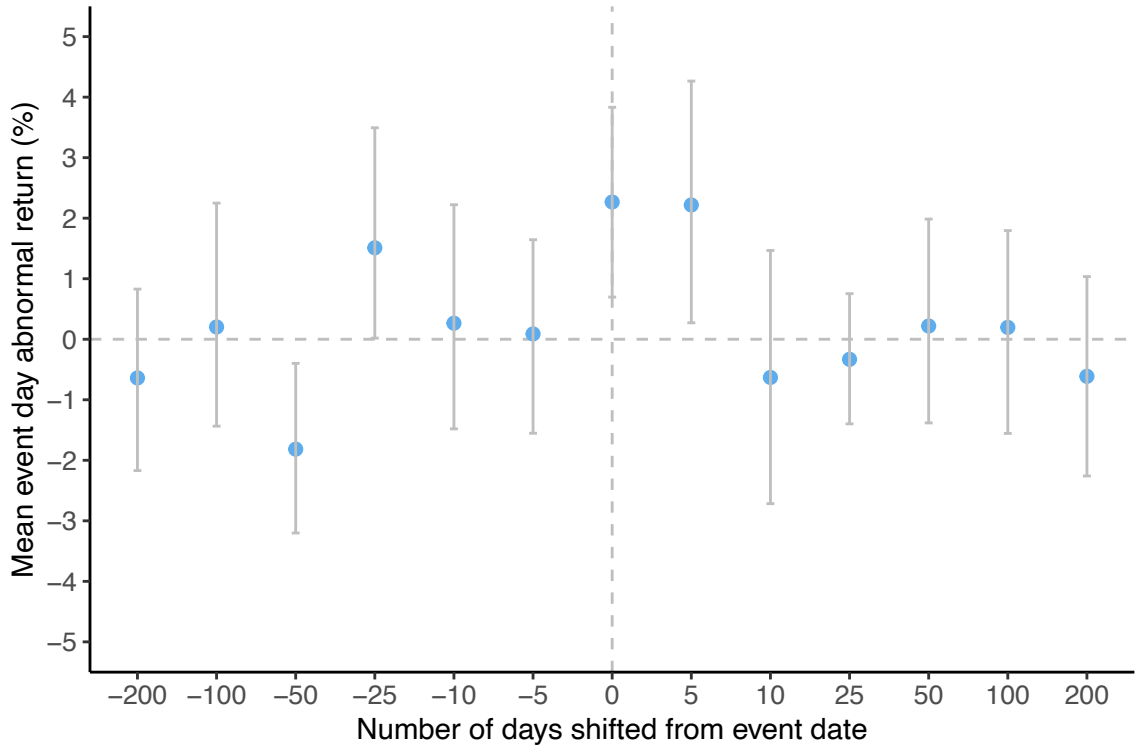


Figure A29: Time-shifted placebo sensitivity analysis of mean event day abnormal return for internal hires

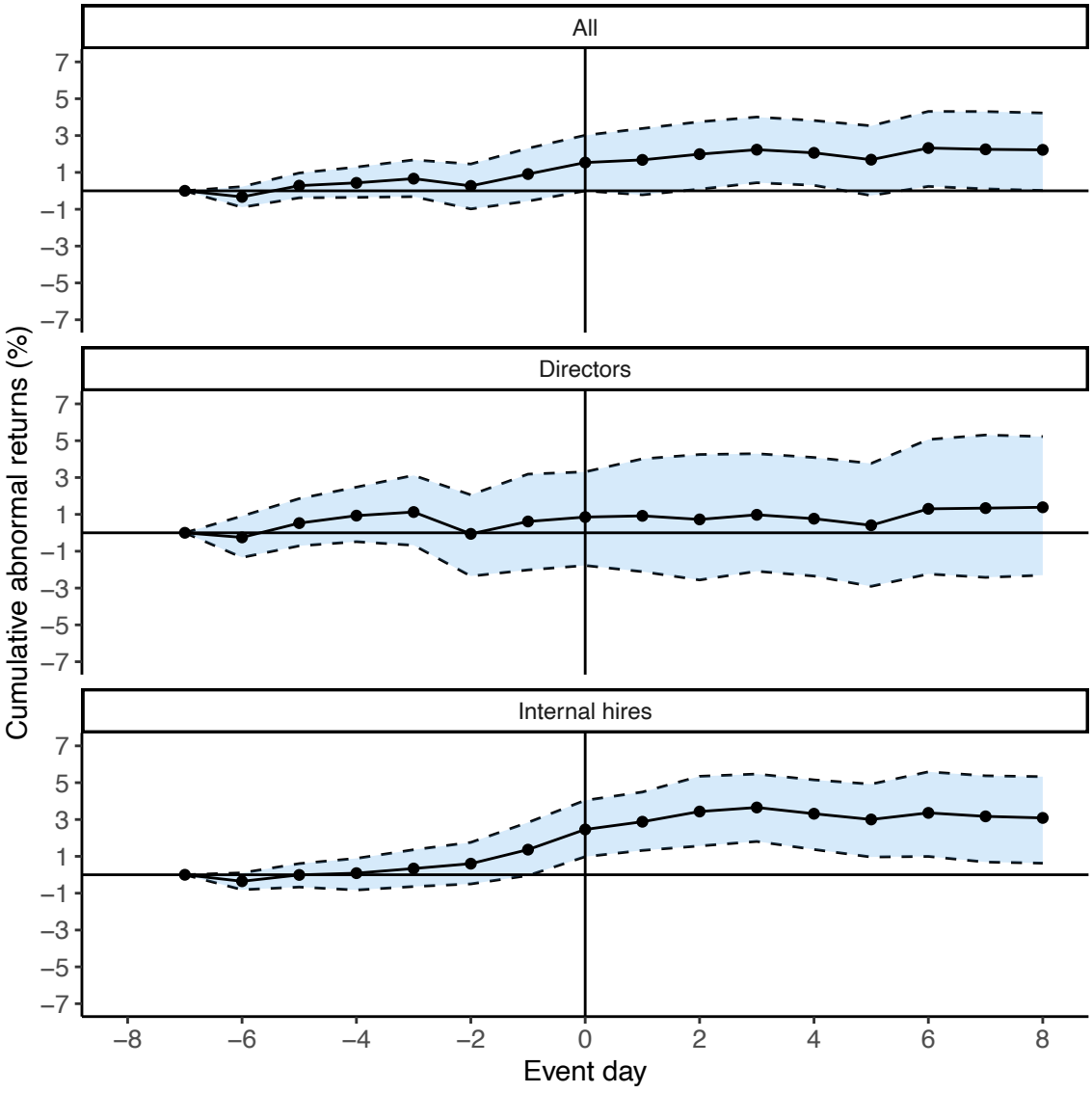


Figure A30: Cumulative abnormal returns from assistant vice-minister and vice-minister appointments (constant mean return model)

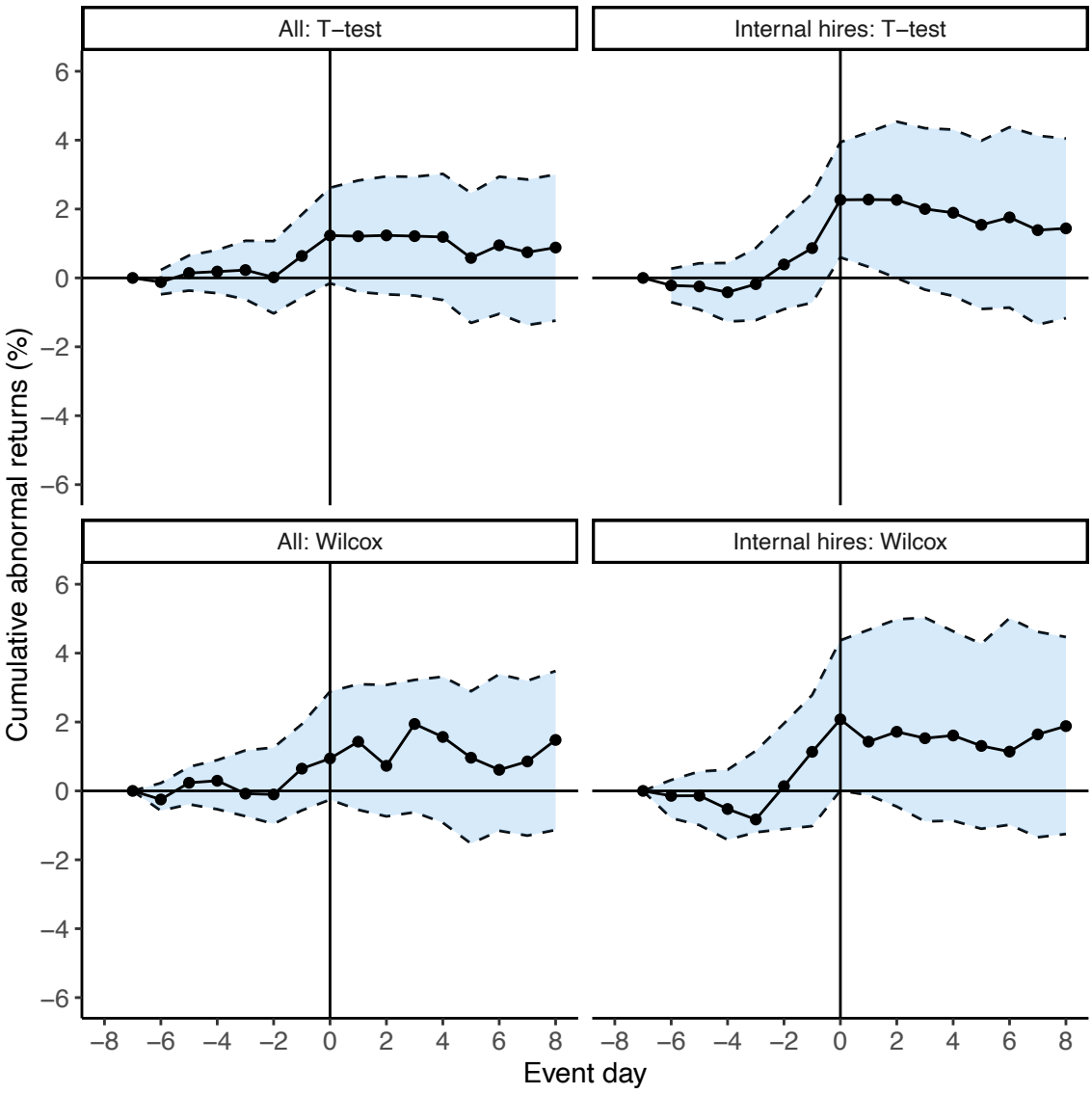


Figure A31: Cumulative abnormal returns from assistant vice-minister and vice-minister appointments (95% CIs from t-test and Wilcoxon rank test)

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

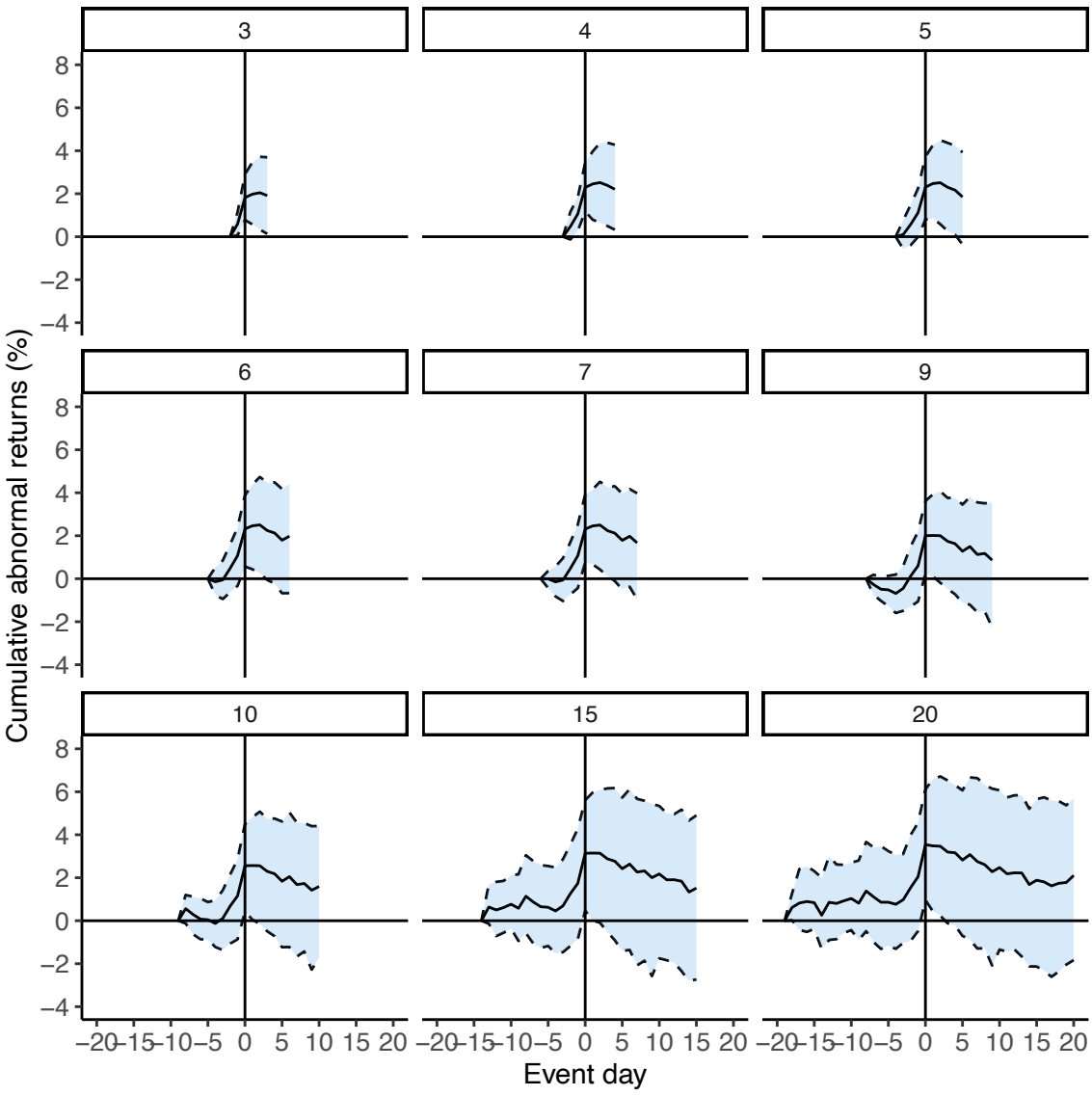


Figure A32: Cumulative abnormal returns from internal assistant vice-minister and vice-minister appointments, by event window

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	0.28	728
2	0.3	0.19	1150
1	0.17	0.15	1723
0	0.68	0.11	2865

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

time	Effect	SE	N
3	-0.21	0.19	590
2	0.07	0.11	988
1	0.03	0.09	1508
0	0.26	0.05	2711

NPO robustness

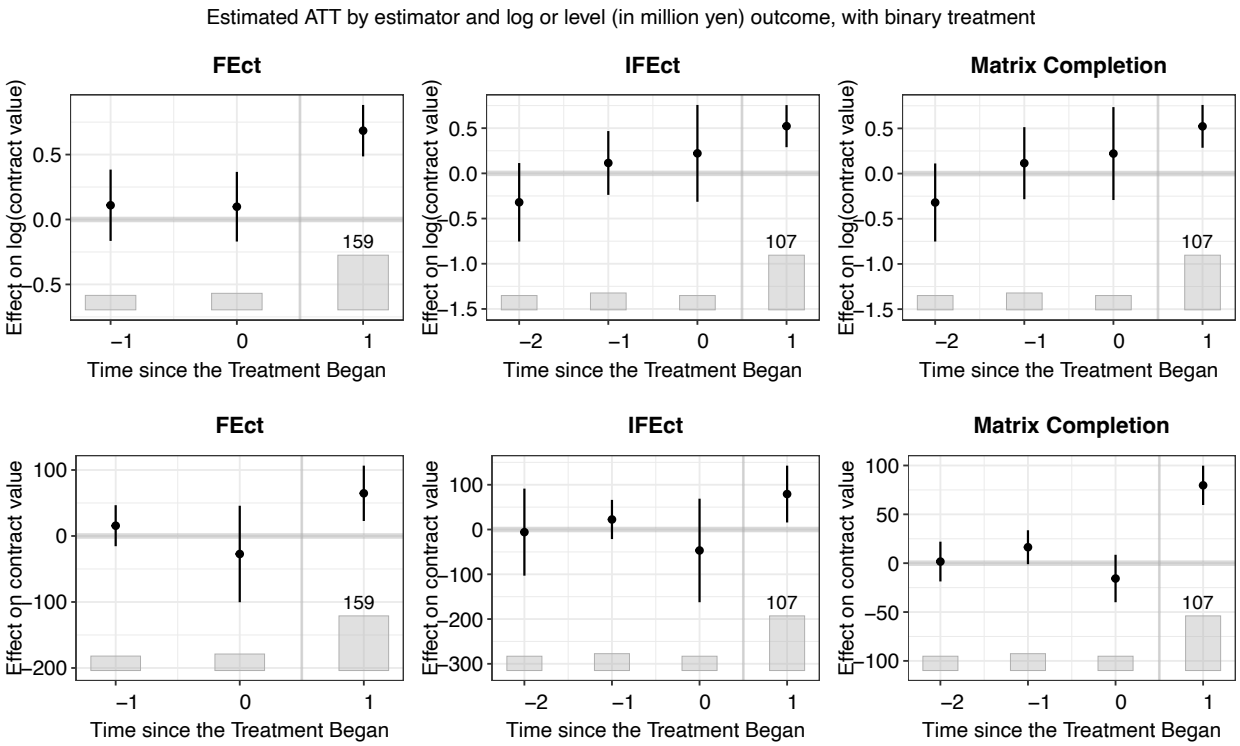


Figure A33: FEct, IFEct, and MC estimators: effect of *amakudari* appointments on NPO negotiated contract value, monthly aggregated data

	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 A22: Two-way fixed effects estimates of *amakudari* appointments on NPO negotiated contract value, monthly aggregation

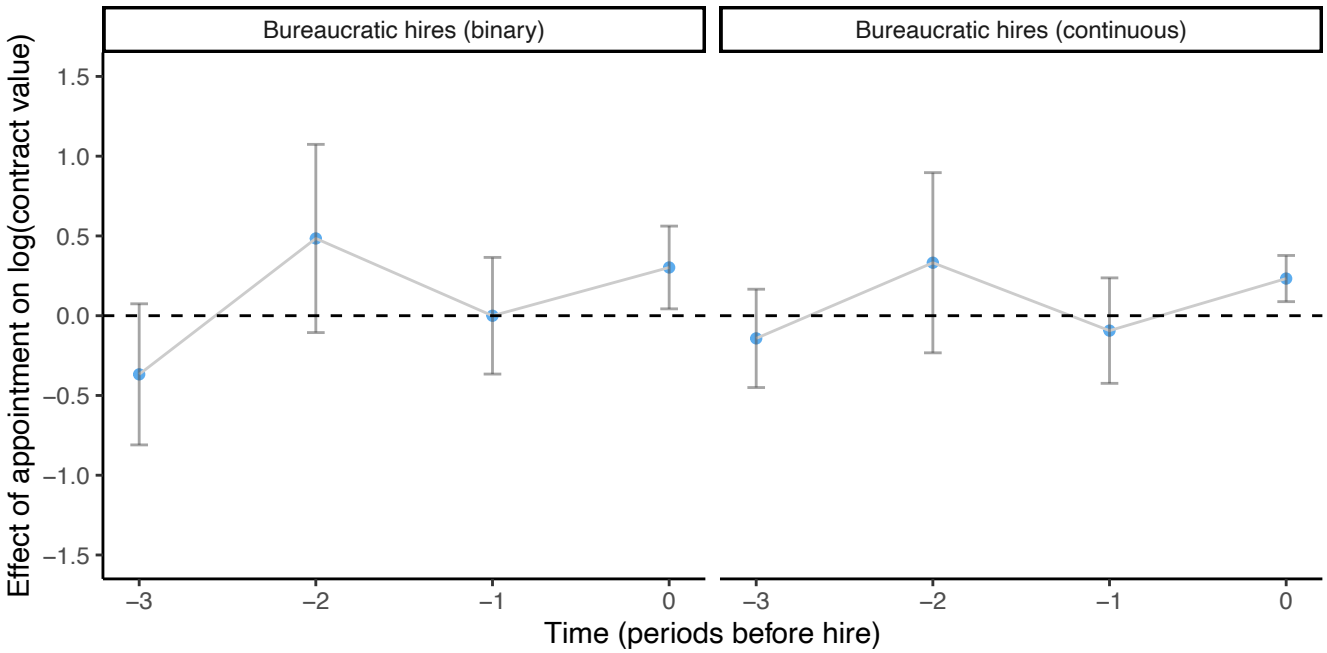


Figure A34: DID_M estimator effect of *amakudari* appointments on log(NPO negotiated contract value), yearly aggregated data

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

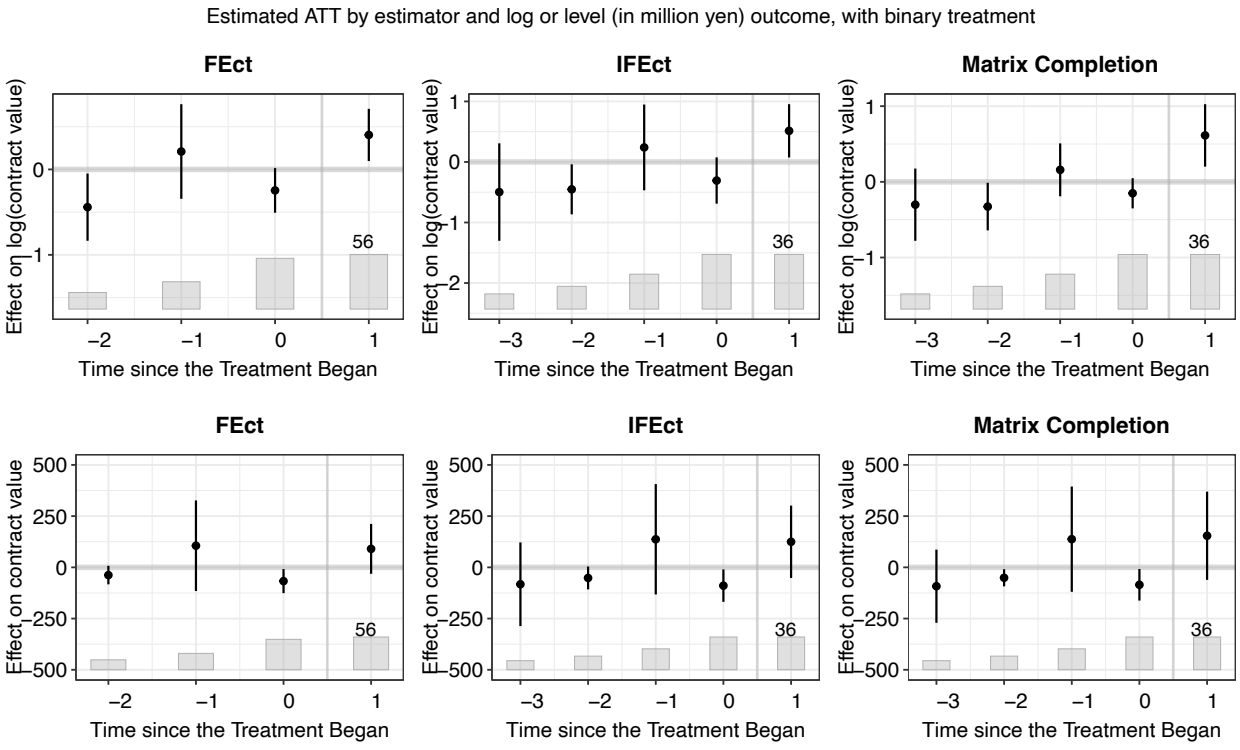
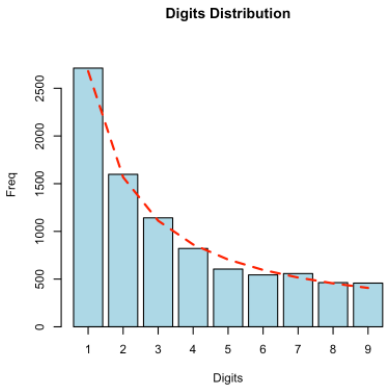
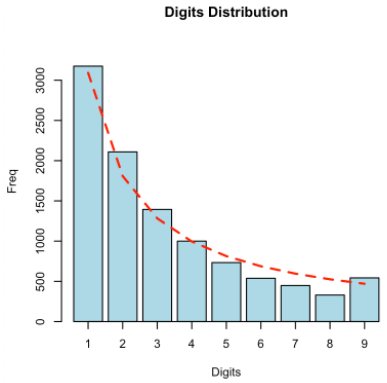


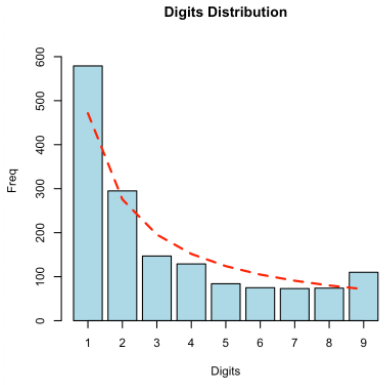
Figure A35: FEct, IFEct, and MC estimators: effect of *amakudari* appointments on NPO negotiated contract value, yearly aggregated data



(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