The Last or Lasting Samurai? The Impact of Secondary Schools on Elite Formation in Early Development

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Introduction

- Many societies have transitioned from **feudal/hereditary** systems to more **modern/meritocratic** systems.
  - e.g. the American Revolution (1776-1783), the French Revolution (1789-1799), the Meiji Restoration in Japan (1868), dismantling of Caste System in India (Post-Independence 1947-)

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- Does democratizing access to education foster the emergence of elites from diverse family backgrounds, and if so, how?

  e.g.
  - Children of feudal aristocrats → business elites? (occupational mobility)
  - Children of business families → top bureaucrats? (occupational mobility)
  - Children of non-elite families → elites? (upward mobility)

Introduction

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- **Education system** is expected to foster the transition by mobilizing intergenerational transmissions of occupations and elite-status.
- Does democratizing access to education foster the emergence of elites from diverse family backgrounds, and if so, how?
- Historical question, but important implications for the nature of social mobility & relevant for societies with on-going transitions.

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  - Post-1891: Rapid construction of 2nd schools in many prefectures.
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- **Identification strategy**
  - **Regression Discontinuity** comparing cohorts who turned schooling age before and after 2nd school was established in the prefecture.

This paper: Key findings

Impacts of secondary education expansion

- **Increase in the number of elites** from the areas for **both samurai and commoners**
- **Intergenerational persistence in occupations**
  - commoners: +24% business elites, no increase in bureaucratic elites, +23% professional elites
  - samurai: +79% bureaucratic elites, insignificant increase in other elites
- **Intergenerational upward mobility**
  - Within commoners and samurai families, the new elites mainly came from those having non-elite fathers.

Literature

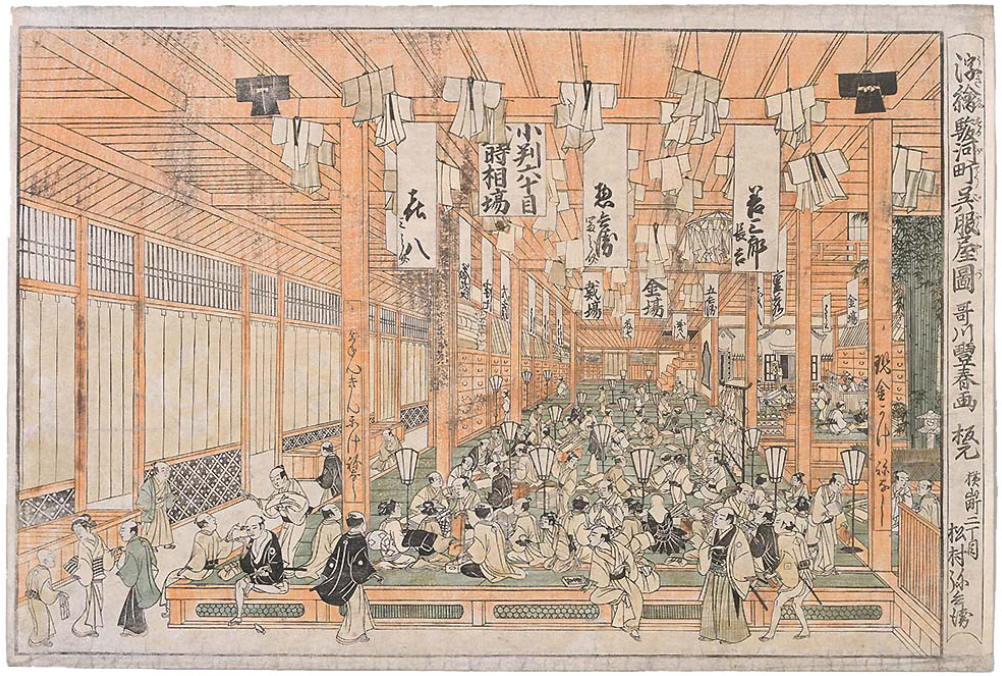
- Impact of education on elite formation & intergenerational mobility
  - Zimmerman (2019); Michelman, Price, and Zimmerman (2022); Barrios Fernández, Neilson, and Zimmerman (2023); Doxey, Karger, and Nencka (2022)
- Intergenerational persistence (even) through social transitions
  - Alesina, Seror, Yang, You, and Zeng (2020); Ager, Boustan, and Eriksson (2021); Clark (2014); Clark and Ishii (2012)
- Long-run impacts of secondary education
  - Angrist, Bettinger, and Kremer (2006); Spohr (2003); Ozier (2015); Duflo, Dupas, and Kremer (2021); Masuda and Shigeoka (2023)
- History/sociology: education and elites in Japan
  - Sonoda, Hamana, and Hirota (1995); Aso (1978); Takane (1976); Takeuchi (1981); Matsumoto and Okazaki (2023)

Contribution: Impact of secondary education on intergenerational mobility of occupation/elite-status after a social transition.

Before the Meiji Restoration (1868)

(Tokugawa period, 1603-1868)

- The Tokugawa family and local lords ruled Japan.
- **Hereditary status system** strictly divided social classes and occupations.
  - Public sector: samurai = { civil & military servants }
  - Private sector: commoners = { merchants, artisans, farmers }
- Only samurai received secondary-level education at fief schools (with some exceptions).



After the Meiji Restoration (1868)

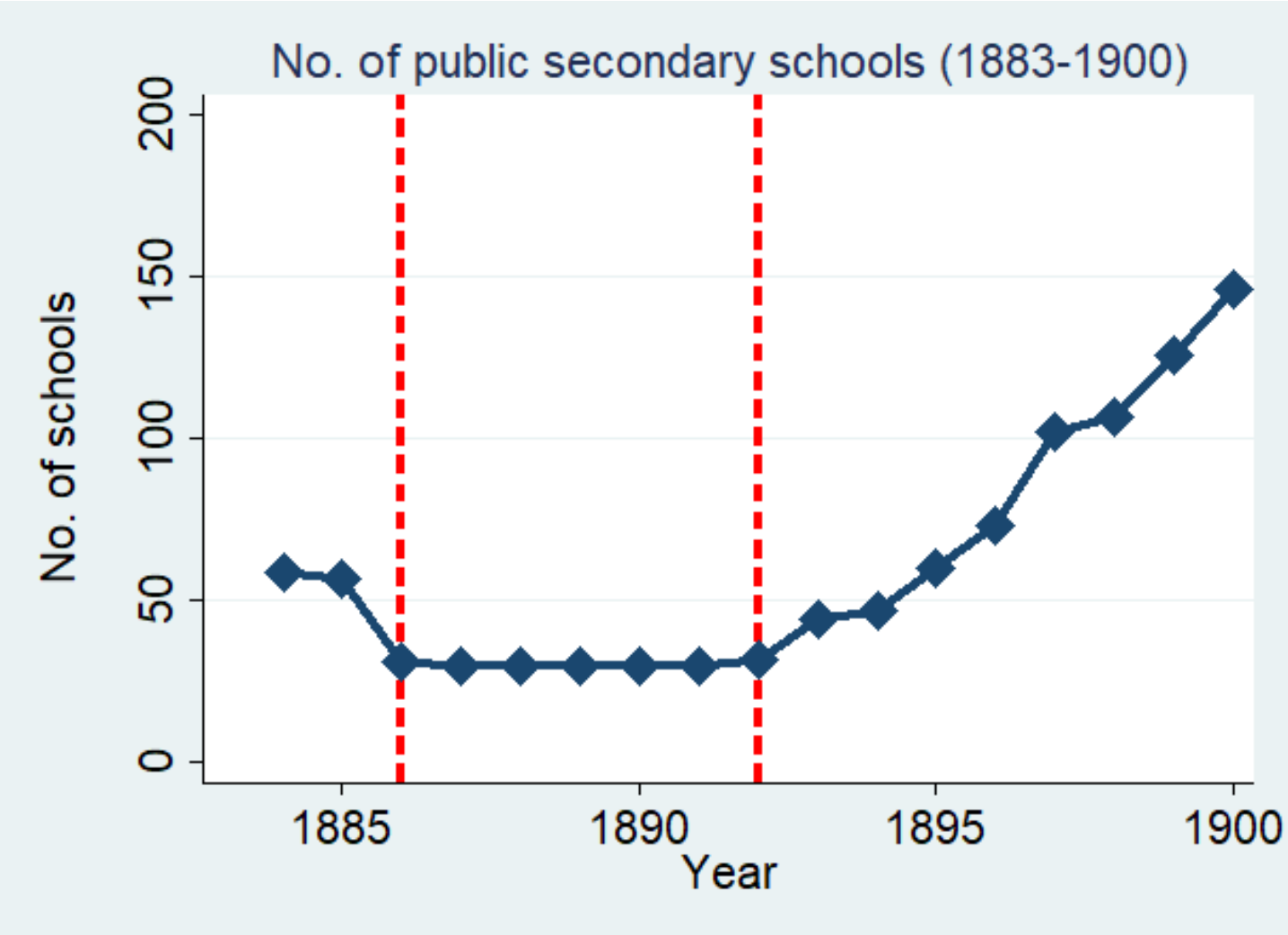
- **Meiji Restoration (1868)**: Faced with foreign threats, the new Meiji government was established (led by a group of samurai) to modernize the country.
- New Meiji government **(peacefully) deprived privileges of samurai** to hold positions in military and public offices.
  - Return of the land and people to the Emperor (1869)
  - Conscription Law (1873)
  - Abolition Measure of Hereditary Stipend (1875)
- Democratic selection of politicians (1890-)
- Modern hiring system of central government bureaucrats based on Higher Civil Service Examination (1894-)

Education system and secondary schools

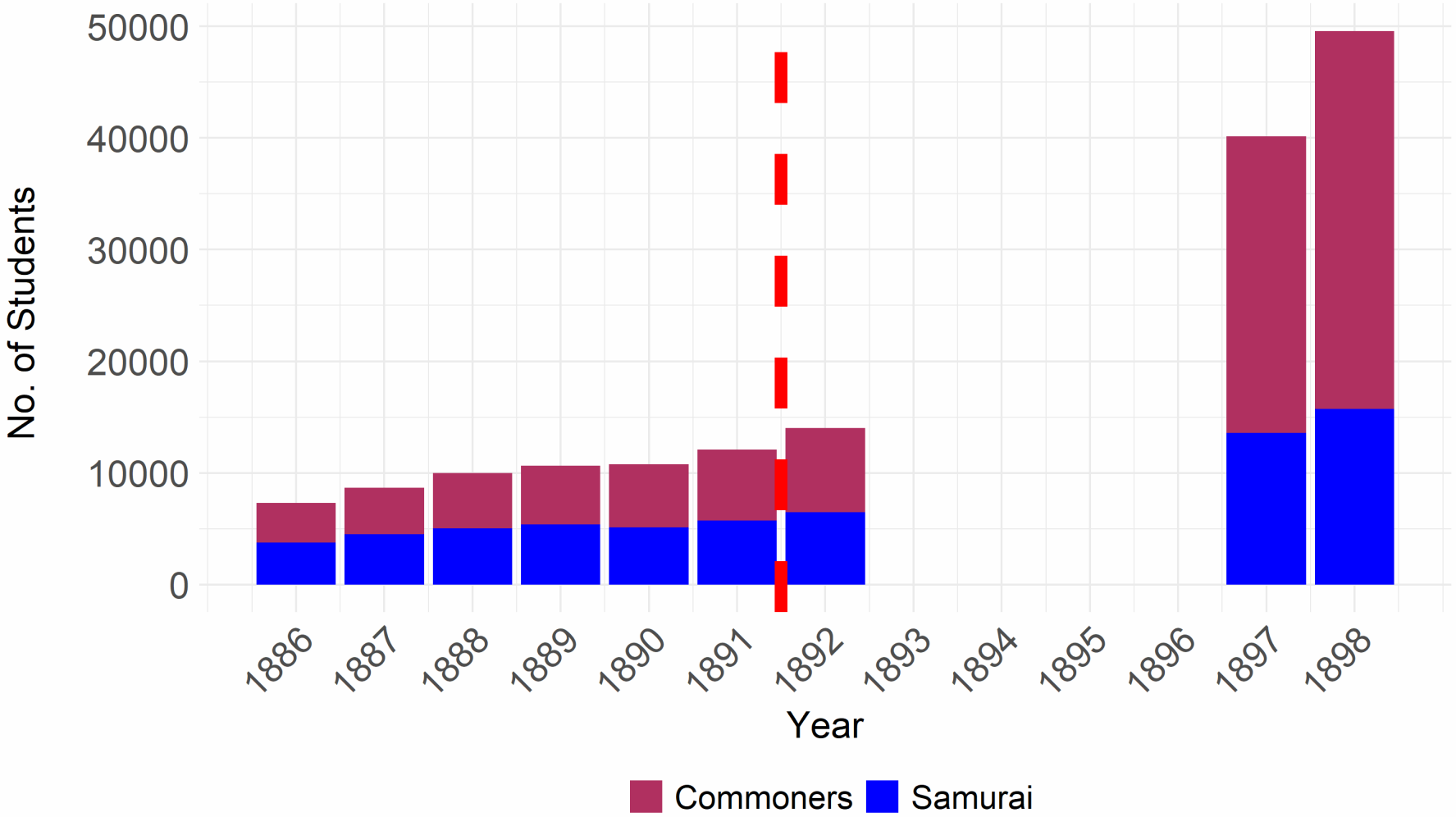
- Education Order (1872) set a blueprint of the modern school system.
  - Primary, secondary, and imperial univ.
- Initially, various secondary-level schools existed.
  - Former fief school, European-style institutions, and vocational schools.
  - Challenges in meeting government standards.
  - Shortage of qualified teachers: 70% of schools had only one.
- Standardization (1879): e.g. requirements on teachers' qualifications.
  - Only qualified schools remained as secondary schools.
- Regulation to concentrate school resource (1886)
  - The government regulated publicly-funded secondary schools to **at most one per prefecture**.

Relaxation of the regulation in 1891

In 1891, the government permitted each prefecture to establish **more than one** public secondary school.



Number of secondary school students by samurai/commoners



Institutional backgrounds of secondary schools

- Enrollment rate
  - Not compulsory.
  - 0.4% (1886) $\sim$ 2% (1898) of incoming male cohorts.
- Tuition:
  - 7.2 yen/year ($\sim$ 20% of average income per capita)
- Eligibility:
  - Male, at least 12 years old.
  - Finishing a primary school (ordinary 4-years course)
    - advanced primary education (2-4 years).
- Age at entrance
  - Statistics: about average age of enrollment was about 13. distribution
  - Use 13 as the threshold for baseline empirical RDD specification.

Detail

Data for long-run outcomes

Who's Who ("Japanese Personnel Inquiry Records" (**PIR**)).

- A selective list of socially distinguished individuals encompassing economic, political, and cultural elites.
- We digitized and use PIR published in 1903, 1915, 1928, 1934, 1939.
  - We mainly focus on individuals born in around 1880s, who were exposed to the secondary school expansion, and became elite in around 1930s .
  - We also observe their parent generations who were born in around 1850s-1860s, grew up before the restoration, and became elites in around 1900s-1910s.
- 77,478 unique individuals, representing about **0.1%** of population.
- Biographical information for each person listed
  - Birth year, birthplace, samurai/commoners, final education institution, career history, income tax paid, etc.

Sampling Rate | PIR

Data for long-run outcomes (cont.)

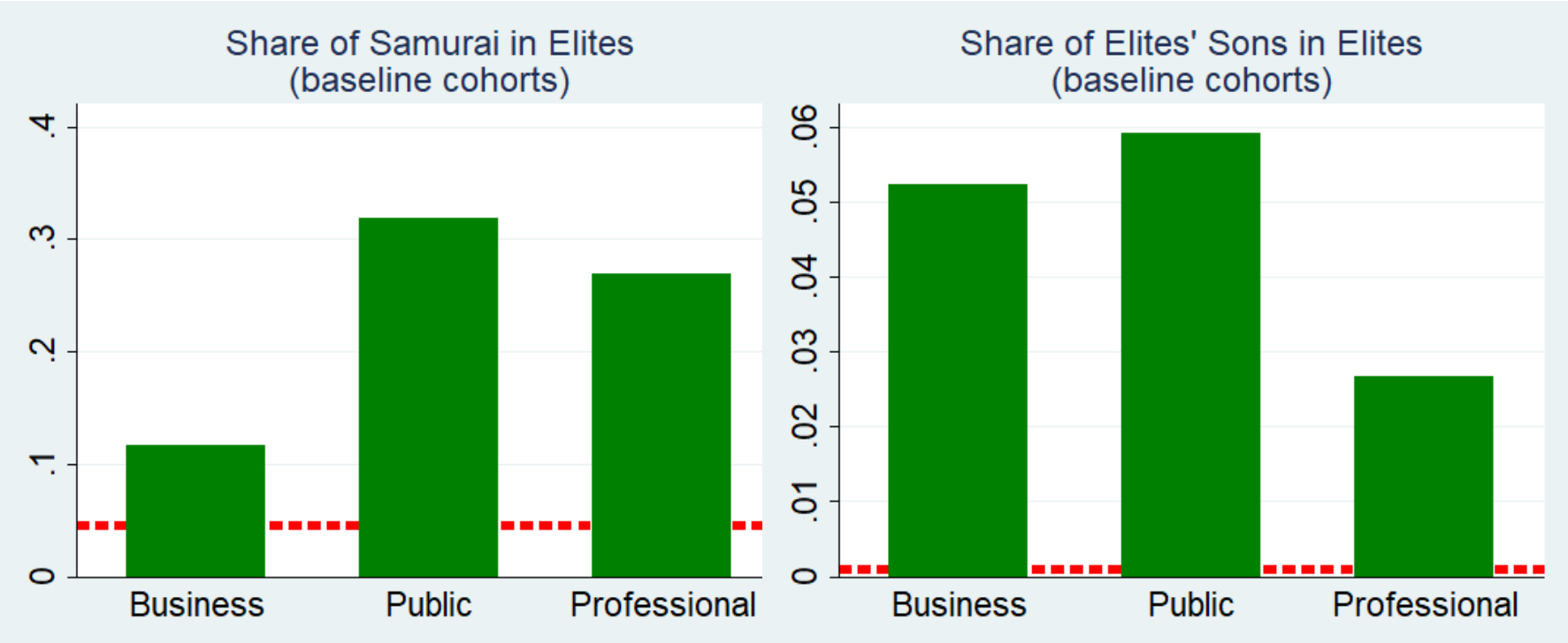
Data construction using Who's Who (**PIR**).

- By birth year, birth prefecture, and samurai/commoners, we count the number def(en)
  - **High-income business managers** (corporate executives and managers, conditioning on paying income tax $\sim$ top 2-3% income)
  - **Public servants** (central gov. bureaucrats and politicians)
  - **Professionals elites** (physicians, lawyers, scholars)
- We link sons and fathers among elites: identifying 6,869 pairs where both an elite and his father are listed in the PIR.

Sampling Rate PIR

Over-representation of samurai and sons of elites

- Samurai (5% of pop.) represented 12–32% of occupational elites.
- Sons of elites (0.1% of pop.) represented 3–6% of occupational elites.
  - Among sons of elites, the chance of becoming an elite was about 40% (Takayasu, 2024).



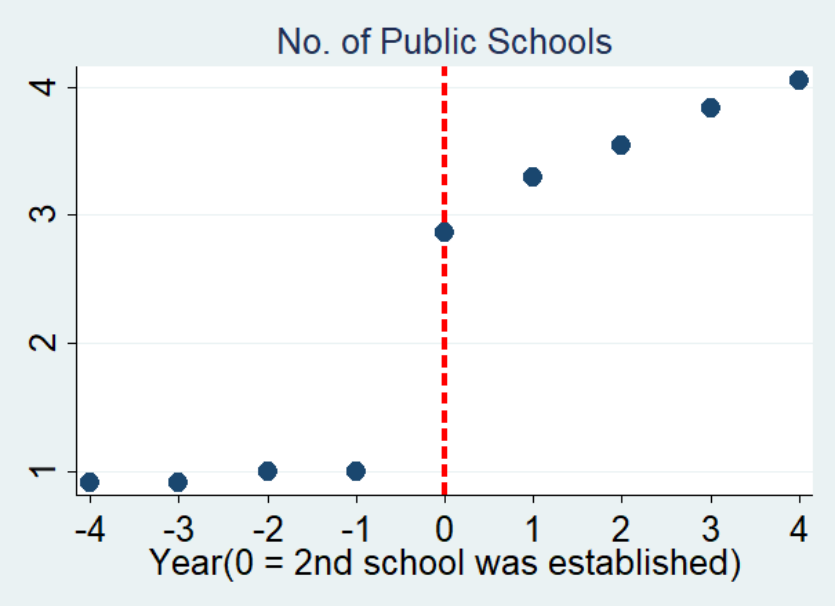
Empirical specification: RD approach

$$\frac{N_{j,c}^{k,n}}{pop_j^n} = \beta^{k,n} After_{j,c} + Trend_c^{k,n} + \delta_j^{k,n} + u_{j,c}^{k,n},$$

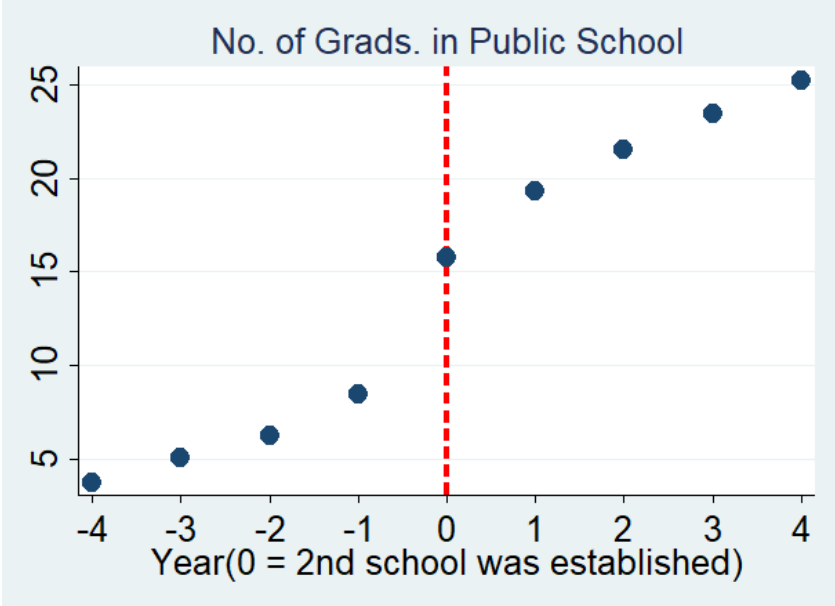
- Variables
  - prefecture j ; cohort c; occupation k; samurai/commoners n.
  - $\frac{N_{j,c}^{k,n}}{pop_j^n}$ is no. of elites per 1000 male births in prefecture j cohort c.
  - $After_{j,c}$ takes 1 if cohort c was age 13 or younger at the time the 2nd secondary school was established in prefecture j, and 0 otherwise
- Sample
  - **37 prefectures**
    - Prefectures where 2nd school was established within 10 years after the reform (1892–1901)
  - **9 cohorts**
    - For each prefecture, we include 4 cohorts before + 5 cohorts after.

age effect | primary school | high school

No. of schools and graduates



(a) Public schools

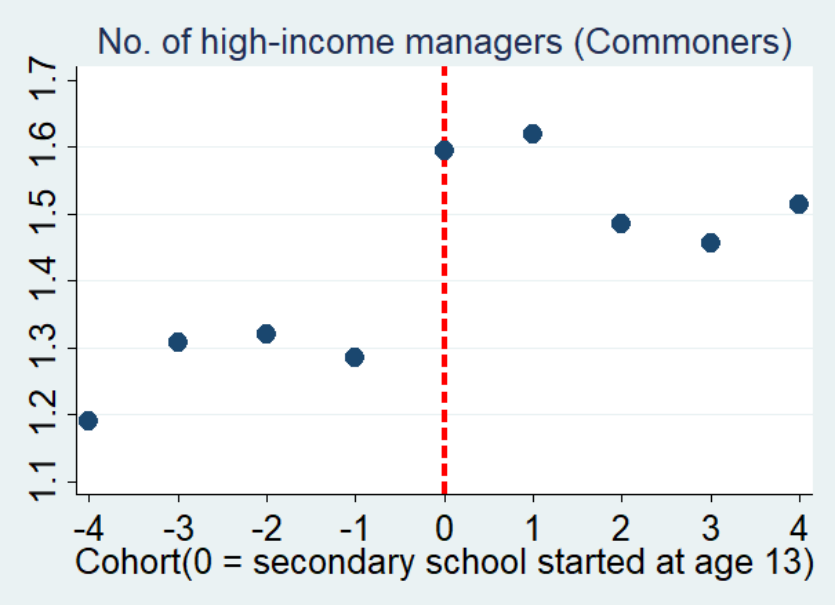


(b) Public school grads.

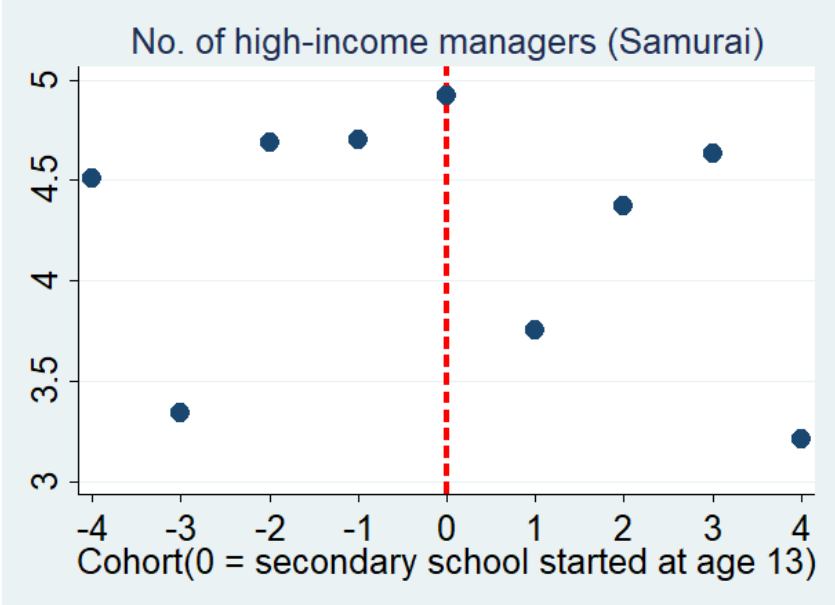
Note: For the number of graduates, the year is defined as the year of graduation - 5 (years of schooling at secondary schools).

No. of elite managers per 1000 persons

No. of elites per 1000 male birth population in the prefecture.



(a) Commoners

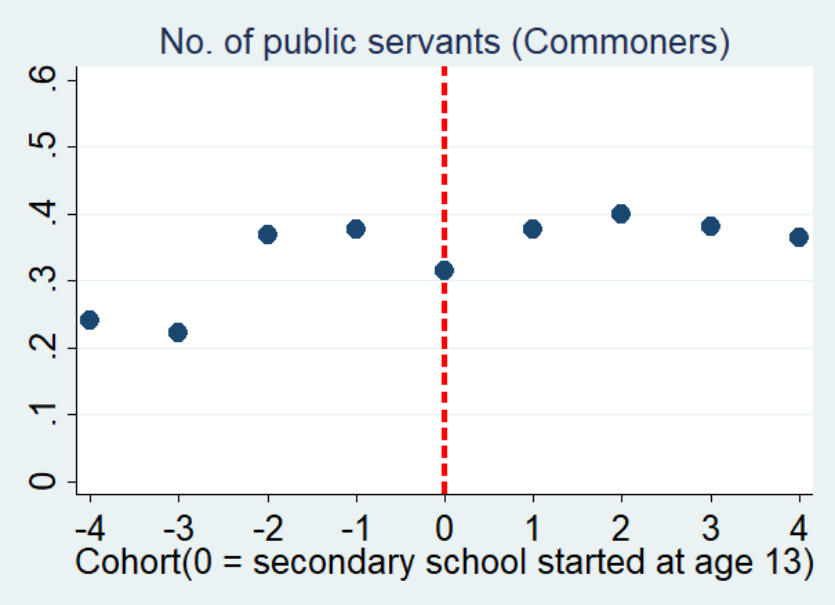


(b) Samurai

Note: The cohort in the figure is defined by "the year when the cohort turned age 13 - the year when the 2nd secondary school was established in the prefecture" prof. public servant

No. of elite public servants per 1000 persons

No. of elites per 1000 male birth population in the prefecture.



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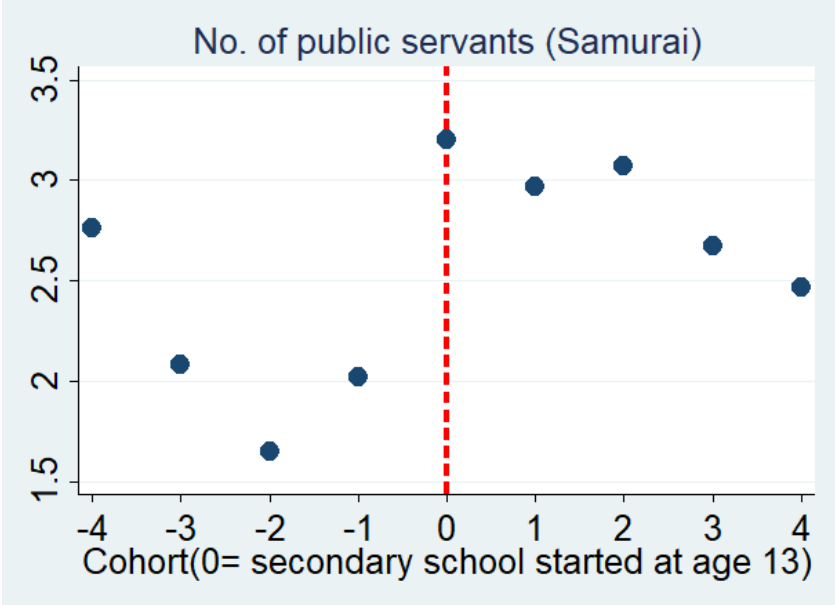

(b) Samurai

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Back

Impacts on production of elites

	All occupational Elites (1)	High-income Managers (2)	Public Servants (3)	Professional Elites (4)
Panel A: Samurai				
After	2.12	0.34	1.68**	0.75
	(1.50)	(0.87)	(0.63)	(1.11)
No. Obs.	333	333	333	333
Mean Dep. Before	8.97	4.31	2.13	3.84
Percent Effect(%)	24	8	79	20
Panel B: Commoners				
After	0.36***	0.31***	-0.05	0.16*
	(0.13)	(0.10)	(0.08)	(0.08)
No. Obs.	333	333	333	333
Mean Dep. Before	2.08	1.28	0.30	0.68
Percent Effect(%)	17	24	-17	23

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level.

Impacts on intergenerational upward mobility

	Individuals from elite families				Individuals from non-elite families			
	All Occupational Elites	High-income Managers	Public Servants	Professional Elites	All Occupational Elites	High-income Managers	Public Servants	Professional Elites
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Samurai								
After	48.75	65.39	-11.55	2.72	1.76	-0.02	1.65***	0.70
	(55.64)	(45.16)	(30.27)	(22.07)	(1.38)	(0.81)	(0.60)	(1.07)
No. Obs.	333	333	333	333	333	333	333	333
Mean Dep. Before	74.70	37.07	25.44	20.69	8.52	4.09	1.98	3.72
Percent Effect(%)	65	176	-45	13	21	-1	84	19
Panel B: Commoners								
After	6.95	4.08	9.32	-1.27	0.34***	0.30***	-0.06	0.15*
	(31.86)	(25.19)	(13.66)	(14.31)	(0.12)	(0.09)	(0.07)	(0.09)
No. Obs.	333	333	333	333	333	333	333	333
Mean Dep. Before	93.24	69.21	14.71	24.42	1.97	1.19	0.29	0.66
Percent Effect(%)	7	6	63	-5	17	25	-21	23

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. No. of elites

Robustness checks

Results are robust to various other specifications.

- Staggered DiD: staggered did
- Event study: event study
- Squared cohort trend: squared trend
- Cohort fixed effects: cohort fe
- Focusing on 2 years before and after: 2 years
- Inverse sampling rate: sampling rate
- Excluding court nobles (*Kazoku*) from samurai no kazoku
- Excluding cohort −1 result
- Excluding cohort +1 result

Heterogeneity Effect

- Early vs. Later: early vs later
- Two more secondary schools: Result

Possible channels: human capital accumulation

How secondary schools produced more elites & what affect their occupational choices.

- **Human capital accumulation**: Important for professional and gov. elites, but less for business elites
  - Schools with higher teacher/student ratio: + professional elites teacher
  - Progression to Imperial Univ.: professional and gov. elites
- **Peer effects**: Some influence
  - Schools built on former fief schools or castles: + samurai gov. elites & commoner professional elites.
- **Family's expectation and endowments** (among commoners)
  - Eldest sons are expected to succeed the family business.
  - Younger sons are mostly free from such pressures but have shared family endowments (knowledge, networks, norms/aspirations).

Human capital accumulation: progression to higher education

	Imperial University			No Higher Education		
	High-income Managres	Public Servants	Professional Elites	High-income Managres	Public Servants	Professional Elites
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Samurai						
After	0.74	1.71***	1.19	0.30	0.06	-0.41
	(0.62)	(0.51)	(0.74)	(0.58)	(0.17)	(0.25)
No. Obs.	333	333	333	333	333	333
Mean Dep. Before	1.34	1.46	2.21	1.55	0.24	0.67
Percent Effect(%)	55	117	54	20	23	-62
Panel B: Commoners						
After	0.02	-0.00	0.11**	0.23***	-0.02	0.05*
	(0.04)	(0.05)	(0.05)	(0.08)	(0.03)	(0.03)
No. Obs.	333	333	333	333	333	333
Mean Dep. Before	0.17	0.16	0.33	0.86	0.07	0.14
Percent Effect(%)	14	-1	33	26	-27	37

Educ Ladder

Possible channels: peer effects

How secondary schools produced more elites & what affect their occupational choices.

- **Human capital accumulation**: Important for professional and gov. elites, but less for business elites
  - Schools with higher teacher/student ratio: + professional elites
  - Progression to Imperial Univ.: professional and gov. elites
- **Peer effects**: Some influence
  - Schools built on former fief schools/castles had higher share of samurai students: + samurai gov. elites & commoner professional elites (but not commoner gov. elites). town
- **Family's expectation and endowments** (among commoners)
  - Eldest sons are expected to succeed the family business.
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Possible channels: family's expectation and endowments

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Family's expectation and endowments

- Eldest sons might have upgraded inherited firms
- Younger sons were free from such pressures but chose business careers.

	High-income Managers					Public Servants	Professional Elites
	All	Modern Business	Modern& Traditional Business	Traditional Business	Executives	All	All
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Eldest sons (commoners)							
After	0.36**	0.23*	0.24**	-0.11**	0.33**	-0.04	0.33**
	(0.15)	(0.12)	(0.09)	(0.04)	(0.13)	(0.07)	(0.12)
No. Obs.	333	333	333	333	333	333	333
Mean Dep. Before	1.43	0.67	0.51	0.24	0.97	0.30	0.67
Percent Effect(%)	25	35	47	-46	34	-14	49
Panel B: Younger sons (commoners)							
After	0.26**	0.16	0.05	0.06	0.13	-0.05	0.01
	(0.11)	(0.09)	(0.07)	(0.05)	(0.11)	(0.10)	(0.10)
No. Obs.	333	333	333	333	333	333	333
Mean Dep. Before	1.05	0.57	0.33	0.14	0.72	0.27	0.65
Percent Effect(%)	25	27	14	41	18	-20	2

samurai

Additional results (on-going)

- Quality of new elites
  - School expansion produced more high-quality elites: increase in national top 0.1% income earners from the areas (among commoners)
    top income | top income managers
- Contribution to (local) economic development
  - Majority stayed in hometown samurai | commoner
  - Establishing firms in new industries?
    - ★ e.g. railways, machineries, chemicals
    - ★ On-going work by matching Who's Who data to manufacturing factory data

Conclusion

- We examine the **role of secondary education** in the elite formation in Japan after the Meiji Restoration.
- Secondary school expansion helped **both samurai and commoners** to become elites.
- They became elites in **occupations in which they historically had comparative advantages**: education did not foster occupational mobility.
  - Commoners became business elites
  - Samurai became public servants
- The new elites mostly came from **non-elite families**: education fostered upward mobility for reaching to the top positions.

Appendix

Enrollment rate in Europe (1880–1900)

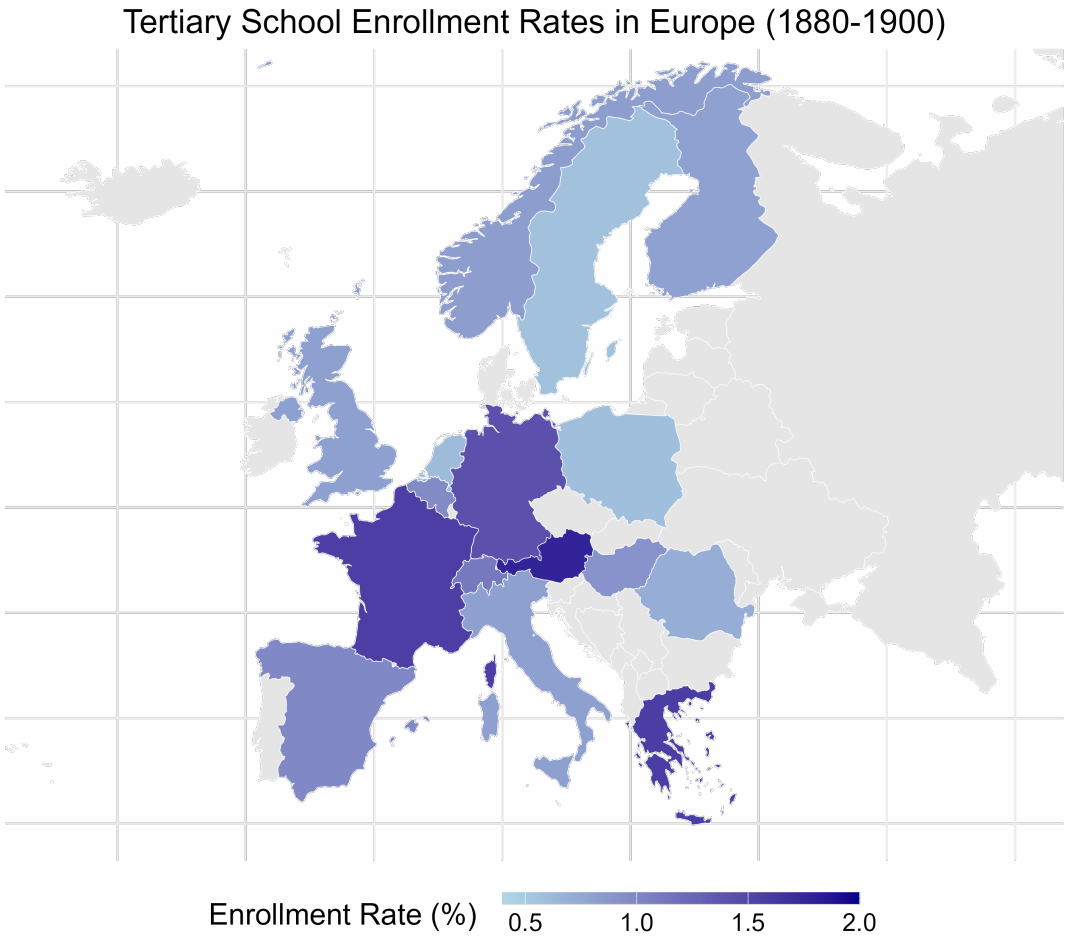


Figure: Enrollment rate in 1880–1900

Source: Barro Lee Data Set Back

Enrollment rate in Africa (2000–2010)

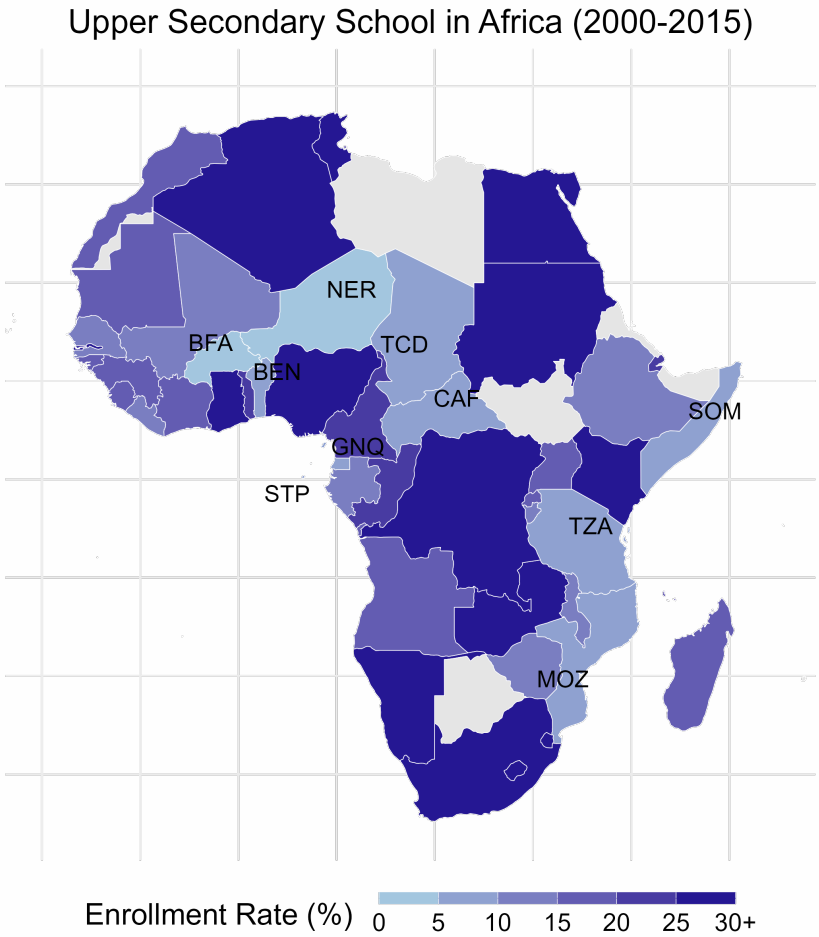


Figure: Enrollment rate in 2000–2010

Source: Barro Lee Data Set Back

Educational Ladder in 1900

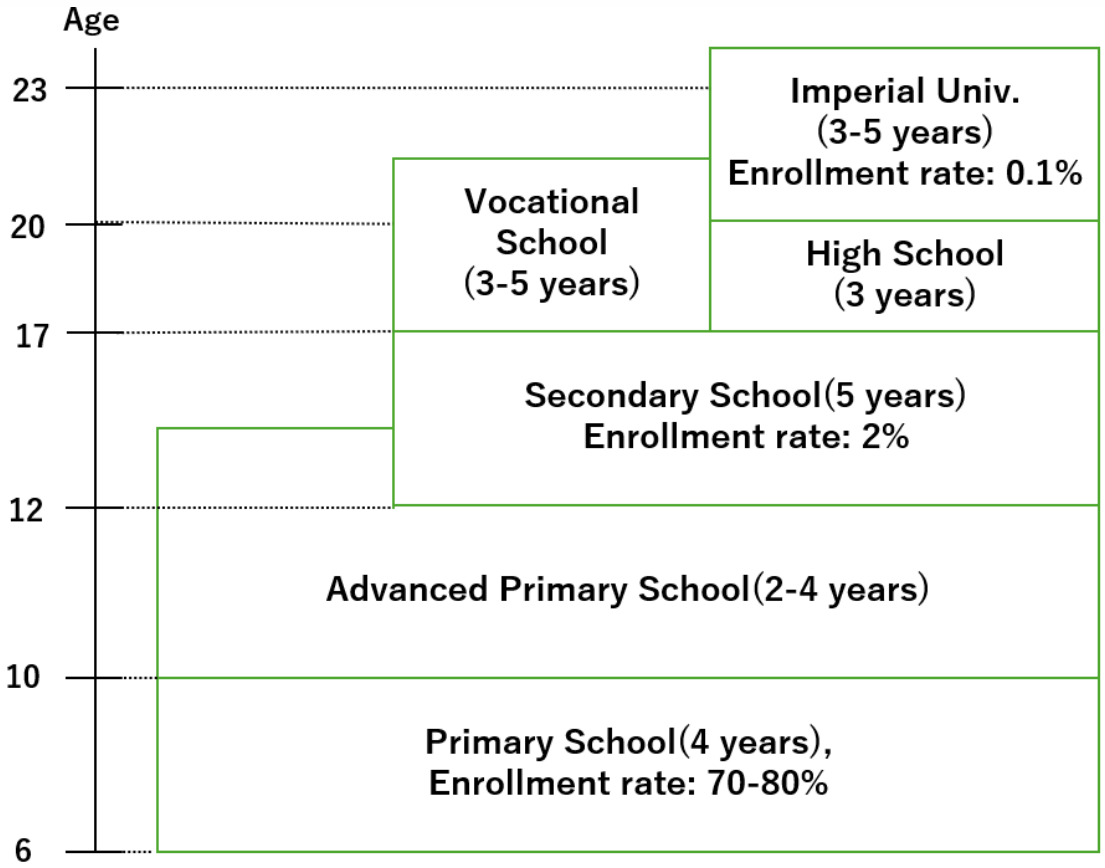


Figure: Education ladder in 1900

Source: Ministry of Education Back

No. of secondary schools in 1892

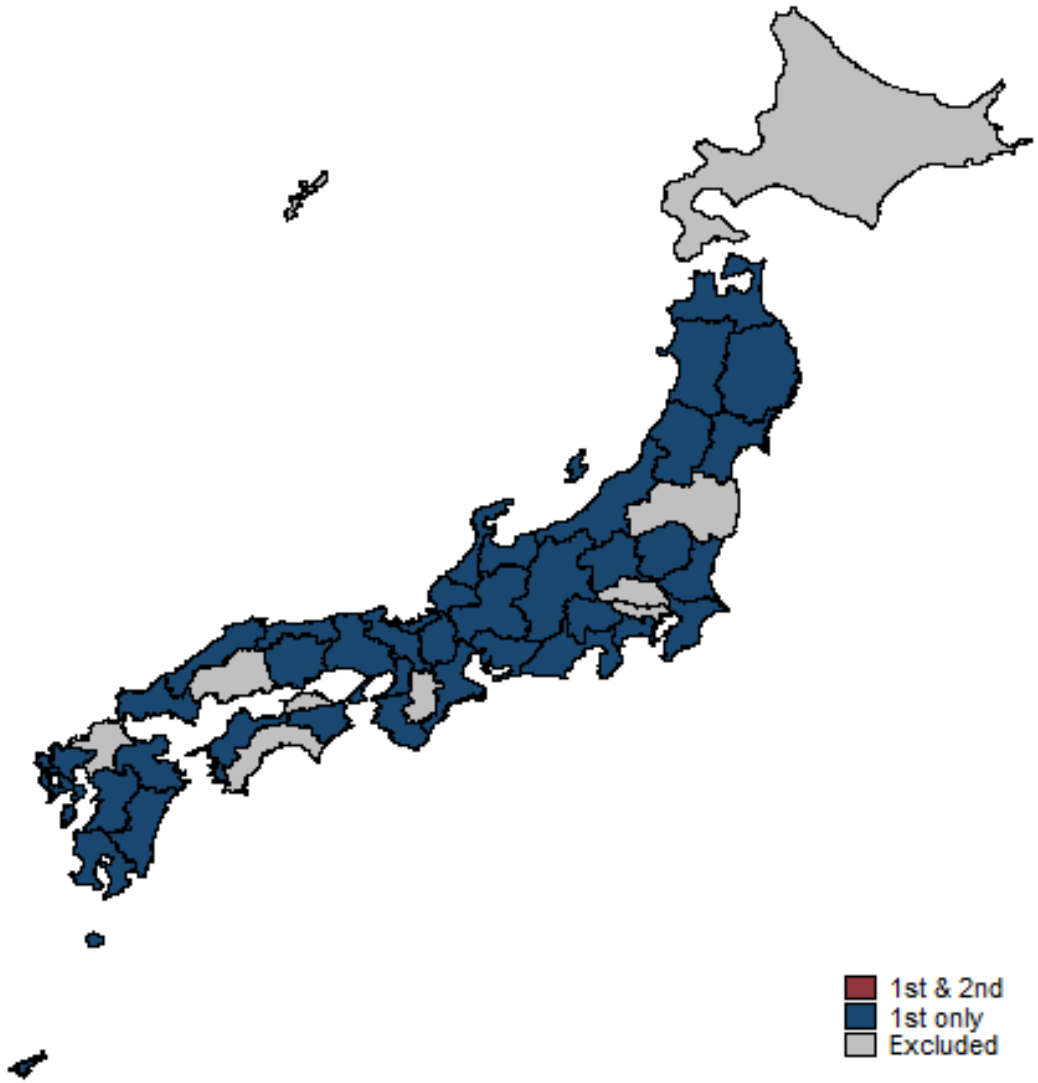


Figure: 1892

No. of secondary schools in 1893

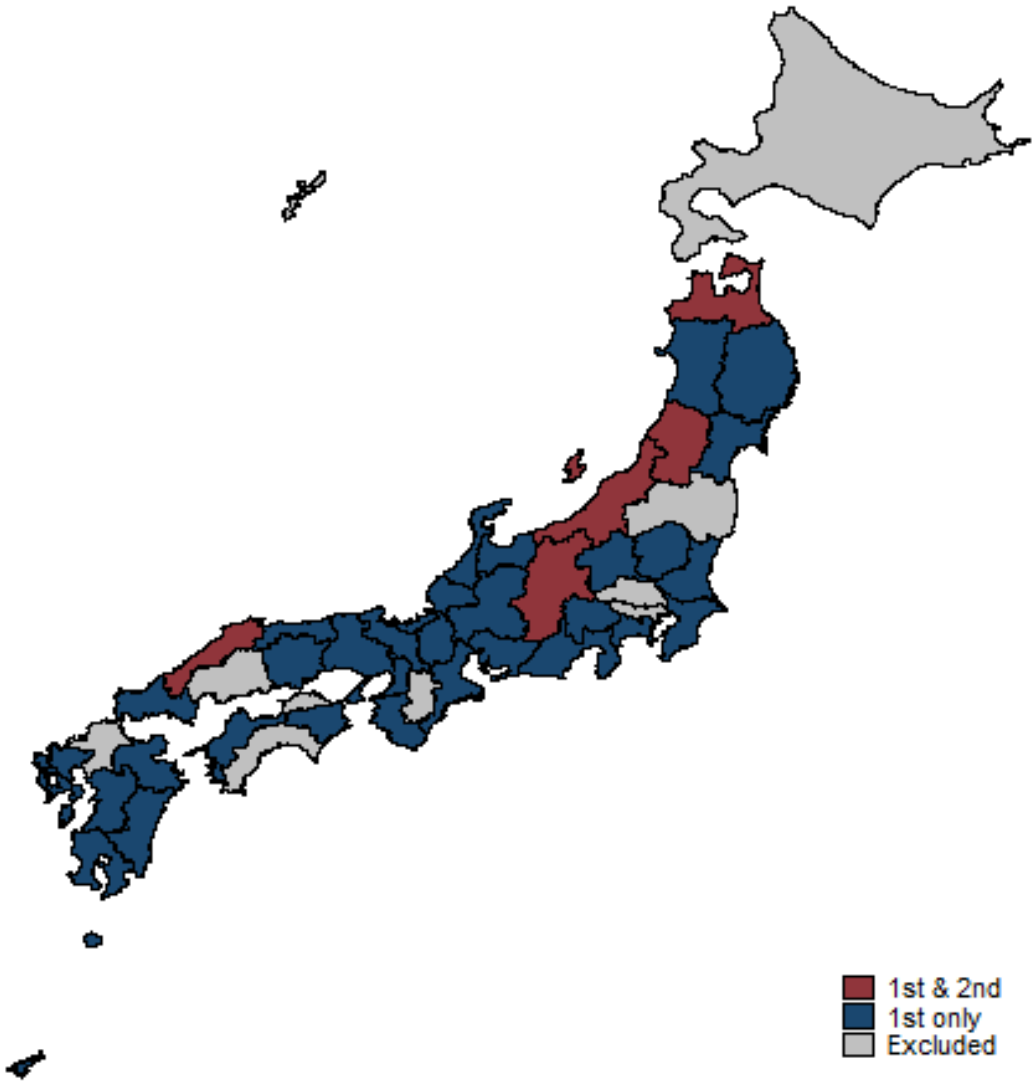


Figure: 1893

No. of secondary schools in 1895

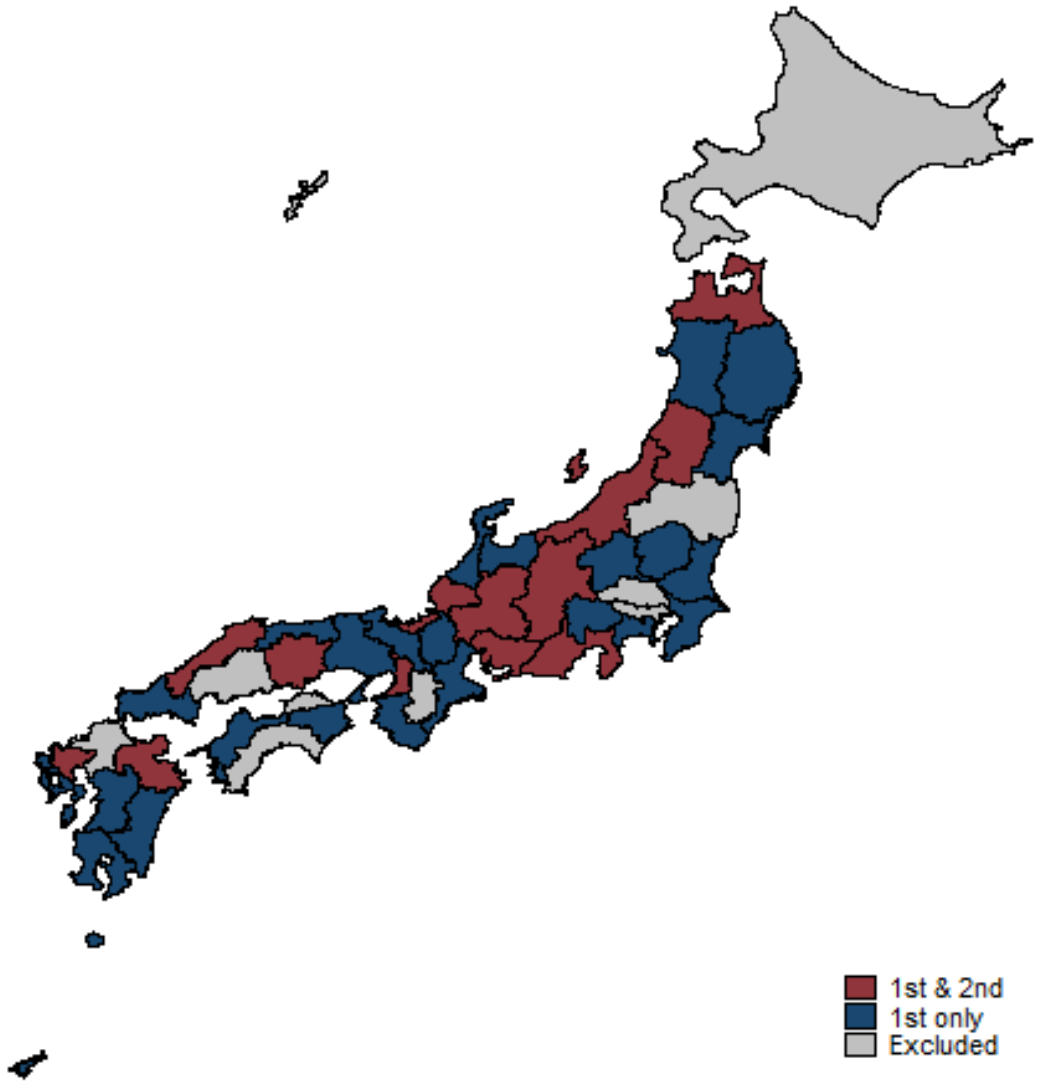


Figure: 1895

No. of secondary schools in 1897

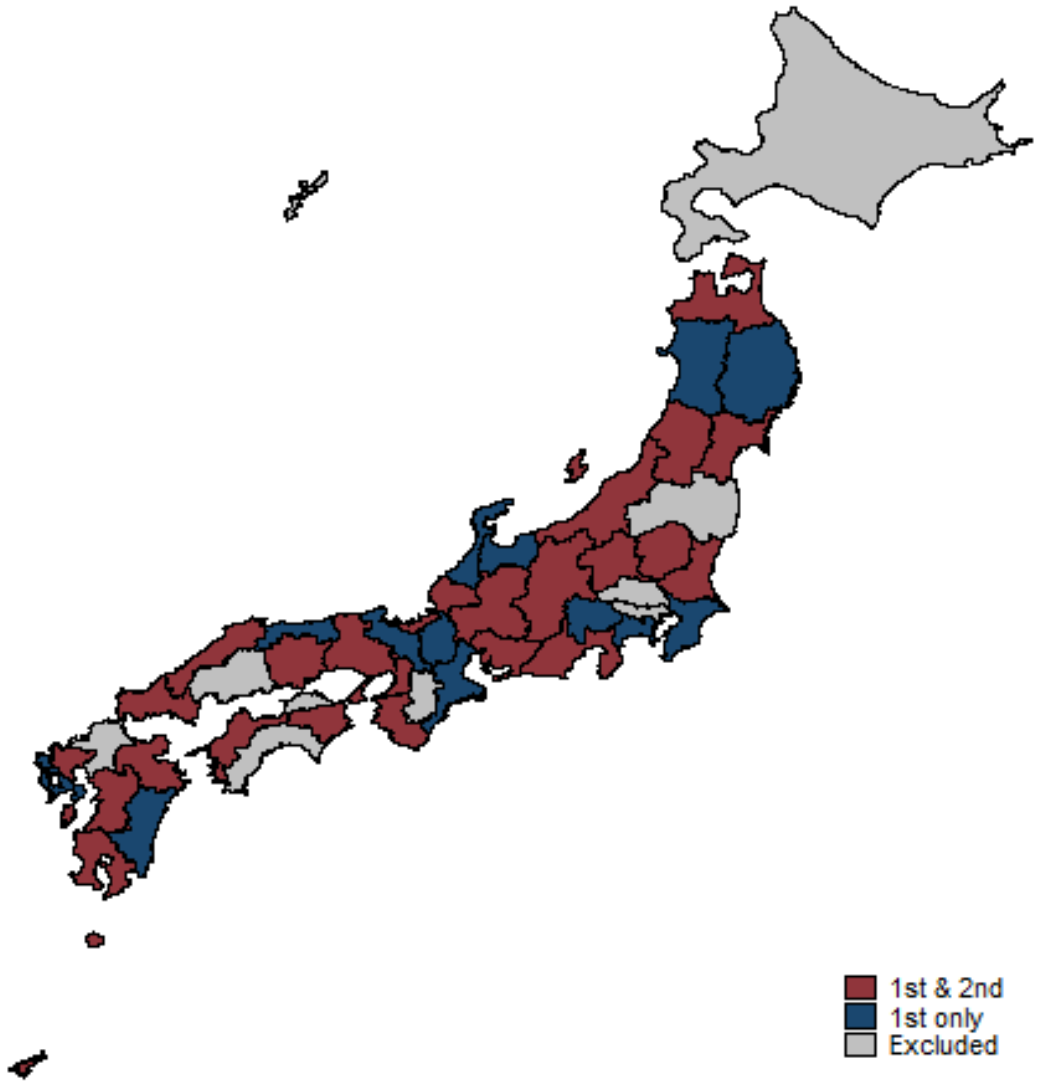


Figure: 1897

No. of secondary schools in 1899

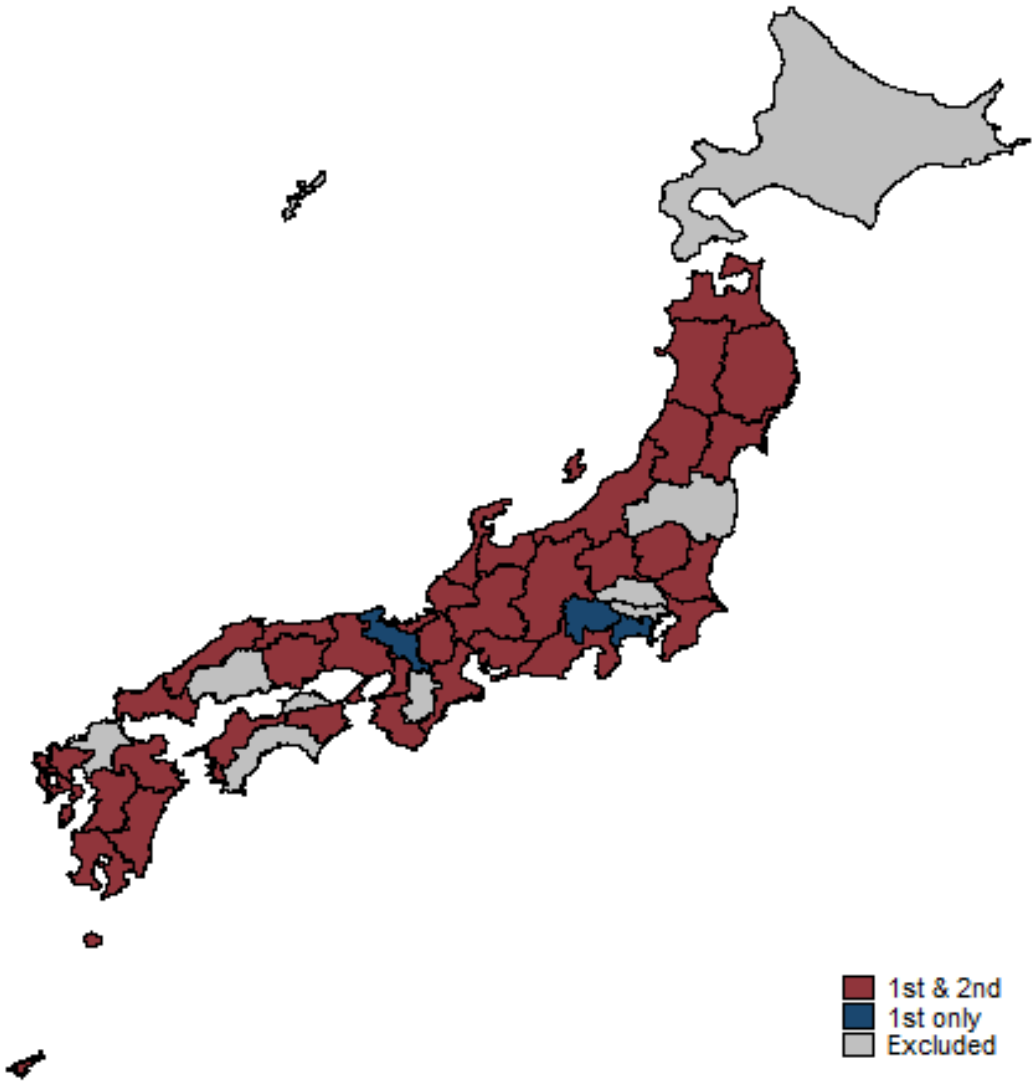


Figure: 1899

No. of secondary schools in 1901

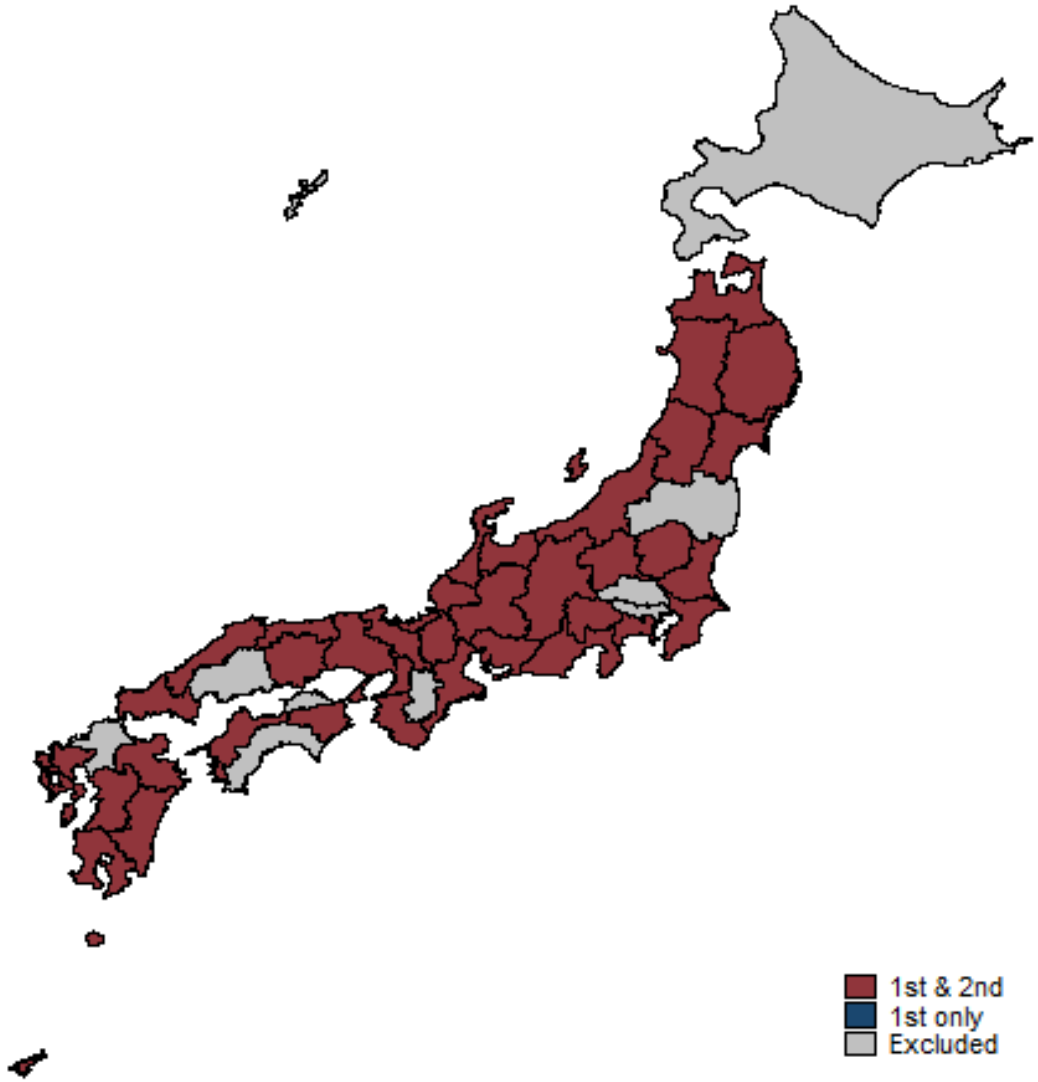
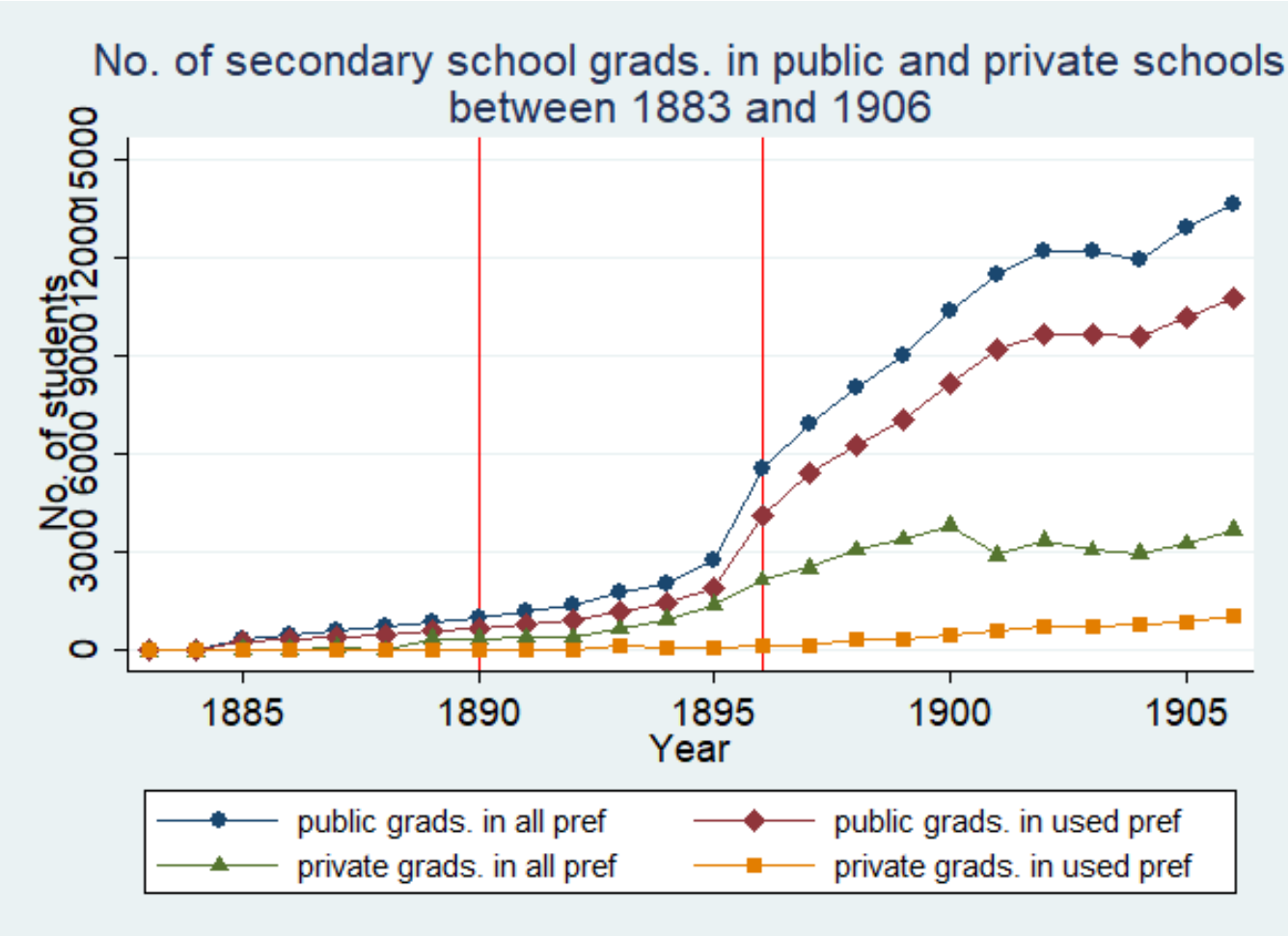


Figure: 1901

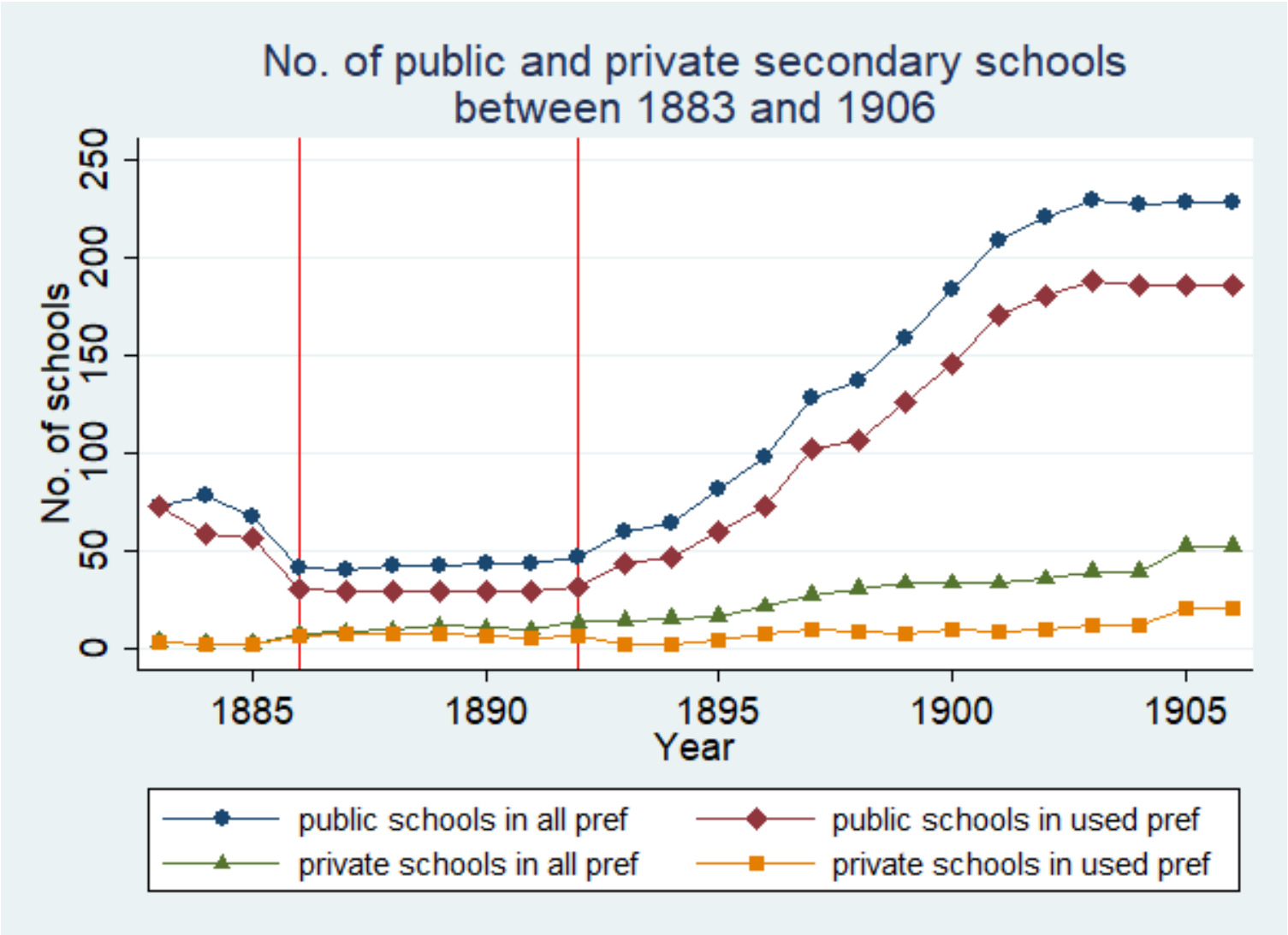
Secondary school students



Back

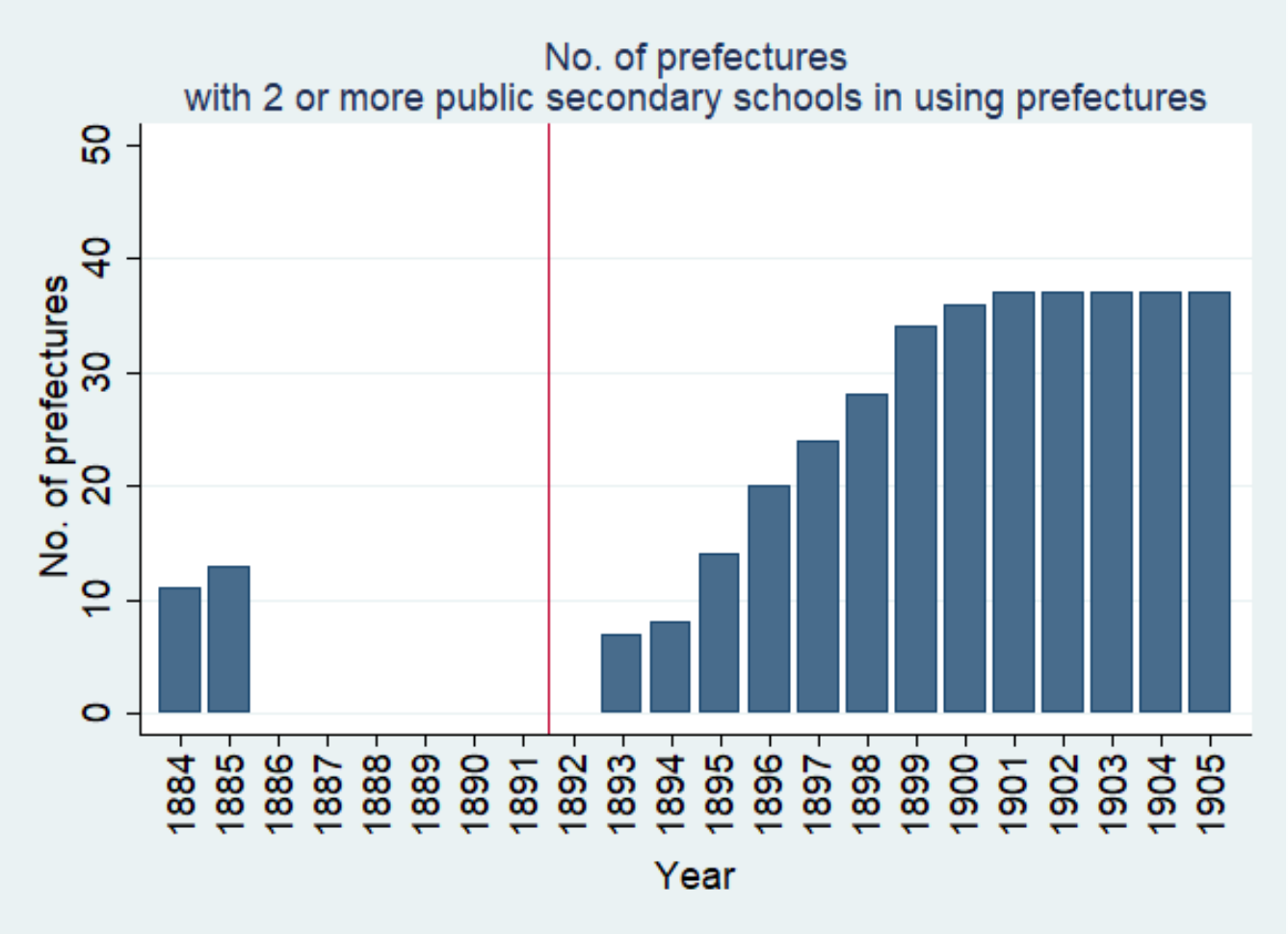
Secondary schools (public/private)

all prefectures (47) / used prefectures (37)



Back

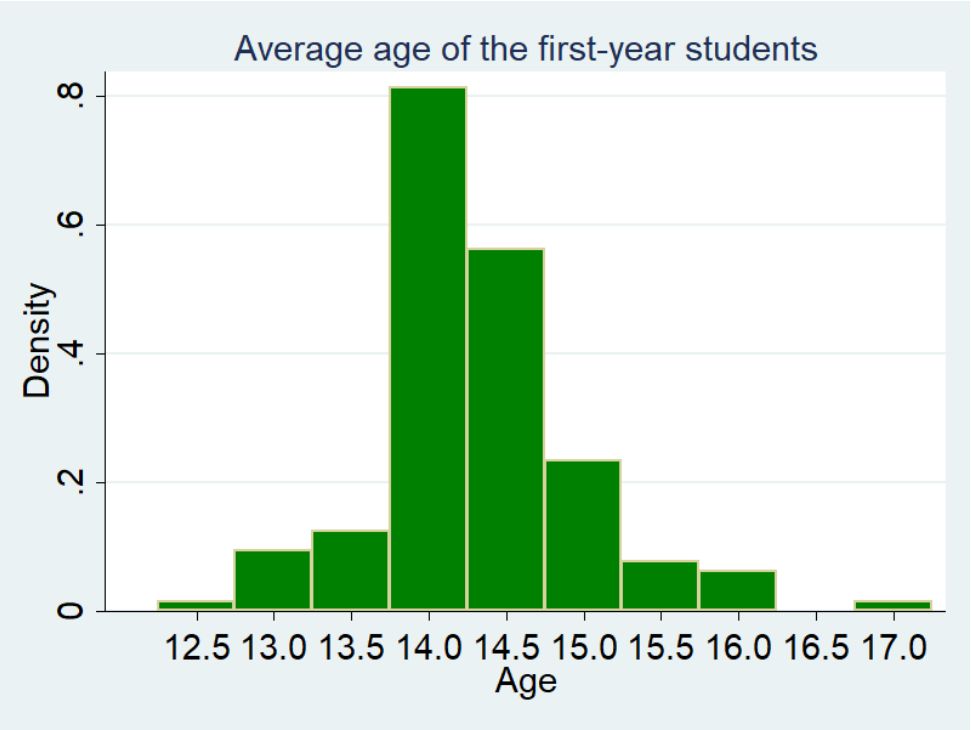
No. of prefectures with 2 or more schools



Back

Average ages of first-year students by secondary schools

- The average age of first-year students in each secondary school is observed in Public Secondary School Statistics (1898).
- Statistics are measured several months after entrance.



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More institutional backgrounds of secondary schools

- Education contents (hours/week)
  - Japanese (7), Foreign Language (7), History (3), Geography (3), Math (3)
- Qualification for teachers standardized
  - Grads. from Imperial U, teacher schools, or passing national qualification exam
- Admission: educational background and exam.
- Entrants/applicants
  - 0.5 for schools established before 1891, 0.75 for schools established after 1892.
- Fraction of commoners: Around 70%

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Stats among JPIR listed individuals

	Samurai	Commoners	All	Share of Samurai
Panel A: 1903				
All Occupational Elites	909.00	703.00	1612.00	0.56
High-income managers	60.00	42.00	102.00	0.59
Professional Elites	336.00	333.00	669.00	0.50
Public Servants	690.00	418.00	1108.00	0.62
Panel B: 1915				
All Occupational Elites	1895.00	2596.00	4491.00	0.42
High-income managers	372.00	1204.00	1576.00	0.24
Professional Elites	919.00	941.00	1860.00	0.49
Public Servants	1006.00	854.00	1860.00	0.54
Panel C: 1928				
All Occupational Elites	3028.00	8430.00	11458.00	0.26
High-income managers	1162.00	5618.00	6780.00	0.17
Professional Elites	1306.00	2238.00	3544.00	0.37
Public Servants	1216.00	1655.00	2871.00	0.42
Panel D: 1934				
All Occupational Elites	3560.00	14165.00	17725.00	0.20
High-income managers	1665.00	10138.00	11803.00	0.14
Professional Elites	1449.00	3338.00	4787.00	0.30
Public Servants	1196.00	2152.00	3348.00	0.36
Panel E: 1939				
All Occupational Elites	4525.00	27413.00	31938.00	0.14
High-income managers	2291.00	18750.00	21041.00	0.11
Professional Elites	1752.00	7040.00	8792.00	0.20
Public Servants	1251.00	3608.00	4859.00	0.26

source: JPIR(1903, 1915, 1928, 1934, 1939)

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Define and count elites by type

For each occupation category, we count the number of persons who appear in at least one of three years of JPIRs as a person satisfying the following criteria.

- High-income managers, who are either
  - (Modern) business managers, holding formal titles as top business managers
  - (Pre-modern type) family business managers, identified by family-business type firm names, excluding above business managers
  - *Note*: both of the above are limited to ones who pay tax, implying that their incomes were high enough to be above the threshold to start paying the tax (1000 yen/year = 3-4 times of GDP per capita.)
- Professional elites
  - Judges/Lawyer, doctor, scholar
- High-ranking public officers
  - Central government officers, politicians, prefectural governors
- Above elites by education groups
  - Imperial university grads, vocational and military school grads, no higher education

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JPIR Elite definitions (Japanese)

- Manager
  - business manager: 取締役, 監査役, 社長, 会長, 頭取, 理事, 企業家, 店長, 支配人, 乗務, 部長, 次長, 課長
  - family business manager: 商, 店, 業, 屋
- Professionals
  - lawyer: 弁護士, 判事, 検事, 裁判官
  - doctor: 医, 院長
  - scholar: 教師, 講師, 研究員, 研究家, 博士, 学校長, 学長
- Public Officer
  - 長官, 次官, 局長, 局理事, 大使, 公使, 領事, 総監, 総督, 参事官, 参興館, 書記官, 秘書官, 法務官, 事務官, 理事官, 知事, 省, 庁, 局, 会計検査員, 大使館, 領事館, 議員, 議長, 大臣, 内閣
  - 郵便局, 放送局, 電気局, 水道局, 土木局, 印刷局, 薬局, 新聞, 新報, 放送, 軍を除く

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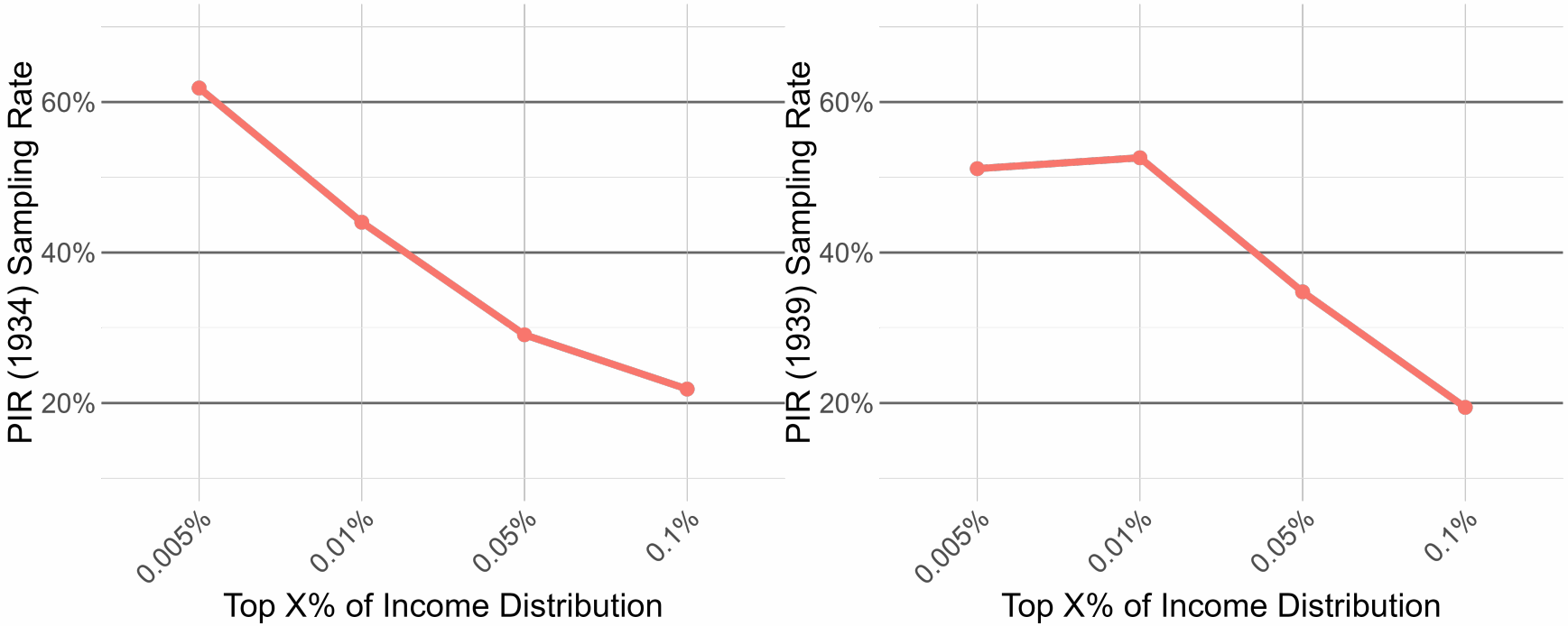
Sampling rate: top income earners



(a) 1934 **(b)** 1939

Figure: Sampling rate of top 0.1% income earners

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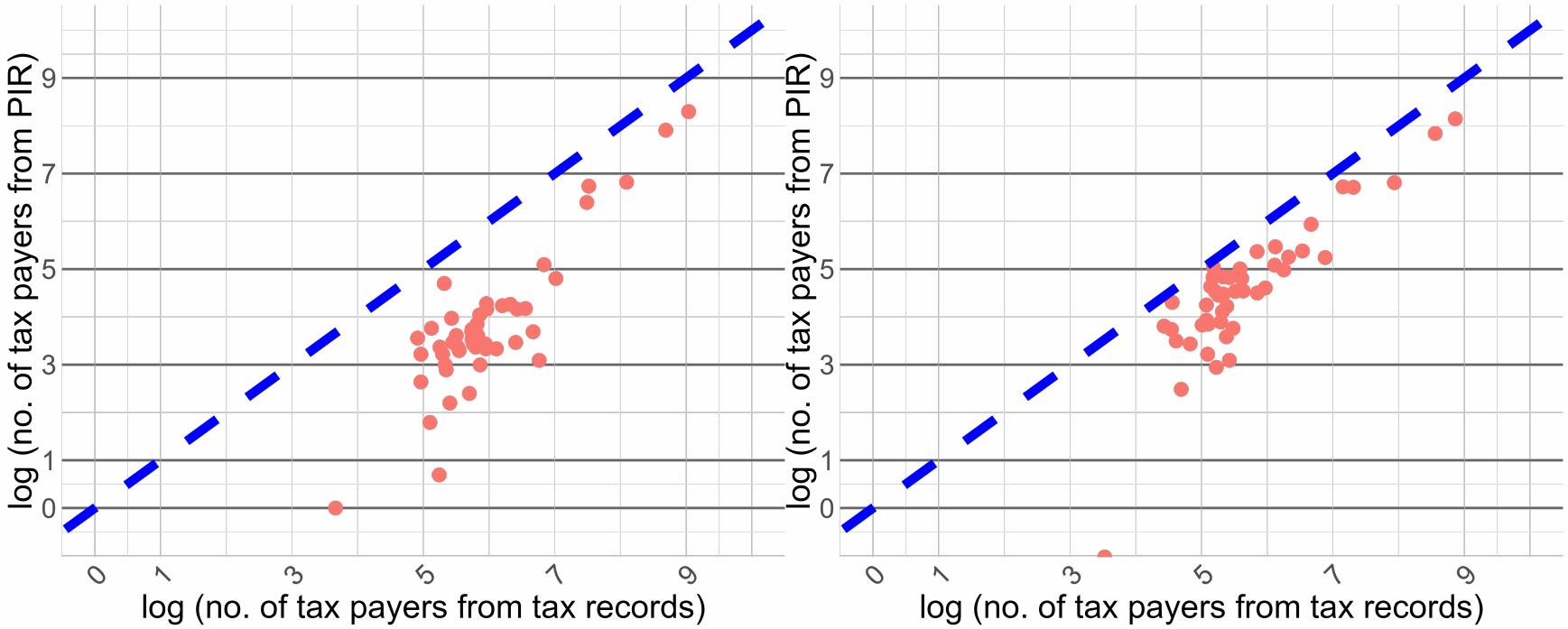
No. of individuals in PIR and Tax Record



(a) 1934 **(b)** 1939

Figure: No. of individuals above top 0.1% income percentile

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Inverse sampling rate

	Top 0.1% income earners			
	Main		Inverse sampling rate	
	(1) 1934	(2) 1939	(3) 1934	(4) 1939
Panel A: Samurai				
After	0.176	-0.988	-4.272	-1.483
	(0.448)	(0.656)	(8.963)	(1.830)
No. of prefecture-cohort	333	333	333	333
Mean Dep Before	1.638	2.196	16.294	5.595
Percent Effect(%)	11	-45	-26	-27
Panel B: Commoners				
After	0.085	0.143**	0.506	0.369*
	(0.057)	(0.065)	(0.483)	(0.187)
No. of prefecture-cohort	333	333	333	333
Mean Dep Before	0.551	0.705	3.235	1.727
Percent Effect(%)	15	20	16	21

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. Back

PIR

We aggregate the no. of all elites (1903–1939) by cohort level.

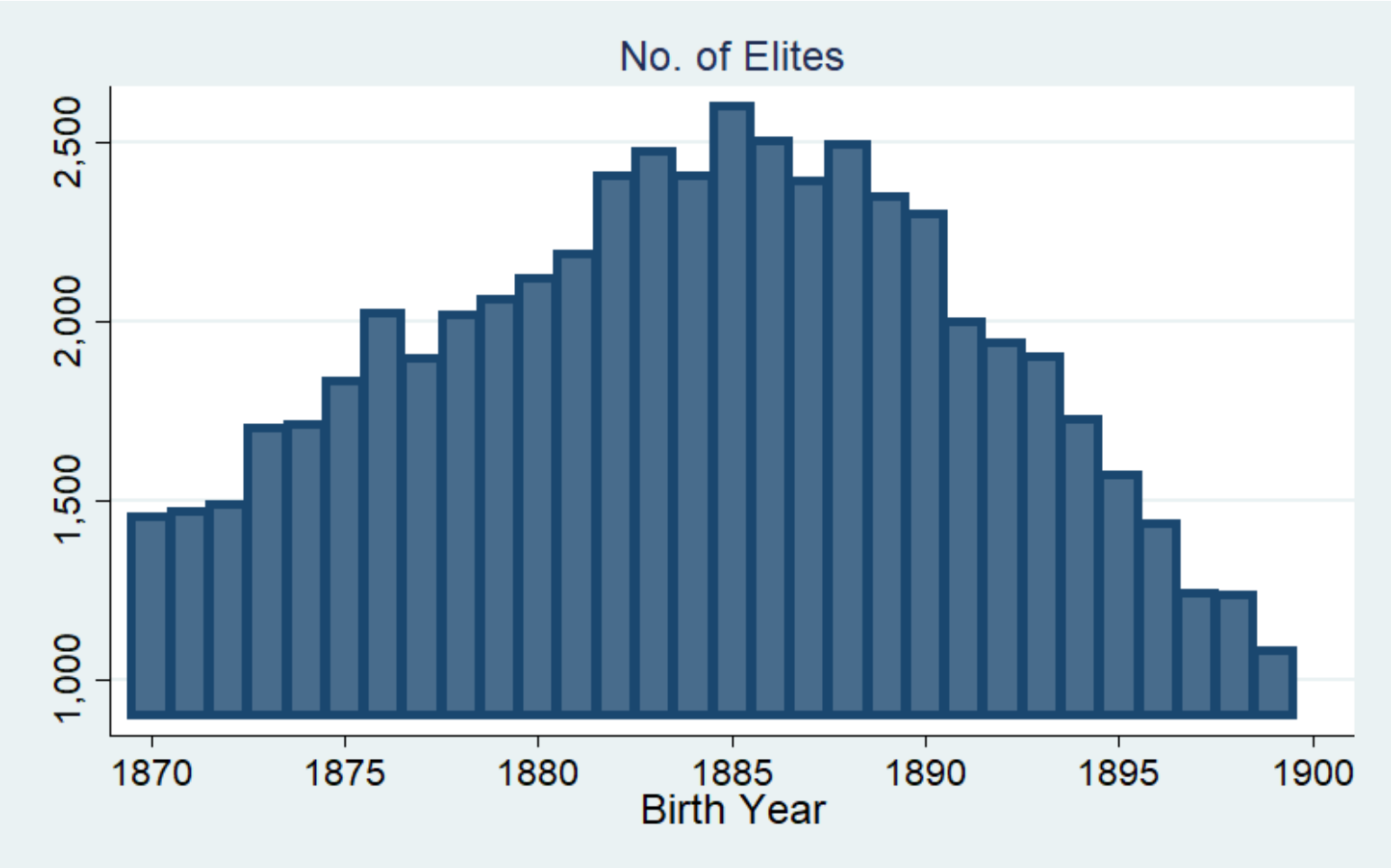


Figure: Cohorts used in PIR

No. of elites by samurai/commoners & elite background

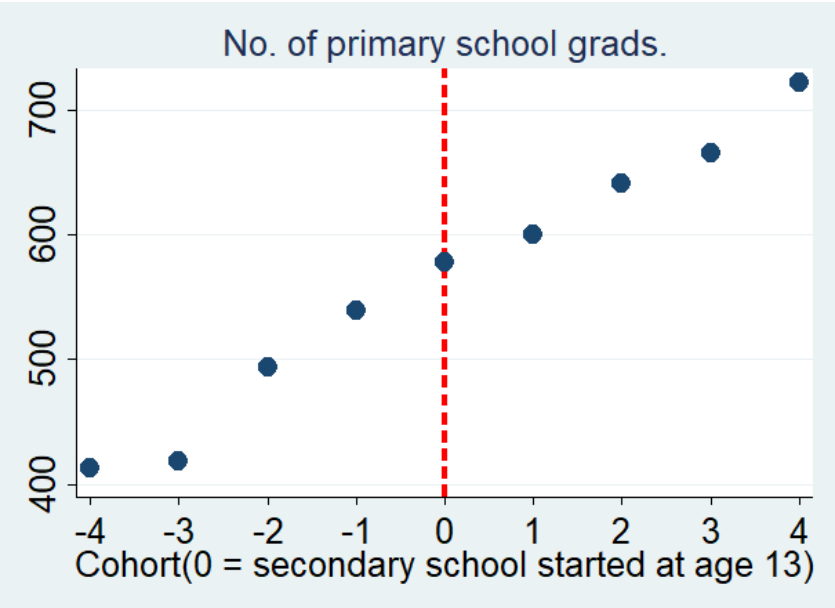
We count the number of elites by samurai/commoners & elite status of their fathers.

	No. of elites		No. of elites per 1,000 births	
	Commoner families	Samurai families	Commoner families	Samurai families
Panel A: By commoner families and samurai families (born in 1876-1878)				
All occupational elites	581.333	125.000	1.760	8.112
High-income managers	399.667	53.000	1.210	3.440
Public servants	61.333	28.667	0.186	1.860
Professional elites	164.000	60.333	0.496	3.916
	No. of elites		No. of elites per 1,000 births	
	Non-elite families	Elite families	Non-elite families	Elite families
Panel B: By non-elite families and elite families (born in 1876-1878)				
All occupational elites	675.333	31.000	1.578	67.493
High-income managers	429.000	23.667	1.003	51.527
Public servants	84.667	5.333	0.198	11.612
Professional elites	218.333	6.000	0.510	13.063

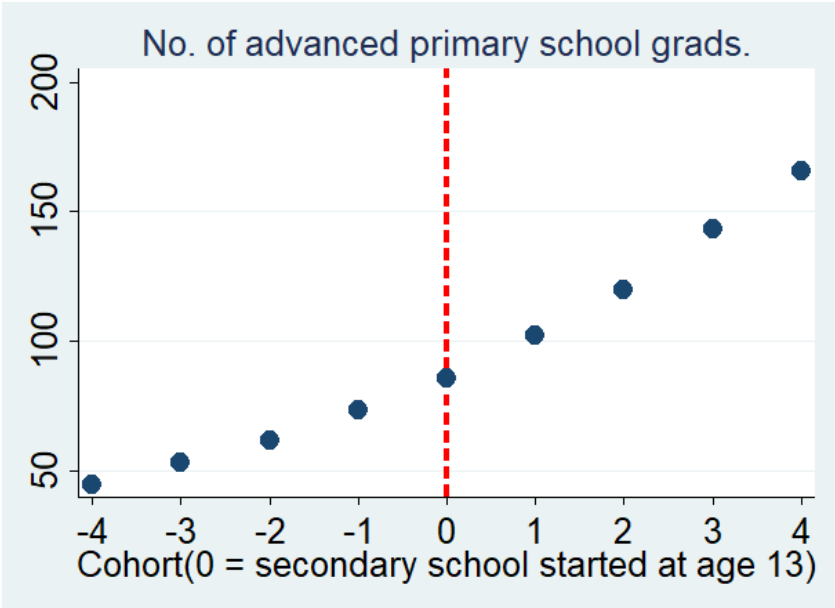
Back

No. of primary school grads. per 1000 persons

No. of primary school grads. per 1000 male birth population in the prefecture.



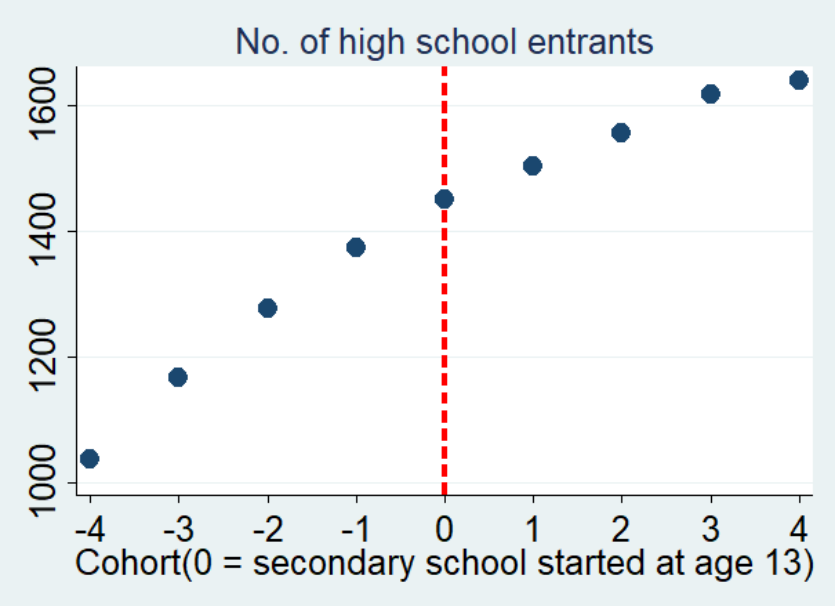
(a) Primary school grads.



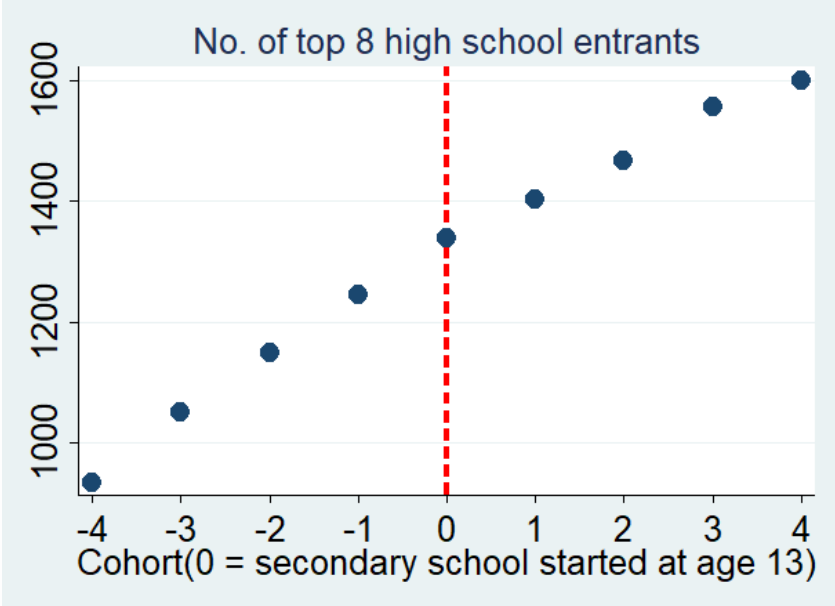
(b) Adv. Primary school grads.

Note: The cohort in the figure is defined by "the year when the cohort turned age 13 - the year when the 2nd secondary school was established in the prefecture" Back

No. of high school entrants



(a) High school entrants

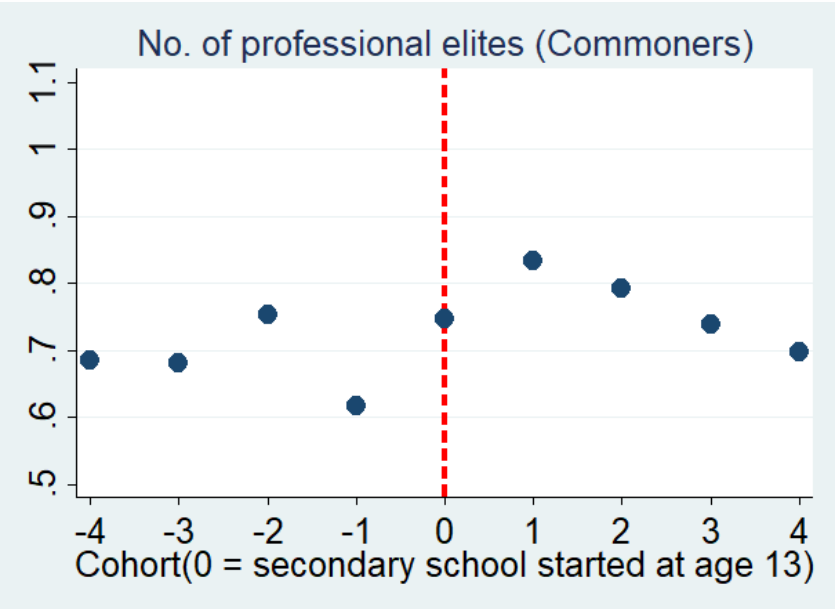


(b) Top 8 high school entrants

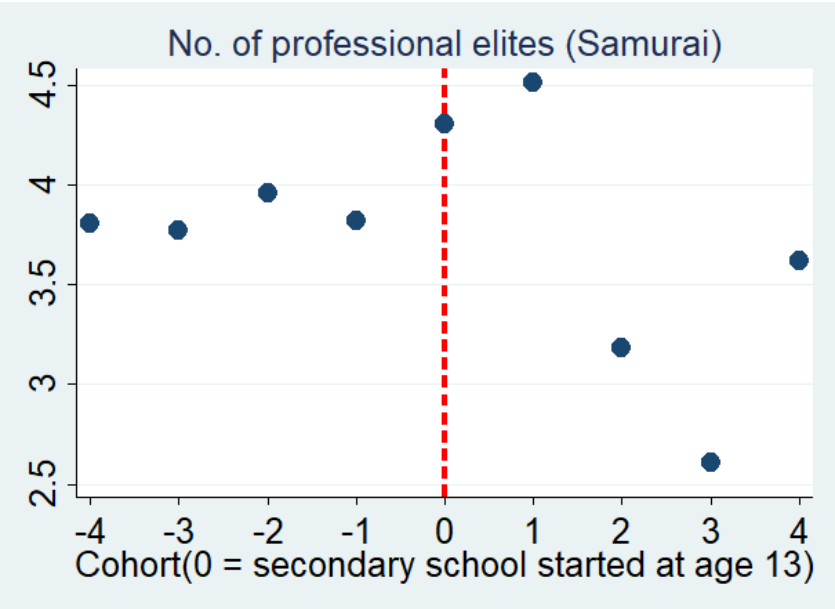
Note: The cohort in the figure is defined by ”the year when the cohort turned age 13 - the year when the 2nd secondary school was established in the prefecture” Back

No. of professional elites per 1000 persons

No. of elites per 1000 male birth population in the prefecture.



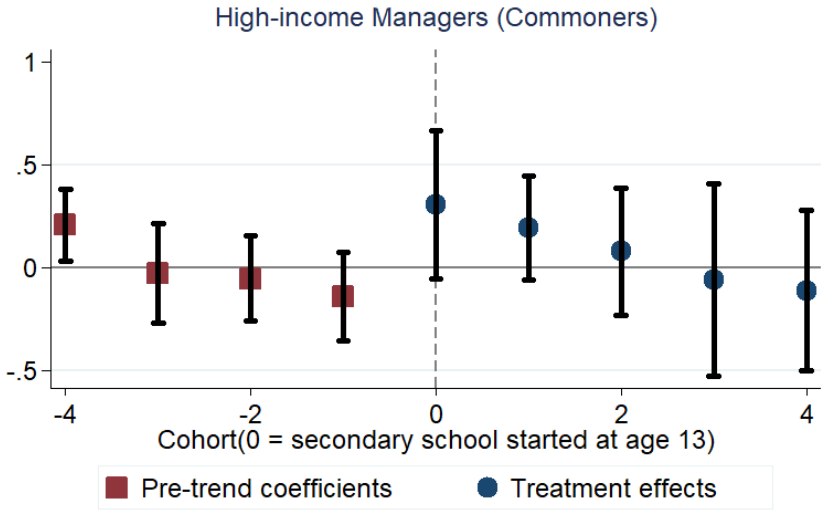
(a) Commoners

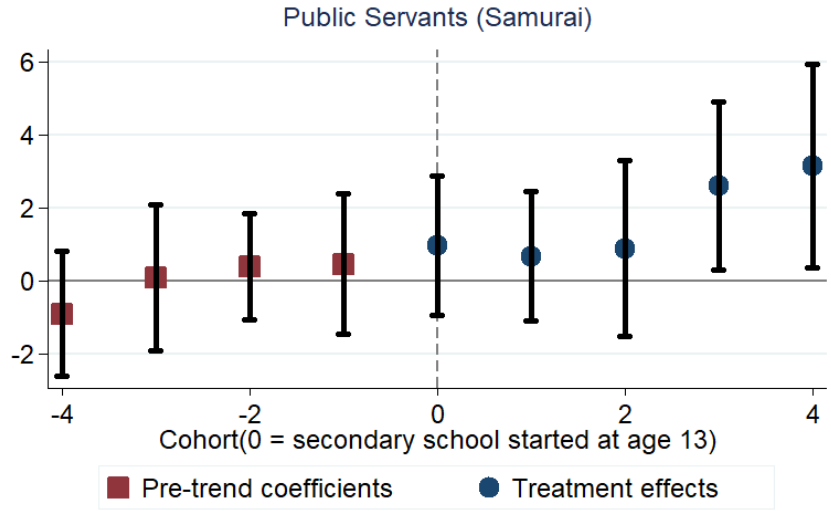


(b) Samurai

Note: The cohort in the figure is defined by "the year when the cohort turned age 13 - the year when the 2nd secondary school was established in the prefecture" Back

Staggered DiD





Note: Staggered DiD based on Callaway and Sant'Anna (2021) method (Stata csdid command). We use only not-yet-treated units as comparisons.

	χ^2(df)		
	High-income Managers	Professional Elites	Public Servants
All	3183.39(32)	697.93(32)	12262.40(32)
Samurai	184.37(32)	788.51(32)	472.83(32)
Commoners	1184.40(32)	2498.18(32)	4825.10(32)

Note: We test the hypothesis H_0: pre-treatment within window(from -4 to -1) are equal to 0. χ^2(df) are reported in each cell.

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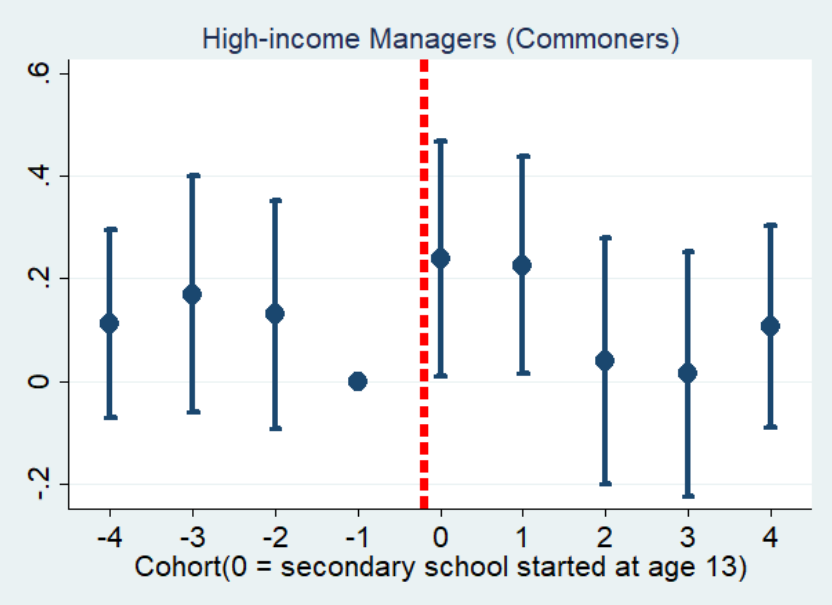
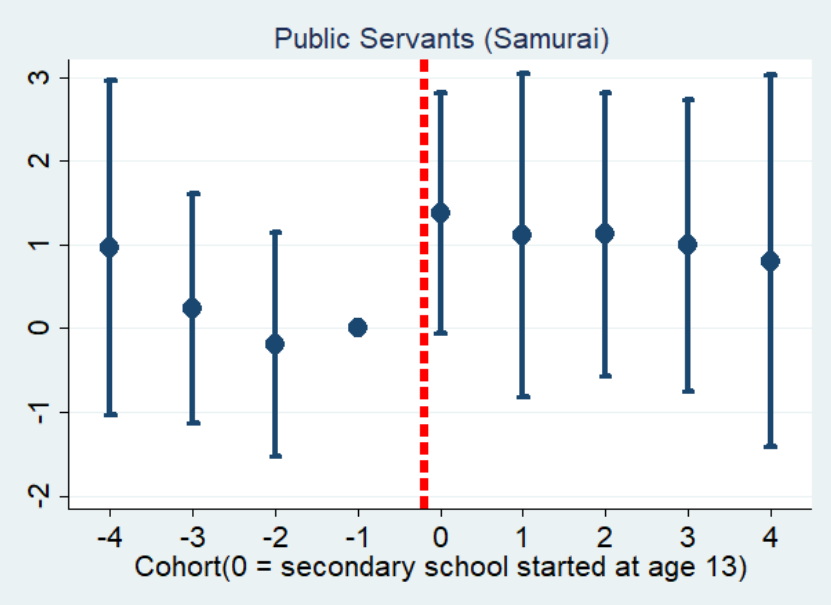
Event Study(birth year fe)





Note: Event study method. We include cohort fixed effect and prefecture fixed effect.

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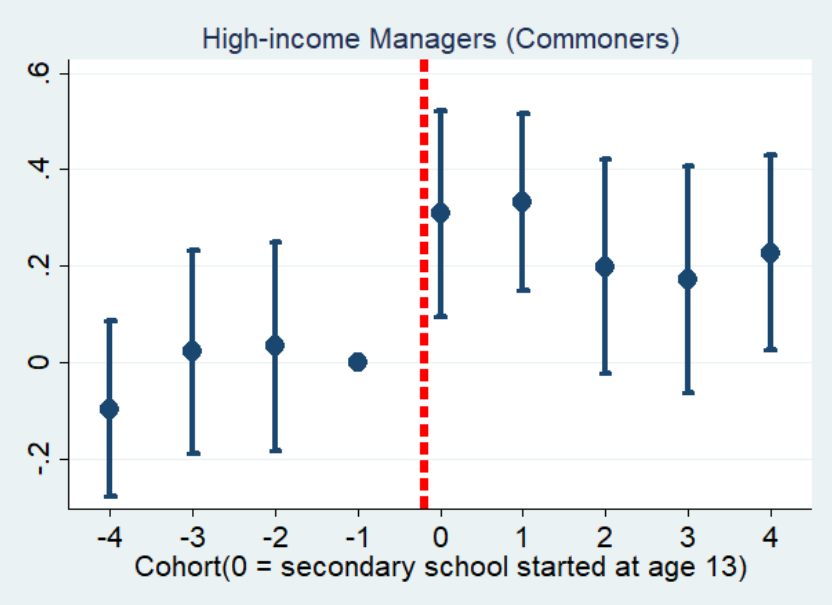
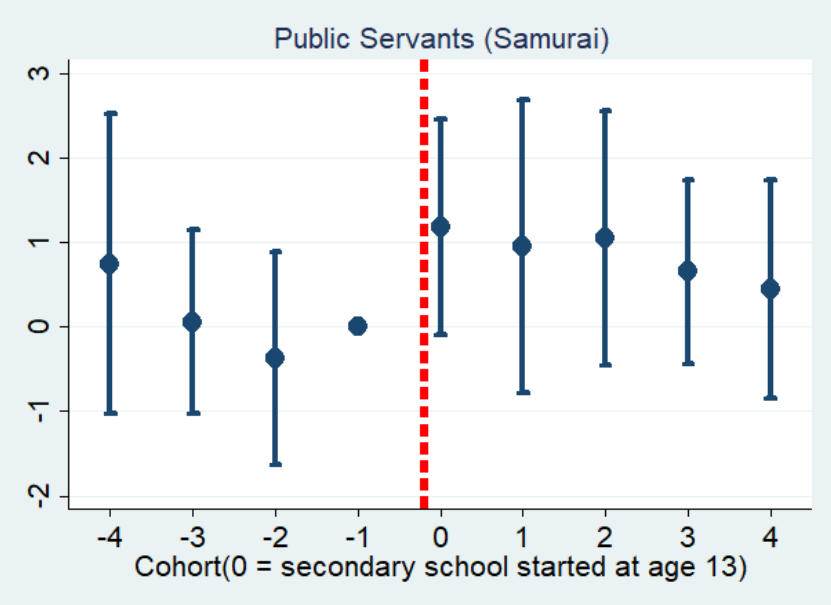
Event Study (cohort linear trend controlled)





Note: Event study method. We include cohort trend term and prefecture fixed effect.

Back

Impact on no. of secondary schools, grads, and teachers

	No. of Middle Schools		No. of Middle School Grads		No. of Teacher	
	(1) Public	(2) Private	(3) Public	(4) Private	(5) No.	(6) per Graduates
After	1.64***	-0.16*	4.31***	0.07	4.75***	-0.06*
	(0.22)	(0.09)	(1.14)	(0.15)	(1.63)	(0.03)
No. Obs.	333	333	333	333	297	297
Mean Dep. Before	0.96	0.20	4.63	0.12	16.44	0.45
Percent Effect(%)	170	-77	93	57	29	-14

Source: Ministry of Education Yearbook 1892–1901

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High-income business managers

	High-income managers				
	All	Modern Business Managers	Modern& Traditional Business Managers	Traditional Business Managers	Executive Managers
	(1)	(2)	(3)	(4)	(5)
Panel A: Samurai					
After	0.34	0.20	0.16	-0.02	0.84
	(0.87)	(0.76)	(0.30)	(0.10)	(0.79)
No. Obs.	333	333	333	333	333
Mean Dep. Before	4.31	3.14	0.97	0.21	2.99
Percent Effect(%)	8	6	16	-10	28
Panel B: Commoners					
After	0.31***	0.19**	0.15**	-0.03	0.22**
	(0.10)	(0.08)	(0.06)	(0.03)	(0.09)
No. Obs.	333	333	333	333	333
Mean Dep. Before	1.28	0.64	0.43	0.21	0.85
Percent Effect(%)	24	29	35	-12	26

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. Back

Central & local public servants

	Central public servants				Local public servants			
	All	Prefecture Governors	Bureaucrats	Politicians	All	Mayors	Administrative Officers	Politicians
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Samurai								
After	1.68**	-0.06	1.48***	0.60*	0.55	0.53**	0.45	0.42**
	(0.63)	(0.10)	(0.54)	(0.30)	(0.56)	(0.22)	(0.53)	(0.19)
No. Obs.	333	333	333	333	333	333	333	333
Mean Dep. Before	2.13	0.13	1.68	0.57	1.69	0.19	1.58	0.18
Percent Effect(%)	79	-45	88	105	32	283	29	241
Panel B: Commoners								
After	-0.05	0.02**	-0.05	-0.01	-0.00	0.00	-0.01	0.00
	(0.08)	(0.01)	(0.06)	(0.02)	(0.07)	(0.02)	(0.07)	(0.05)
No. Obs.	333	333	333	333	333	333	333	333
Mean Dep. Before	0.30	0.01	0.22	0.10	0.36	0.09	0.32	0.11
Percent Effect(%)	-17	473	-23	-14	-0	1	-3	3

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. Back

Professional elites

	Professional Elites (1)	Scholars (2)	Judges& Lawyers (3)	Physicians (4)
Panel A: Samurai				
After	0.75	0.57	0.27	-0.11
	(1.11)	(0.88)	(0.54)	(0.42)
No. Obs.	333	333	333	333
Mean Dep. Before	3.84	2.56	1.04	0.88
Percent Effect(%)	20	22	26	-13
Panel B: Commoners				
After	0.16*	0.06	0.09**	-0.03
	(0.08)	(0.06)	(0.03)	(0.05)
No. Obs.	333	333	333	333
Mean Dep. Before	0.68	0.43	0.15	0.28
Percent Effect(%)	23	13	61	-11

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. Back

Military & Military School graduates

	Military Servants (1)	Military School Grads. (2)	Landlords (3)
Panel A: Samurai			
After	0.11	0.05	0.09
	(0.47)	(0.32)	(0.23)
No. Obs.	333	333	333
Mean Dep. Before	1.70	0.79	0.53
Percent Effect(%)	7	6	18
Panel B: Commoners			
After	0.00	0.00	0.00
	(0.05)	(0.03)	(0.03)
No. Obs.	333	333	333
Mean Dep. Before	0.21	0.08	0.21
Percent Effect(%)	2	5	0

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. Back

Top income earners

	High-income earners		
	All	Top 0.1%	Top 0.05%
	(1)	(2)	(3)
Panel A: Samurai			
After	0.29	-0.13	0.10
	(1.43)	(0.88)	(0.77)
No. Obs.	333	333	333
Mean Dep. Before	6.94	4.19	2.09
Percent Effect(%)	4	-3	5
Panel B: Commoners			
After	0.31***	0.15*	0.12
	(0.10)	(0.08)	(0.08)
No. Obs.	333	333	333
Mean Dep. Before	1.78	1.06	0.61
Percent Effect(%)	17	14	20

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. back

Business managers with top income percentiles

	High-income managers		
	All	Top 0.1%	Top 0.05%
	(1)	(2)	(3)
Panel A: Samurai			
After	0.34	0.55	0.53
	(0.87)	(0.78)	(0.56)
No. Obs.	333	333	333
Mean Dep. Before	4.31	2.82	1.60
Percent Effect(%)	8	19	33
Panel B: Commoners			
After	0.31***	0.18**	0.11
	(0.10)	(0.08)	(0.07)
No. Obs.	333	333	333
Mean Dep. Before	1.28	0.85	0.54
Percent Effect(%)	24	21	19

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. back

Impact on no. of elites by education

	Imperial Univ. (1)	Other Higher Education (2)	No Higher Education (3)
Panel A: Samurai			
After	2.68***	-0.53	-0.02
	(0.95)	(0.68)	(0.64)
No. Obs.	333	333	333
Mean Dep. Before	4.30	2.41	2.25
Percent Effect(%)	62	-22	-1
Panel B: Commoners			
After	0.06	0.05	0.25***
	(0.09)	(0.06)	(0.08)
No. Obs.	333	333	333
Mean Dep. Before	0.56	0.49	1.03
Percent Effect(%)	11	10	24

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. Back

Robustness Check: Squared Trend Term

	All occupational Elites (1)	High-income Managers (2)	Public Servants (3)	Professional Elites (4)
Panel A: Samurai				
After	1.77	0.07	1.75**	0.58
	(1.59)	(0.88)	(0.70)	(1.16)
No. Obs.	333	333	333	333
Mean Dep. Before	8.97	4.31	2.13	3.84
Percent Effect(%)	20	2	82	15
Panel B: Commoners				
After	0.30**	0.27**	-0.08	0.14*
	(0.13)	(0.10)	(0.07)	(0.08)
No. Obs.	333	333	333	333
Mean Dep. Before	2.08	1.28	0.30	0.68
Percent Effect(%)	14	21	-27	21

Note: We control for linear cohort trend, quadratic cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. Back

Robustness Check: Cohort Fixed Effect

	All occupational Elites (1)	High-income Managers (2)	Public Servants (3)	Professional Elites (4)
Panel A: Samurai				
After	1.91	0.09	1.73**	0.55
	(1.47)	(0.99)	(0.68)	(1.13)
No. Obs.	333	333	333	333
Mean Dep. Before	8.97	4.31	2.13	3.84
Percent Effect(%)	21	2	81	14
Panel B: Commoners				
After	0.22*	0.23**	-0.09	0.13
	(0.12)	(0.10)	(0.08)	(0.09)
No. Obs.	333	333	333	333
Mean Dep. Before	2.08	1.28	0.30	0.68
Percent Effect(%)	11	18	-29	18

Note: We control for cohort and prefecture fixed effects. Standard errors reported in parentheses are clustered at the prefecture level. Back

Robustness Check: 2 years Before After

	All occupational Elites (1)	High-income Managers (2)	Public Servants (3)	Professional Elites (4)
Panel A: Samurai				
After	2.00	0.20	1.19	1.30
	(2.21)	(1.32)	(0.93)	(1.59)
No. Obs.	185	185	185	185
Mean Dep. Before	9.09	4.70	1.83	3.89
Percent Effect(%)	22	4	65	34
Panel B: Commoners				
After	0.37*	0.39**	-0.10	0.13
	(0.19)	(0.15)	(0.09)	(0.14)
No. Obs.	185	185	185	185
Mean Dep. Before	2.15	1.30	0.37	0.68
Percent Effect(%)	17	30	-26	19

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. Back

Robustness Check: Kazoku Excluded

	All occupational Elites (1)	High-income Managers (2)	Public Servants (3)	Professional Elites (4)
Panel A: Samurai				
After	1.70	0.03	1.49**	0.65
	(1.46)	(0.84)	(0.58)	(1.10)
No. Obs.	333	333	333	333
Mean Dep. Before	8.84	4.30	2.01	3.82
Percent Effect(%)	19	1	74	17
Panel B: Commoners				
After	0.36***	0.31***	-0.05	0.16*
	(0.13)	(0.10)	(0.08)	(0.08)
No. Obs.	333	333	333	333
Mean Dep. Before	2.08	1.28	0.30	0.68
Percent Effect(%)	17	24	-17	23

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. Back

Robustness Check: Cohort −1 Excluded

	All occupational Elites (1)	High-income Managers (2)	Public Servants (3)	Professional Elites (4)
Panel A: Samurai				
After	2.99*	0.98	1.92***	1.10
	(1.74)	(1.29)	(0.70)	(1.17)
No. Obs.	296	296	296	296
Mean Dep. Before	8.91	4.18	2.16	3.85
Percent Effect(%)	34	24	89	29
Panel B: Commoners				
After	0.36**	0.34**	-0.01	0.11
	(0.16)	(0.14)	(0.08)	(0.11)
No. Obs.	296	296	296	296
Mean Dep. Before	2.07	1.27	0.28	0.71
Percent Effect(%)	17	27	-3	15

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. Back

Robustness Check: Cohort +1 Excluded

	All occupational Elites (1)	High-income Managers (2)	Public Servants (3)	Professional Elites (4)
Panel A: Samurai				
After	1.96	0.70	1.76**	0.31
	(1.50)	(0.93)	(0.67)	(1.18)
No. Obs.	296	296	296	296
Mean Dep. Before	8.97	4.31	2.13	3.84
Percent Effect(%)	22	16	83	8
Panel B: Commoners				
After	0.27*	0.26**	-0.07	0.12
	(0.15)	(0.11)	(0.08)	(0.09)
No. Obs.	296	296	296	296
Mean Dep. Before	2.08	1.28	0.30	0.68
Percent Effect(%)	13	20	-24	18

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. Back

Two or more schools built with 2nd school

	All Occupational Elites (1)	High-income Managers (2)	Public Servants (3)	Professional Elites (4)
Panel A: Samurai				
After	3.33*	1.46	1.83**	0.93
	(1.71)	(1.14)	(0.69)	(1.15)
2 or more schools × After	-2.36	-2.19*	-0.30	-0.35
	(1.71)	(1.14)	(0.64)	(0.91)
No. Obs.	333	333	333	333
Mean Dep. Before	8.97	4.31	2.13	3.84
Panel B: Commoners				
After	0.24	0.31**	-0.08	0.04
	(0.16)	(0.13)	(0.08)	(0.11)
2 or more schools × After	0.22	0.00	0.06	0.22**
	(0.15)	(0.12)	(0.05)	(0.10)
No. Obs.	333	333	333	333
Mean Dep. Before	2.08	1.28	0.30	0.68

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. Back

Robustness Check: Post Dummy Interaction

	All Occupational Elites (1)	High-income Managers (2)	Public Servants (3)	Professional Elites (4)
Panel A: Samurai				
After	3.19*	0.85	2.38***	1.09
	(1.73)	(1.06)	(0.69)	(1.11)
Post × After	-2.32	-1.10	-1.53**	-0.73
	(1.71)	(1.21)	(0.58)	(0.92)
No. of Obs.	333	333	333	333
Mean Dep. Before	8.97	4.31	2.13	3.84
Panel B: Commoners				
After	0.52***	0.39***	-0.01	0.25**
	(0.16)	(0.12)	(0.08)	(0.09)
Post × After	-0.37***	-0.17	-0.09*	-0.20**
	(0.13)	(0.12)	(0.05)	(0.10)
No. Obs.	333	333	333	333
Mean Dep. Before	2.08	1.28	0.30	0.68

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. Back

Military & Non-Military Managers

	High-income managers		
	All	Military	Non-military
	(1)	(2)	(3)
Panel A: Samurai			
After	0.34	-0.22	0.56
	(0.87)	(0.16)	(0.84)
No. Obs.	333	333	333
Mean Dep. Before	4.31	0.39	3.93
Percent Effect(%)	8	-57	14
Panel B: Commoners			
After	0.31***	0.00	0.31***
	(0.10)	(0.02)	(0.10)
No. Obs.	333	333	333
Mean Dep. Before	1.28	0.05	1.22
Percent Effect(%)	24	4	25

Note: We control for linear cohort trend, and prefecture fixed effect. Standard errors reported in parentheses are clustered at the prefecture level. Back

Possible channels

- Human capital accumulation: Important for professional and gov. elites, but not for business elites
  - Schools with higher teacher/student ratio: + professional elites teacher
  - Progression to Imperial Univ.: professional and gov. elites higher educ
- Peer effects: Some influence
  - Schools built on former fief schools or castles: + samurai gov. elites & commoner professional elites. town
  - Having sons of business elites in the cohort-location: + commoner business elites. classmate
- Family's expectation and endowments (among commoners) birth order
  - Eldest sons upgrade the traditional firms they inherited to modern firms.
  - Even 2nd/higher-order sons became business elites instead of gov. elites.
    - suggesting influence of family endowments shared within family members (e.g. knowledge, networks, and norms forming aspirations).

Human capital accumulation: no. of teachers

	All Occupational Elites (1)	High-income Managers (2)	Public Servants (3)	Professional Elites (4)
Panel A: Samurai				
After	-0.18	-1.09	1.41	-1.11
	(2.09)	(1.42)	(1.21)	(1.45)
$\frac{\text{No. of Teachers}}{\text{No. of Graduates}} \times$ After	7.01	3.94	1.01	5.93**
	(5.22)	(3.96)	(2.81)	(2.48)
No. Obs.	297	297	297	297
Mean Dep. Before	8.70	4.33	2.01	3.63
Panel B: Commoners				
After	0.35	0.37**	0.08	0.05
	(0.25)	(0.16)	(0.13)	(0.15)
$\frac{\text{No. of Teachers}}{\text{No. of Graduates}} \times$ After	0.07	-0.09	-0.38	0.28
	(0.55)	(0.35)	(0.24)	(0.37)
No. Obs.	297	297	297	297
Mean Dep. Before	2.13	1.33	0.30	0.69

Note: we include the ratio of secondary school teachers to graduates (measured for each prefecture and year) and its interaction term with "After". back

School locations: Samurai vs Merchant towns

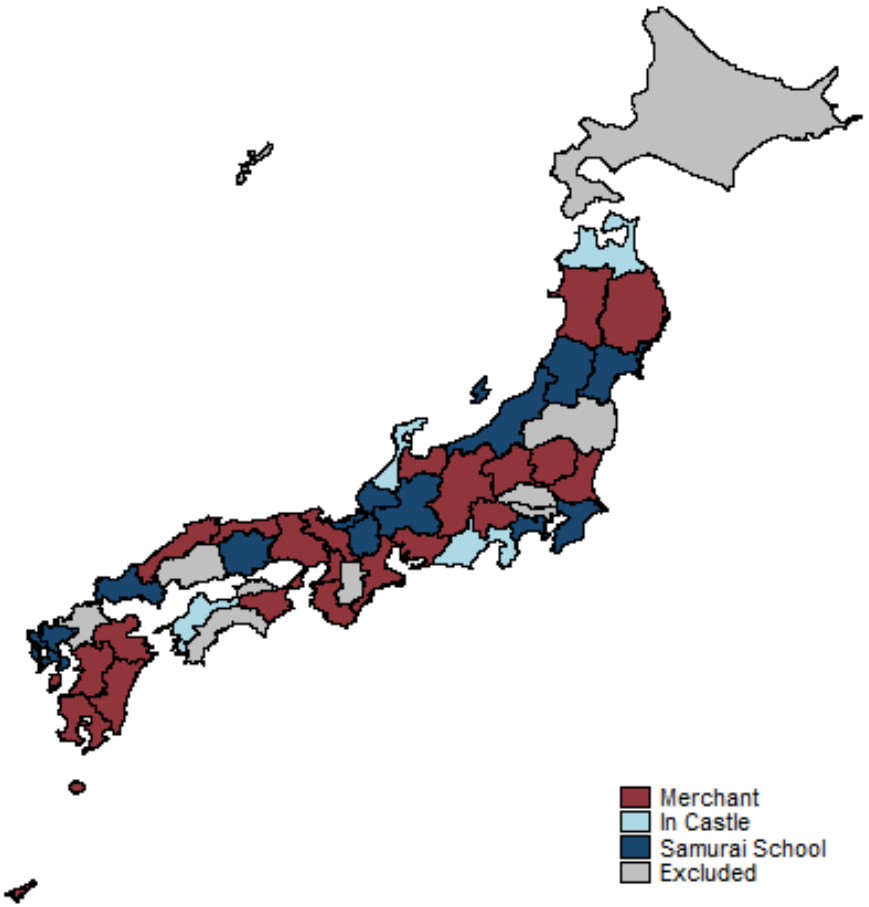

Figure: Location of 2nd schools

- Locations of 2nd secondary schools
  - **Merchant Town** (59.5%)
  - **Samurai Town** (40.5%)
- Location differences proxy for differences in
  - Targeted students
  - Peers
  - Strength of commercial activity

Share of commoners in samurai vs. merchant town

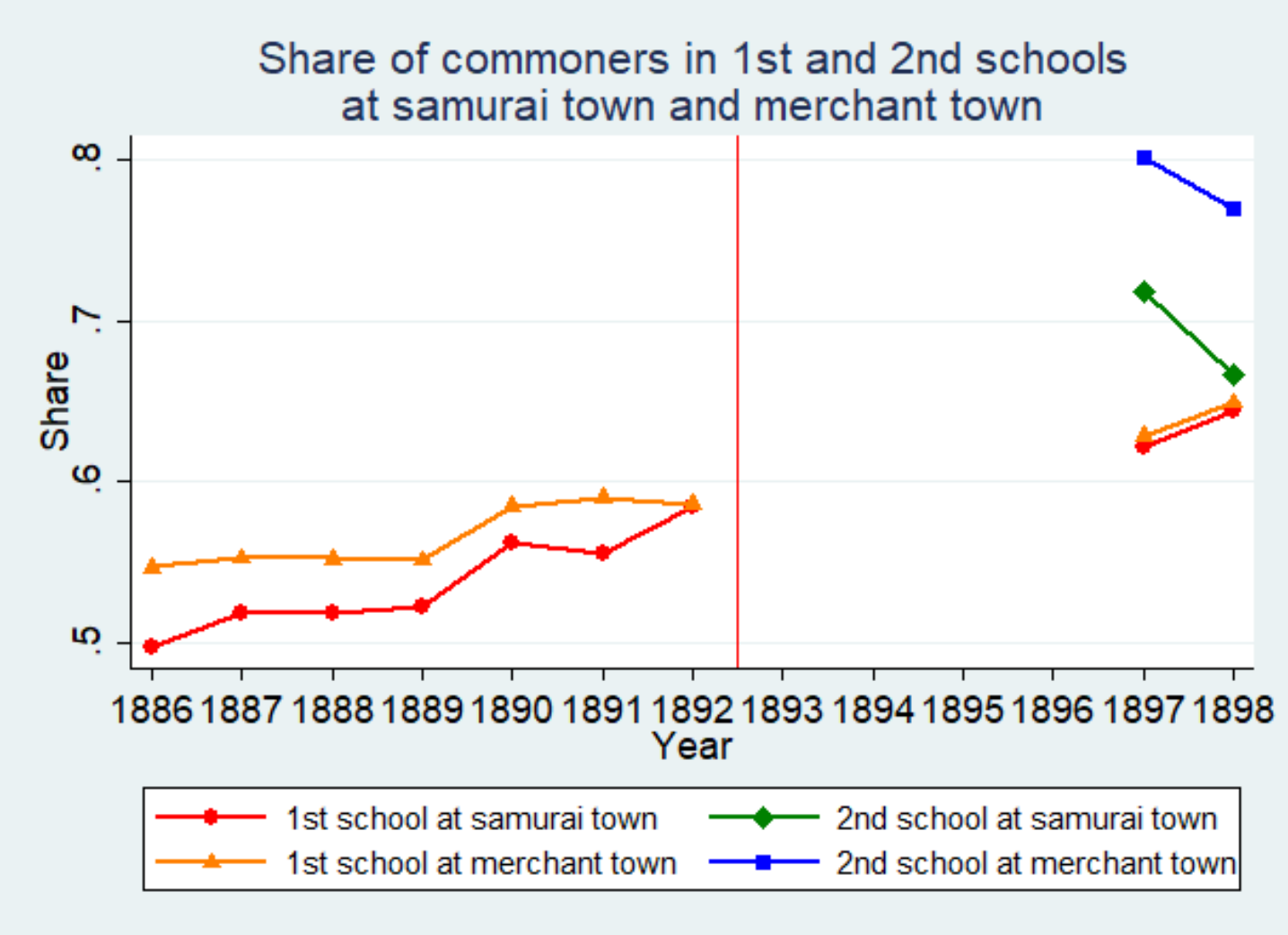

Figure: Souce: Mitsuihara(1898)

Schools in samurai vs. merchant town

	All Occupational Elites (1)	High-income Managers (2)	Public Servants (3)	Professional Elites (4)
Panel A: Samurai				
Samurai Town× After	2.317	0.406	2.213**	0.365
	(1.931)	(1.054)	(0.850)	(1.217)
Merchant Town× After	1.972	0.291	1.274**	1.052
	(1.578)	(1.040)	(0.538)	(1.173)
No. Obs.	333	333	333	333
Mean Dep Before	8.97	4.31	2.13	3.84
p-value (Samurai Town × After = Merchant Town × After)	0.848	0.923	0.149	0.455
Panel B: Commoners				
Samurai Town× After	0.413**	0.299**	-0.047	0.241**
	(0.156)	(0.134)	(0.073)	(0.102)
Merchant Town× After	0.312**	0.319***	-0.052	0.092
	(0.141)	(0.104)	(0.083)	(0.093)
No. Obs.	333	333	333	333
Mean Dep Before	2.08	1.28	0.30	0.68
p-value (Samurai Town× After = Merchant Town × After)	0.489	0.868	0.925	0.155

Note: We control for linear cohort trend, and prefecture fixed effect. back

Classmates network with individuals who have elite business fathers

- Sons of business elites in classmates may help upgrade the traditional business style to modern firms or find new job prospects.

	High-income managers				
	All	Modern Business Managers	Modern & Traditional Business Managers	Traditional Business Managers	Executives
	(1)	(2)	(3)	(4)	(5)
Panel A: Commoners					
After	0.23	0.28**	0.01	-0.05	0.19*
	(0.15)	(0.12)	(0.07)	(0.03)	(0.11)
No. of Business Elites × After	0.16	-0.14	0.29**	0.01	0.07
	(0.26)	(0.20)	(0.13)	(0.06)	(0.17)
No. Obs.	333	333	333	333	333
Mean Dep. Before	1.19	0.60	0.39	0.20	0.78

Note: We control for linear cohort trend, and prefecture fixed effect. back

Family's expectation and endowments (samurai)

- Eldest sons primary become public servants.
- Younger sons had a diversity in the choice of occupations.

	High-income Managers					Public Servants	Professional Elites
	All	Modern Business Managers	Modern& Traditional Business Managers	Traditional Business Managers	Executives	All	All
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Eldest sons (samurai)							
After	-0.26	-0.32	-0.00	0.06	0.37	2.20*	0.83
	(1.98)	(1.67)	(0.73)	(0.13)	(1.54)	(1.10)	(2.15)
No. Obs.	333	333	333	333	333	333	333
Mean Dep. Before	6.68	4.81	1.51	0.36	5.00	2.93	6.14
Percent Effect(%)	-4	-7	-0	16	7	75	13
Panel B: Younger sons (samurai)							
After	0.70	0.47	0.20	0.02	0.97	1.02	1.16
	(1.07)	(0.86)	(0.39)	(0.14)	(0.96)	(0.64)	(0.85)
No. Obs.	333	333	333	333	333	333	333
Mean Dep. Before	2.26	1.65	0.56	0.05	1.42	1.45	1.71
Percent Effect(%)	31	29	36	47	68	70	68

back

Contribution to the hometown (samurai)

	All occupational Elites (1)	High-income Managers (2)	Public Servants (3)	Professional Elites (4)
Panel A: Stay in hometown				
After	1.48	0.19	1.25**	0.62
	(1.11)	(0.66)	(0.47)	(0.85)
No. Obs.	333	333	333	333
Mean Dep. Before	5.65	2.51	1.32	2.57
Percent Effect(%)	26	8	95	24
Panel B: Move from hometown				
After	0.40	0.24	0.58	0.06
	(0.60)	(0.42)	(0.38)	(0.39)
No. Obs.	333	333	333	333
Mean Dep. Before	1.99	1.00	0.60	0.69
Percent Effect(%)	20	24	96	9
Panel C: Move to urban				
After	0.01	0.30	0.06	0.01
	(0.50)	(0.35)	(0.26)	(0.35)
No. Obs.	315	315	315	315
Mean Dep. Before	1.48	0.64	0.50	0.53
Percent Effect(%)	1	47	11	3

back

Contribution to the hometown (commoner)

	All occupational Elites (1)	High-income Managers (2)	Public Servants (3)	Professional Elites (4)
Panel A: Stay in hometown				
After	0.23**	0.18**	-0.05	0.12*
	(0.11)	(0.08)	(0.06)	(0.07)
No. Obs.	333	333	333	333
Mean Dep. Before	1.47	0.86	0.23	0.50
Percent Effect(%)	15	21	-20	25
Panel B: Move from hometown				
After	0.12*	0.13**	-0.01	0.03
	(0.06)	(0.06)	(0.03)	(0.04)
No. Obs.	333	333	333	333
Mean Dep. Before	0.60	0.41	0.07	0.18
Percent Effect(%)	21	31	-10	17
Panel C: Move to urban				
After	0.09*	0.10*	-0.01	0.02
	(0.05)	(0.05)	(0.03)	(0.03)
No. Obs.	315	315	315	315
Mean Dep. Before	0.46	0.32	0.06	0.14
Percent Effect(%)	19	33	-21	12

back

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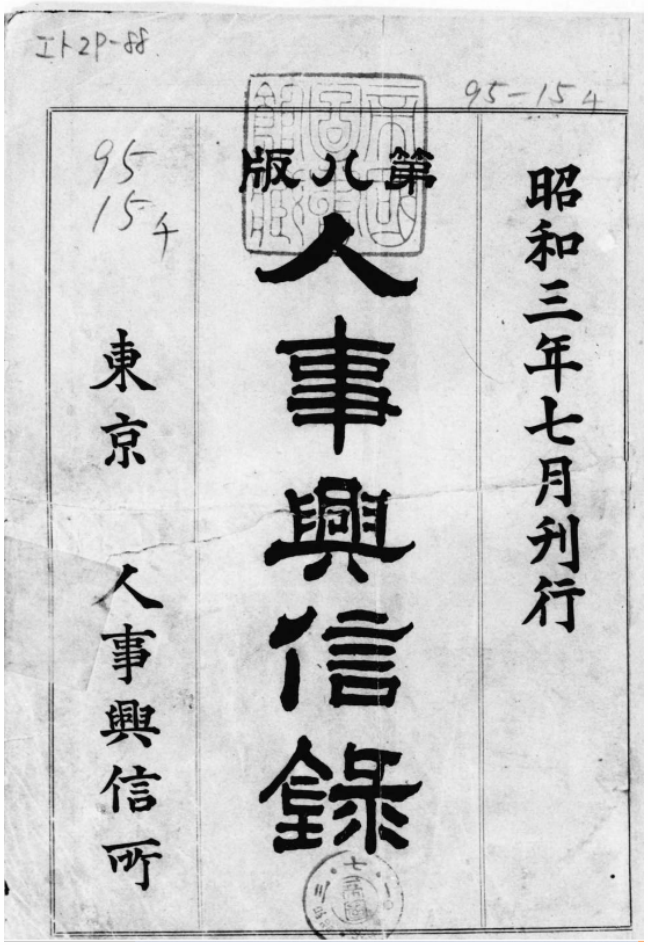
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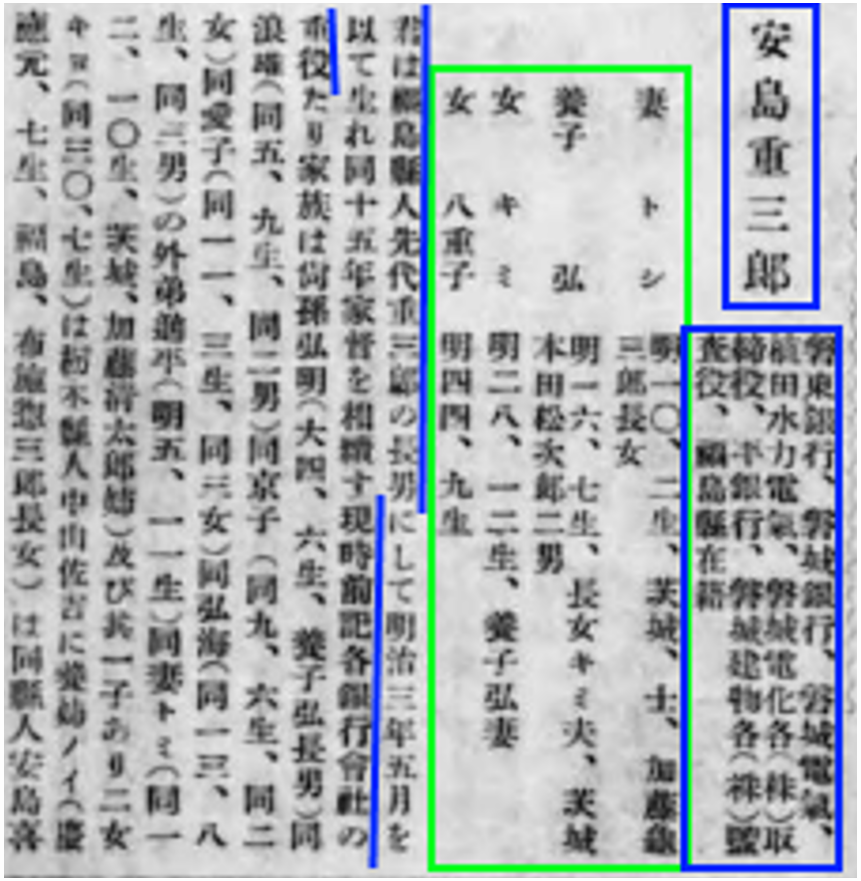
安島重三郎
妻トシ 明一〇、二生、茨城、士、加藤徹三郎長女
養子 弘 明一六、七生、長女キミ夫、茨城本田松次郎二男
女キミ 明二八、一二生、養子弘妻
女八重子 明四四、九生
君は福島縣人先代重三郎の長男にして明治三年五月を以て生れ同十五年家督を相續す現時前記各銀行會社の重役たり家族は尚孫弘明(大四、六生、養子弘長男)同浪雄(同五、九生、同二男)同京子(同九、六生、同二女)同愛子(同一一、三生、同三女)同弘海(同一三、八生、同二男)の外弟鈴平(明五、一一生)同妻トミ(同一二、一〇生、茨城、加藤清太郎姉)及び其一子あり二女キヨ(同三〇、七生)は栃木縣人中山佐吉に養姉ノイ(慶應元、七生、福島、布施惣三郎長女)は同縣人安島喜

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