

Social Mobility and Political Regimes in Hungary, 1780–2020

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Research question: Do mobility patterns differ across political regimes?

- ▶ We examine the **group-level, intergenerational mobility** of two social groups in Hungary:
 - Historically privileged group (surnames ending with “y”)
 - Group of “common people” (surnames that were ever in the top 20)
- ▶ We compare how the **representation** of surname groups evolved within **elite occupations** (Clark and Cummins 2014, 2015)
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- ▶ **How did social mobility (the temporal change in group representation) evolve across Hungary’s regime changes?**
- ▶ Builds on our earlier work (Bukowski et al. 2022)

Why is this interesting?

What drives long-run patterns of social mobility?

- ▶ **Modernization school** – Structural changes drive mobility
(e.g., Lipset & Zetterberg, Treiman)
- ▶ **Institutional school** – Focus on the role of institutional changes
(e.g., Parkin)
- ▶ **Social reproduction school** – Mobility does not actually change much
(e.g., Sorokin, Bourdieu & Passeron)

Why is (East-)Central Europe interesting?

- ▶ Frequent institutional transformations
- ▶ Rapid changes in economic structure (socialist industrialization, privatization)
- ▶ Frequent “elite turnovers”

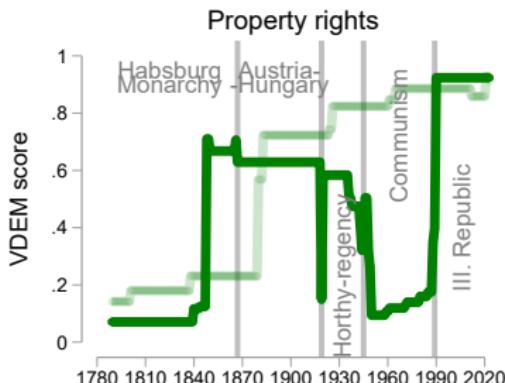
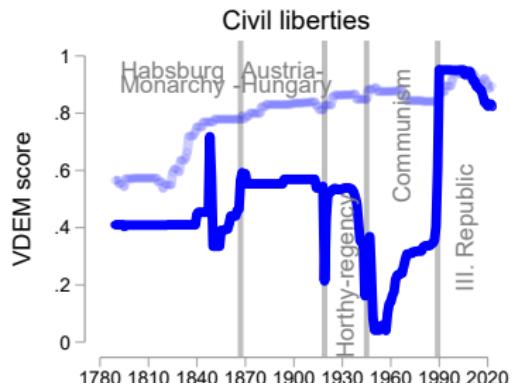
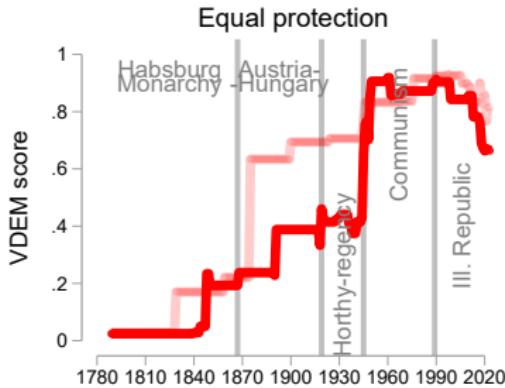
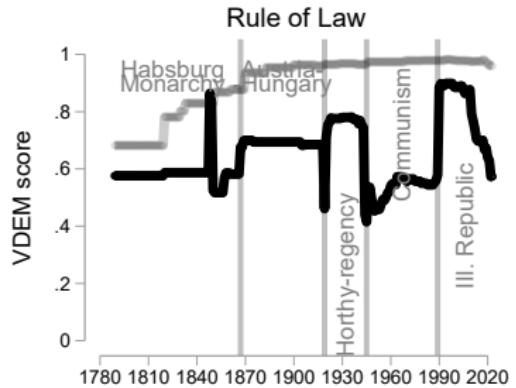
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Hungary experienced frequent regime changes:

- ▶ Habsburg Monarchy (1780–1867)
- ▶ Austro-Hungarian Dual Monarchy (1867–1918)
- ▶ First Republic (1918–1919)
- ▶ Soviet Republic (1919–1920)
- ▶ Horthy Regime (1920–1944)
- ▶ Szálasi Regime (1944–1945)
- ▶ Second Republic (1945–1949)
- ▶ People's Republic (1949–1989)
- ▶ Third Republic (1989–)

Huge **between-regime** and **within-regime** variation in political institutions, large **cross-country** variation

Comparison with the UK (VDEM data)



Outline of the presentation

1. Historical context and motivation
2. Methodology
3. Data and data processing methods
4. Illustrative results 1780-1867
5. Main results 1867-2020

Habsburg Monarchy (1780-1867)

- ▶ After the 3-way partition of Hungary (1526-1689), Habsburgs become sole rulers; absolutist rule; limited role for the Hungarian Diet (=Parliament); summoned usually in crises only.
- ▶ Reform efforts (e.g., Joseph II): centralization; improvement of the tax base - promote basic education, upward mobility into public administration etc.
- ▶ This clashed with entrenched noble privileges.
- ▶ 1848 revolution briefly established constitutional monarchy and abolished some feudal institutions before suppression.
- ▶ Between 1849 - 1867: rule by decree; undermined by a series of military defeats.

Austro-Hungarian Dual Monarchy (1867–1918)

- ▶ “Ausgleich” (Compromise) of 1867: Hungary gains internal autonomy under a **constitutional monarchy**.
- ▶ Dominated by Magyar liberal elite; **restricted suffrage**, rigged elections (Liberal Party wins all but one).
- ▶ Period of industrialization and modernization, **laissez-faire economy**.
- ▶ Rapid social change, ethnic tensions.
- ▶ Ended with WWI and collapse of the monarchy.

Horthy Regency / Kingdom of Hungary (1920–1944)

- ▶ Got into power after turbulent two years: loss in WW I; revolution and dethronement of the Habsburgs; Soviet-style Communist takeover for 133 days; Romanian Occupation;
- ▶ Restored monarchy without a king over a reduced territory; authoritarian regency under admiral Miklós Horthy.
- ▶ Conservative-nationalist rule with **limited parliamentary democracy**.
- ▶ **Increasing state intervention** into the economy.
- ▶ Aligned with Nazi Germany in late 1930s; passed anti-Jewish laws and joined WWII.

- ▶ Soviet-aligned **one-party communist state** with centrally planned economy.
- ▶ Early years follow Stalinist patterns closely (Rákosi)
- ▶ Relative liberalization after the revolution of 1956 (Kádár's "Goulash Communism").
- ▶ Introduced limited reforms (1968 NEM); economy stagnated in 1980s, leading to transition.

Third Republic (1989–)

- ▶ Democratic parliamentary republic with **free elections** and **market economy**.
- ▶ Underwent major privatization and liberal reforms.
- ▶ Considerable democratic backsliding since 2010

Should we expect different mobility patterns under different regimes? (Hanley and Treiman 2004)

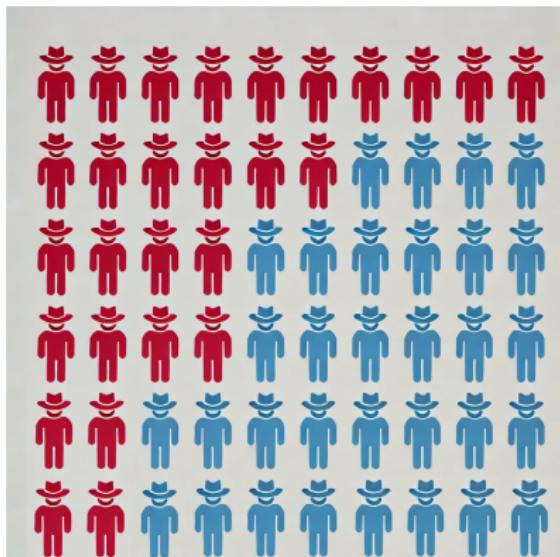
- ▶ Arguments for “yes”:
 - Exclusion of whole segments of society in some regimes
 - Deportations in the 1940s and 1950s
 - Stated mobility goals of certain regimes
 - Market forces and inequality
 - Restitution policies

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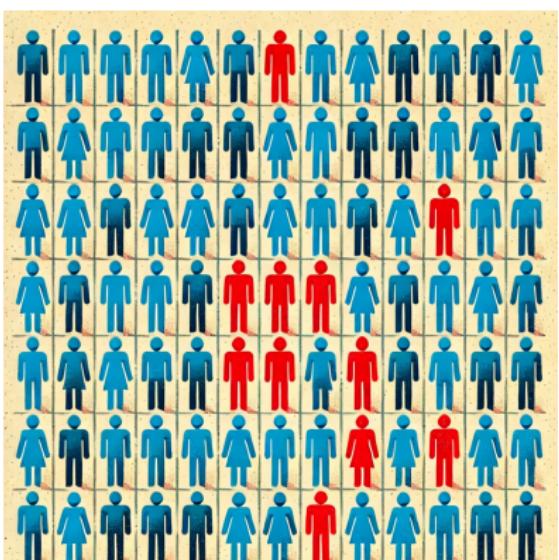
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- ▶ Arguments for “no”:
 - Even dictatorships rarely eliminate private property entirely
 - Status transmission through education and value transmission
 - Conversion across types of capital (human, social, material)

Relative representation and social status

Elite



Society



The essence of the methodology

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- ▶ Intergenerational mobility: RR → 1

What do we consider a “social group”?

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Advantaged group (RR>1):

- ▶ Surnames ending in “y” – more common among nobility. Generally not adoptable. Around 2.5–5% of the population has such names. They usually refer to the family’s original estate or residence.

Disadvantaged group (RR<1):

- ▶ Names that have ever ranked among the twenty most common surnames. Around 20–25% of the population bears such a name. They typically refer to occupations, physical traits, or origins.
- ▶ Szabó, Nagy, Kovács, Balogh, Tóth, etc.

What data do we need?

Samples from the full name distribution to calculate population share of name groups over time

- ▶ Census of 1720 (all records)
- ▶ Representative sample of 1869 census (MOSAIC project)
- ▶ Marriage certificates: 1895–1950 (Hand-coded by MACSE)
- ▶ Full surname lists: 1998, 2018 (Population Registry)

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- ▶ (We also have data on: engineering students, academics, inventors, celebrities, etc.)

Two main periods of inquiry

Habsburg Empire (1780-1867)	↔↔↔	Modern Hungary (1867-2020)
Sparse population data (incomplete, low quality censuses)	↔↔	Good population data (representative census samples, marriage records)
Elite occupations not formed yet:	↔↔	Elite occupations are well defined:
Consultative Diet	↔↔	Representative Parliament
“Hungarian” military units	↔↔	National Army (Honvédség)
Almost no capitalist enterprise	↔↔	Commerce Bill of 1874
Legal diploma is not needed to practice law	↔↔	Diploma needed, graduate yearbooks exist

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Illustration

Main results

The data processing revolution of the past 10 years

- ▶ **Manually entered data** – *marriage certificates, landholdings*
Availability depends on luck and goodwill of others
- ▶ **Scanning, OCR software, manual correction** – *university and military yearbooks, minutes of parliament*
Hundreds of hours of monotonous work for research assistants and ourselves; costly software licenses; not scalable
- ▶ **Machine learning pipeline** – *firm data from Hungarian Compass*
Efficient, scalable

The Hungarian Compass

546 IFJABOS VÁLLALATOK MINT RÉSZVÉNYTÁRSULATOK A VIDÉKEN.

MÉRLEG,		BILANZ,	
Vagyoni - Aktiva:	frt	Teher - Passiva:	frt
Wahlgebände	8,626	Aktion-Capital	480,000
Fabrikations-Geräte	69,600	Reservefonds	10,000
Maschinen und Apparate	307,551	Wertheverminderungs-Reservefond	258,734
Nestzähnen und Maschinen	129,583	Mastrisch-Schenkes Versicherung	120,000
Requisiten, Möbeln und Werkzeuge	6,880	Krankenfond	11,250
Ringe	145,854	Direktionsfond	7,500
Casse	10,595	Königl. eng. Finance-Direction	70,000
Bestände	283,904	Creditoren	190,716
Akkumulatoren	1,000	Hedgingwissen	40,804
Dokumente	149,619		
	1,712,881		
Rebitel összesen frt: 103,914.		1889. Nyomdári általános 1888-hez frt: 200.	
— Szolgálati nyomdári általános 1888-hez frt: 200.		— A hizártól nyomdárti általános 1888-hez frt: 200.	
— Úgynevezett frt: 63,314. — Trágya-bevételek frt: 40,000.		Kieás: Leiratoska frt: 94,951. — Jutalékok frt: 7,086. — Összes gyári kifellegések frt: 31,023.	
— Utalási frt: 49,000; a fellegyelő-hozzájárulásnak frt: 600; jölkényi csíra frt: 254.		Tisza nyomdári frt: 40,054. — Elből:	

206. **Turócz-Szent-Márton.** — Turócz-Szent-Mártoni könyvvonala és részvénnytársulat — Buchholzerei-Aktienverein in Turócz-Szent-Márton. — Königsfachwerke-fabrikszky spolok v Turóczfalu-n. Sv. Martine. — **Megye:** Turócz. — **[1868—1909.]** — **Alaptörke:** 16,000 forint, — névre szóló 935 darab részvénny 50 forint belfizetéssel. — **Osztályok 1889-ben frt: 2 (= 4%).** — **Elnök:** Franciscus János. **Könyvelő:** Sipka Sámuel. **Pénztárnok:** Tomka Lajos. **Fellegyelő-bizottság:** Belli Áka János, Kohr János, Szelics L. — **A magyar, német vagy tót címzet jogi:** az igazgató, — vagy aligha- gató. — **Alapszabályok:** 1875. február 2. — **F. d. közgyűlése volt:** Március 9.

MÉRLEG,		BILANZ,	
Vagyoni - Aktiva:	frt	Teher - Passiva:	frt
Felkerületek	10,344	Részvénnytípus	46,900
Párpadozás	6,000	Rendes tartalékalap	610
Kölcsönök mindenféle	139	Felkerülés tartalékalap	5,121
Tetők és ház	7,549	Ház-arcássoknemű tartalékalap	1,621
Élelműök	64	Ki'nem fizetett osztályok	779
Adók és működési kiadások	13,294	Vezetőségek	596
Ház és telek használata	41		
Raktári készlet értéke	2,036		
Összes termék értéke	34,011		
A Tisza bank töb részvénnye	5,189		
Tur.-szl.-műszaki takarékpénztár	0,926		
Készségi	1,143		
	56,903		56,903

207. **Ungvár.** — Ungvári pörzesszálán és nyagagipár-részvénnytársaság. (6). — Ungvári Pörzessálán- und Thion-Industrie-Aktiengesellschaft. — [1889—] — **Megye:** Ung. — **Alaptörke:** 60,000 forint, — bemutatásra szóló 300 darab részvénny 200 forint belfizetéssel. — **Igazgatóság:** dr. Novák Endre, Pappér István, Deutsch Emő. — **A magyar vagy német címzet jogi:** kit igazgatóság tag, — vagy egy a tanácsú tiszteletvesztő együttség. — **Alapszabályok:** 1889. november 23.

208. **Ungvár.** — Ungvári butorgyárrészvénnytársaság. — Ungvári Műtelthabárkai-Actiengesellschaft. — **Megye:** Ung. — [1886—1896.] — **Alaptörke:** 60,000 forint, — névre szóló 600 db részvénny 100 forint belfizetéssel. — A címbejegyzés: **magyar** és **német**.

209. **Villágos.** — Magyar-Franziai cognacgyár mint szövetkezet. — **Megye:** Arad. — [1884—1889.] — **Alaptörke:** 55,000 forint. — Igazgató: Böhme István. — **Ügyvezető:** Mariy René. — A címbejegyzés: **magyar**.

210. **Zenta.** — Zentai gőz- és kádfürdő-részvénnytársaság frisszámolt állt. — **Megye:** Bács-Bodrog. — [1859—1909.] — **Alaptörke:** 15,000 forint, — névre szóló 300 darab részvénny 50 forint belfizetéssel. — A címbejegyzés: **magyar**.

► Published between 1874 and 1944

“a register of financial, insurance, mutual aid, industrial joint-stock companies, transport and other enterprises within the territory of Hungary, including exhaustive balance sheets and lists of officers from the previous year”

► 92,723 pages, available on Arcanum

Workflow

1. Download from Arcanum and identify relevant sections (for now, we exclude financial institutions, insurers, and cooperatives)
2. Train a machine learning model to detect company descriptions (excluding headers, footers, commentary text, and—at this stage—balance sheets, though the model also detects those)
3. Extract text content from company descriptions (OCR)
4. Use an LLM to clean and structure the unstructured text

Data extraction – the visual model

DIVERSE INDÜSTRIEUNTERNEHMUNGEN ALS A.-G. IN BUDAPEST.		841																												
Alapításuk: 800,000 K. — bennműdra szóló 4,000 darab 200 K-kból részvénnyel. — (Aktien 800,000 K, ükörvel. 1911-ig 1,500 db új részvénnyel 800 K-en rendel.) — Igazgatóság: Horváth Imre, Szily Tamás, dr. Kofler István, Hollókői Ödön, Stern Samu, Molnár Ferenc, Reichl N. János, Munkácsy József, dr. Magyar Károly, dr. Blaich Ottó, Gyérfi Richárd, Felügyelt-hivatalos: Első Károly, Elek Károly, Guszler János, dr. Szandtner Endi, Cégegyezőség: Döntő Miksa. — A cégéget jegyzí: két igazgatói tag, vagy egy, egy <i>per procurationem</i> cégégyezőség hivatalos. — Alapz.: 1911 március 6. — Kifelv. hiv. lap.																														
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1920. Budapesti Ilyenegylet részvénnytársaság. — Budapesti Reiterverein. — Budapest. — (1909—1918.) — VI. Büyükerületi-orsz. 84—36. nr. — TH. 94—98. — Alapítás: 210,000 K — néven szóló 355-db 400 K-os részvénnyel. — (Az alapítók 400,000 koronára voltak 1. része 1,000 db K-kból részvénnyel, melyekből azoknak csak 625 darab lett kibocsátva. Az 1903. évi kláj, a többi részvénnyelbocsátási besorolásban a részvénnyeket megfelelően a jelenlegi részvénnyekkel állapította meg.) — Aktienkapital: 210,000 K — is 325 rész. <i>Stock auf Namen lautende Aktien mit 400 K Einheitskapital.</i> — 1 rész. 1 rész. — Ostalbék 1908—1912—26 K. 0. U. 0. U. 0. U. — Szolgálat: 5 évr. — Elnöki dr. Ottó Vilmos. Igazgatóság: dr. Pálffy Sándor, dr. Pálffy Sámuel, dr. Gömöri Gábor, dr. László Tóth, dr. Béla Hartung József, Horváth Zsigmond, dr. Ivánfalvi István, dr. Kohner Adolf János, dr. Pálffy Álfred, Stájbeli Gyula, Székely Ferenc, leány Ullmann Gyula. Felügyelt-hivatalos: dr. Hegyi László, Herrfeldz Frigyes, Strasser Álfred, Wollner Hugo. Cégegyezőség: Györgyi Tóth, dr. Tóth Károly János. Pályafónia: Kuthenbachi Hőlőr lovas. Istállóművesek: Városi Miklós, Hossza Pál. — A cégéget jegyzí: két igazgatói tag, vagy egy, vagy társulati tisztviselő ügyeltes. — Alapz.: 1904 május 18. — F. & (XIX.) könygy., t. április 20. <td data-kind="ghost"></td> <td data-kind="ghost"></td>																																		
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1921. „Collin“ eszterházyoldozó ipar. hevásárlási és eladási társaság. — K. I. — „Collin“ Gesellschaft zum Einkauf und Verkauf für die Knöchenerwerbende Industrie m. H. — Budapest. — (1913—1922.) — IX. Címzet. 2. — Földespl. Wien. — Alapítás: 150,000 K — Társasági Számvizető: Ilau Gyula. Cégegyezőséghelyettesek: Edestein Zsigmond, Margitai Ulrich, Bodnárhely Károly. Cégegyezőséghelyettesek: Lászlóváry László, Tivadar, Kraft Hubert. — A budapesti Rökötelep képviselői: dr. Nagy Béla, Mittnády Árpád. — A cégéget jegyzí: két igazgató, vagy két igazgató-helyettes, vagy egy igazgatótól egyig az igazgató-helyetteset, vagy két igazgatótól egy <i>per procurationem</i> boldattal. — Alapzab.: 1918 február 18. <td data-kind="ghost"></td> <td data-kind="ghost"></td>		

1922. Continental szab. Yasutí Hirdetés Részvénnytársaság. — Continental szab. Yasutí Eisenbahn-Annoncen Aktiengesellschaft. — Continental Szab. szab. annonce brevets pour publication des réclames en chemins de fer. — Budapest. — (1913—1938.) — V. Durotuya-n. 2. — Alapítás: 202,000 K — bennműdra szóló 1,010 db 200 K-os részvénnyel. — Aleinök: Hoffer Aladár. Igazgatóság: Domahidy István, Hoffer Aladár, Rákó Sándor, Rákó Gyula,		
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► LayoutParser package,
Melissa Dell & co., Harvard

► Detectron2, CNN
(Convolutional Neural Network)

► We teach it using a few hundred pages; it finds the rest automatically

Data processing – OCR

The visual model outputs image snippets like this:

24. Kassa. — Csányi műmalom-társulat. — Csányer Kunstmühlen-Gesellschaft. —
Megye : Abauj-Torna. — [1876—1906.] — Alaptőke: 200,000 forint, — névre szóló 1,000 darab részvény 200 forint befizetéssel. — Osztalék 1885—1889 frt: 20, 8, 5, 10, 8 (= 10, 4, 2 50, 5, 40%). — Összforgalom frt: 626,147. — Elnök : Aranyossy László. Vezérigazgató : Weiss József. Igazgatósági tagok : Fiedler Károly, Flachbart Samu, Deil Jenő, Hollay Adolf. Felügyelő-bizottság : Jeger Károly, Stadler Sándor, Schlesinger Albert. Könyvelő : Wilhelm Mór. Pénztárnok : Szentistványi A. — A magyar vagy német czéget jegyzi: két igazgatósági tag együttesen. — Alapszabályok : 1876. október 27. — F. é. közgyűlése volt: Március hónapban.

From which, using the Tesseract OCR package, we get:

24. Kassa. — Csányi műmalom-társulat. — Csányer Kunstmühlen-Gesellschaft. —
Megye : Abauj-Torna. — [1876—1906.] — Alaptőke: 200,000 forint, — névre szóló 1,000 darab részvény 200 forint befizetéssel. — Osztalék 1885—1889 frt: 20, 8, 5, (10, 8 (= 10, 4, 2 50, 5, 40%). — Összforgalom frt: 626,147. — Elnök: Aranyossy László. Vezérigazgató : Weiss József. Igazgatósági tagok : Fiedler Károly, Flachbart Samu, Deil Jenő, Hollay Adolf. Felügyelő-bizottság : Jeger Károly, Stadler Sándor, Schlesinger Albert. Könyvelő: Wilhelm Mór. Pénztárnok: Szentistványi A. — A magyar vagy német czéget jegyzi: két igazgatósági tag együttesen. — Alapszabályok : 1876. október 27. — F. é. közgyűlése volt: Március hónapban.]

Data processing – LLM

- ▶ gpt-4.1-nano; 120k firm-year observations; 743k firm-year–person observations; ran for one week (5s per request)
- ▶ We extract basic firm data (industry, book value, for now) and people data (name and role)
- ▶ All program code is publicly available (github.com/attilagaspar)

```
  "firm_name": "Csányi Műmalom-társulat",
    |   "industry": "malomipar / gabonaipar",
    |   "corrected_text": "24. Kassa. – Csányi Műmalom-társulat. – Csányi",
    |   "personal_names": [
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    |       {"name": "Fiedler Károly", "title": "igazgatósági tag"},
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    |       {"name": "Jeger Károly", "title": "felügyelő-bizottsági tag"},
    |       {"name": "Stadler Sándor", "title": "felügyelő-bizottsági tag"},
    |       {"name": "Schlesinger Albert", "title": "felügyelő-bizottsági ta"},
    |       {"name": "Wilhelm Mór", "title": "könyvelő"},
    |       {"name": "szentistványi A.", "title": "pénztárnok"}]
```

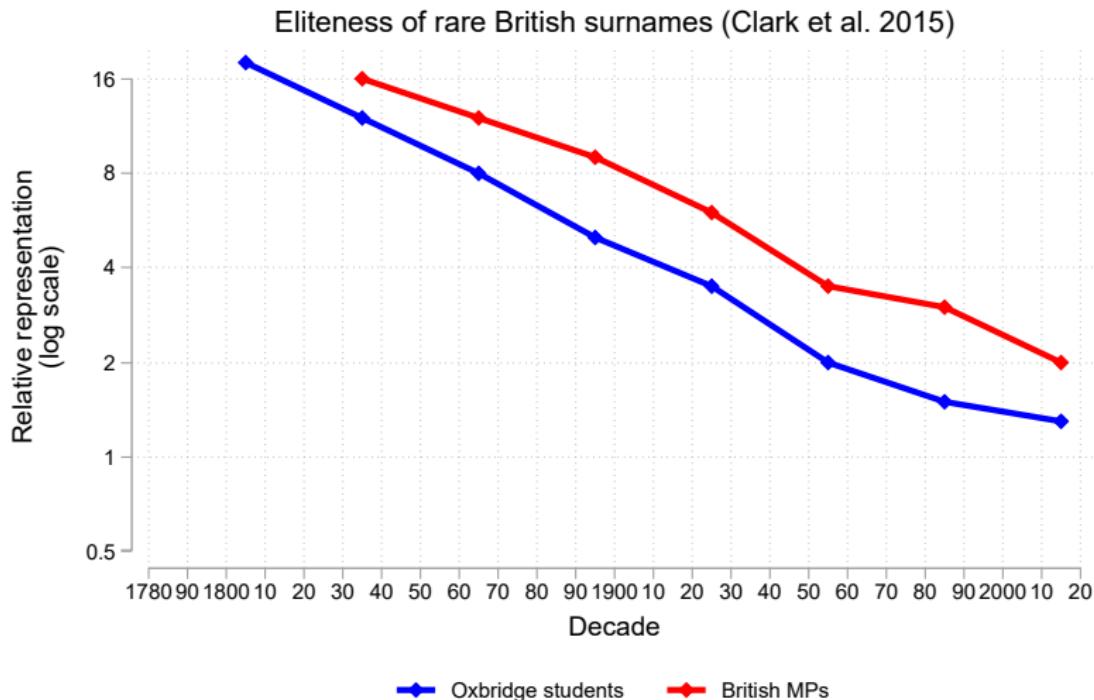
Our question: how did the relative representation of the two social groups (Y-ending, top20) evolve across different elite groups? How did representation change across regimes?

- ▶ Medical students
- ▶ Law students
- ▶ Business leaders
- ▶ Members of Parliament
- ▶ Army officers

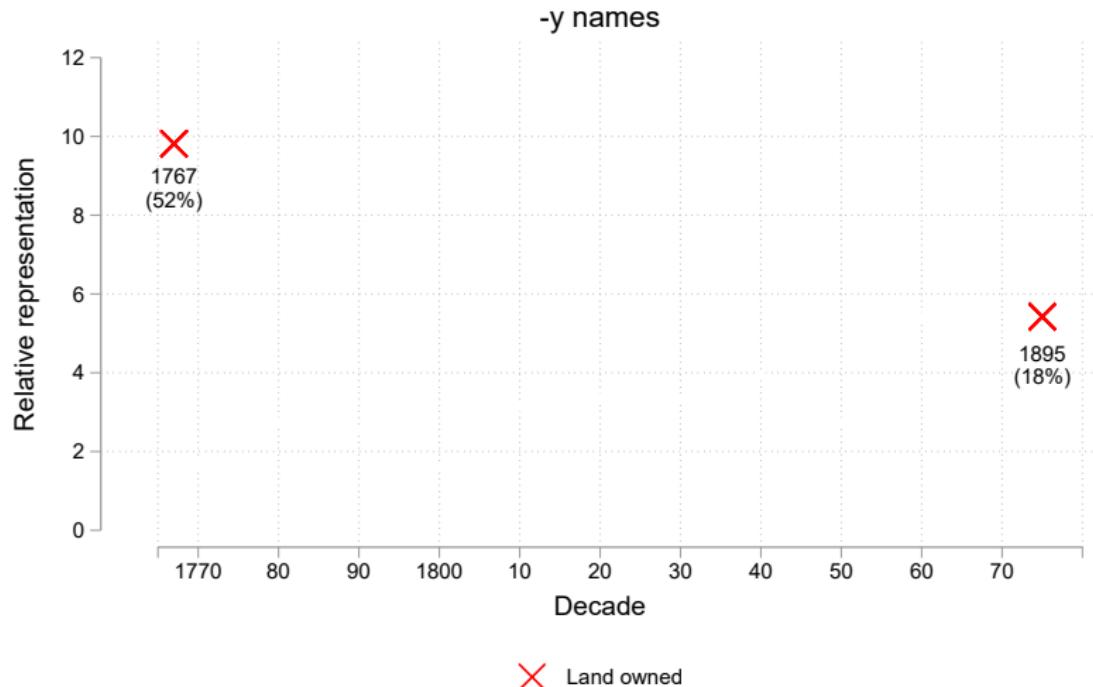
Was there mobility?

- ▶ Mobility occurs if RR → 1
- ▶ (Y-ending names converge **from above**, Top20 converge **from below**)

Benchmarking

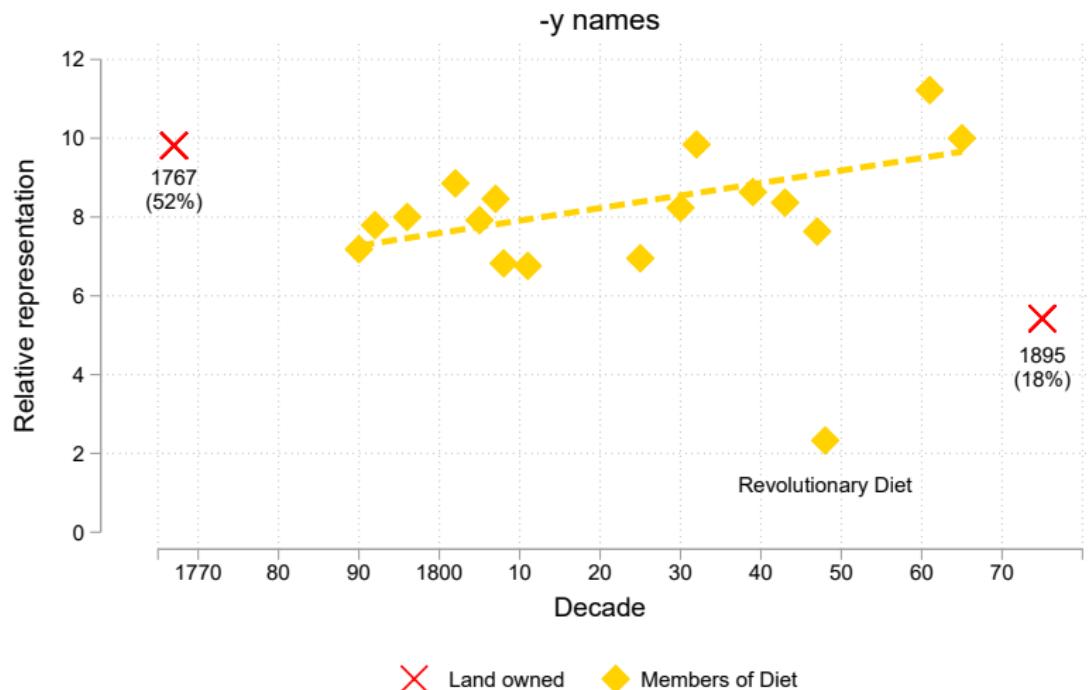


Y-ending names in the Habsburg Empire: transition out of feudalism



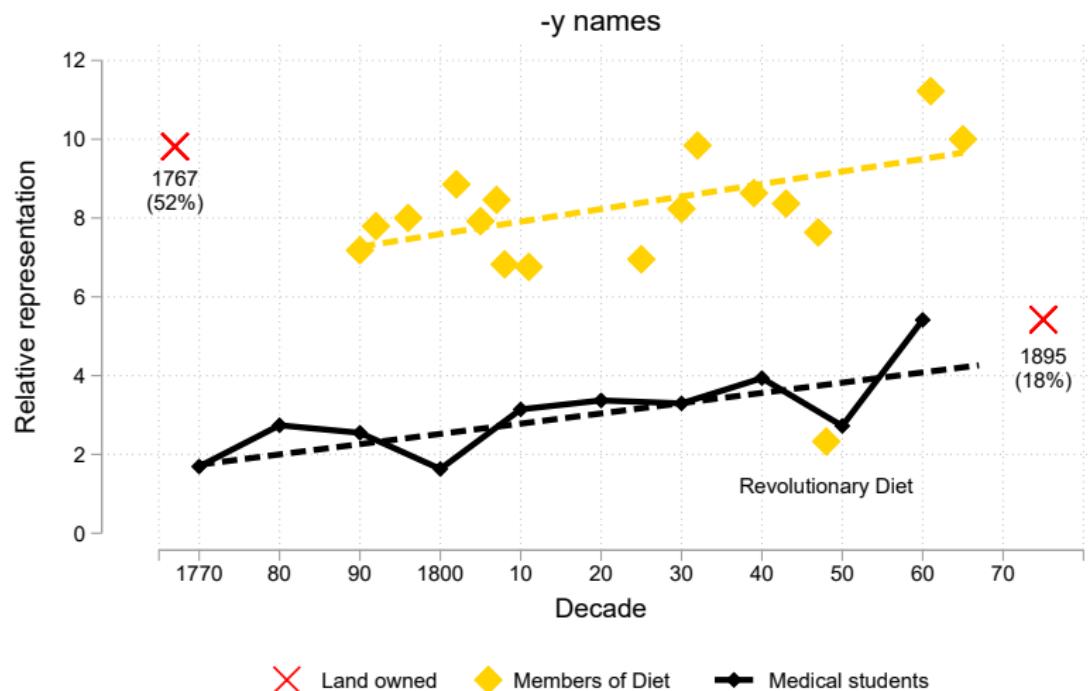
Y-ending names in the Habsburg Empire: entry into public administration

[noframenumbering]



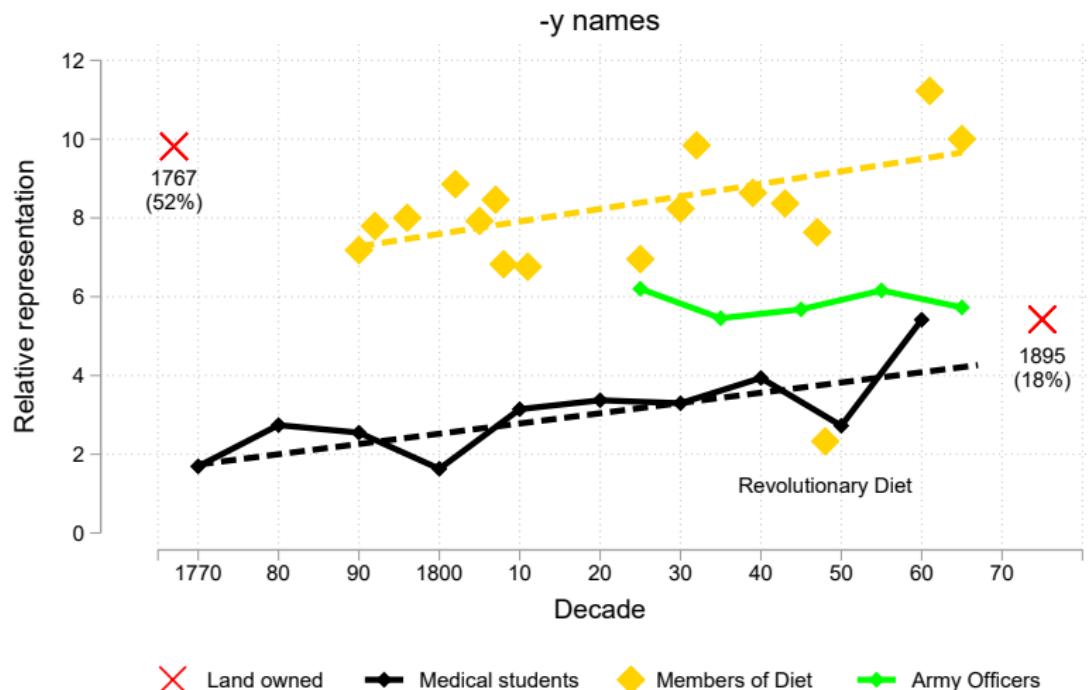
Y-ending names in the Habsburg Empire: entry into the educational elite

[noframenumbering]



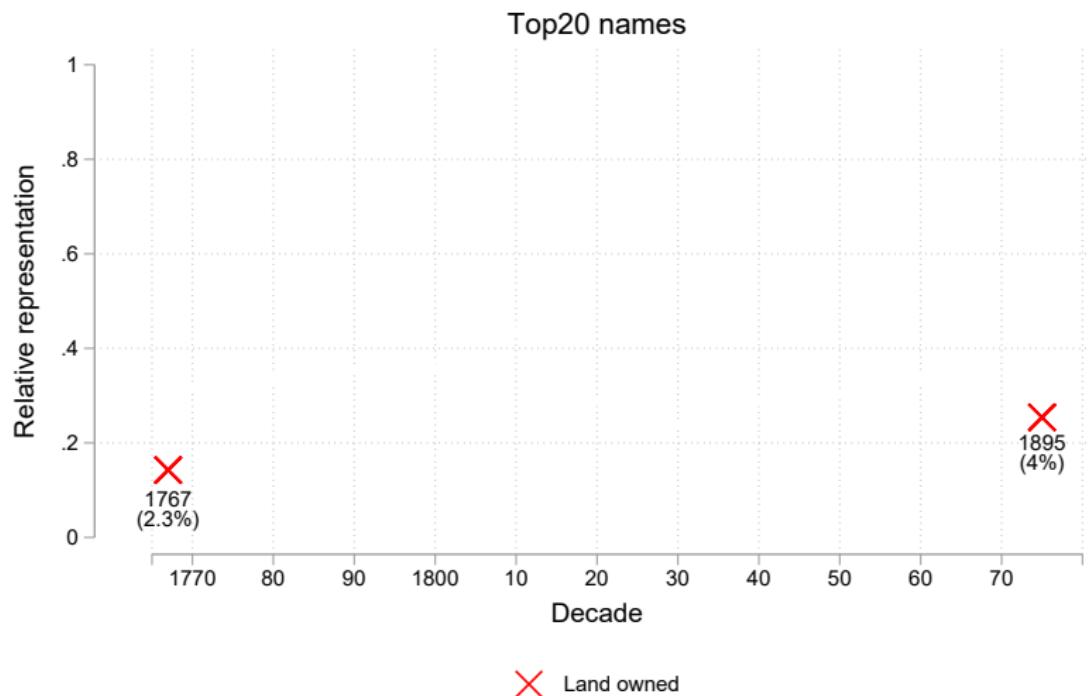
Y-ending names in the Habsburg Empire: military

[noframenumbering]

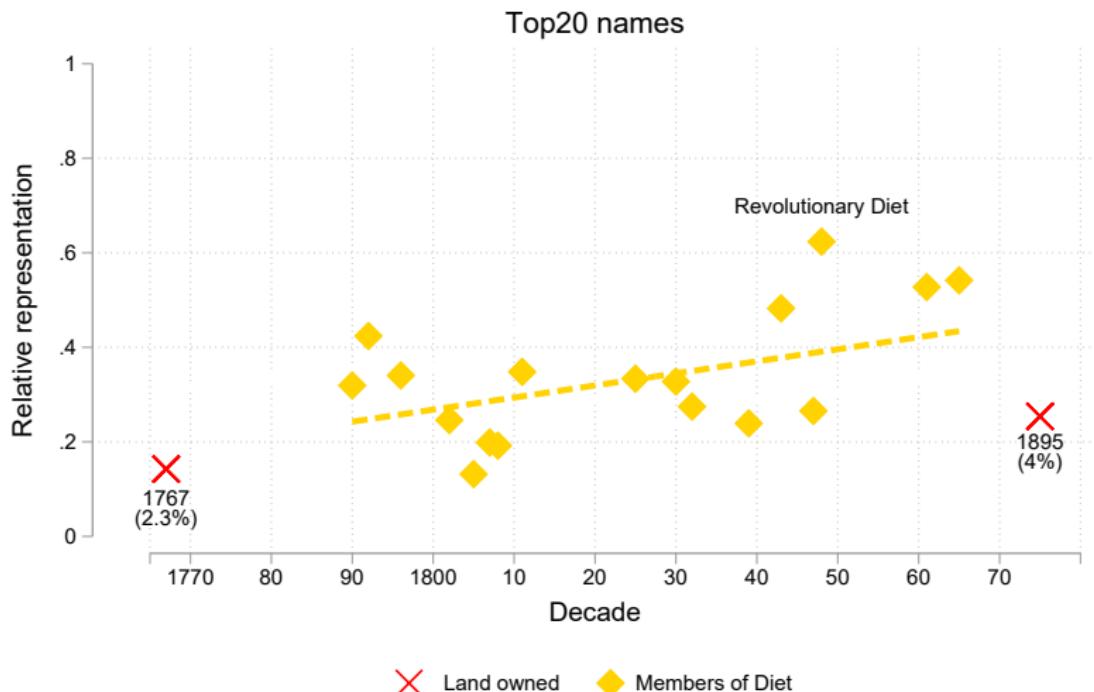


- ▶ In little more than the century 1/3 of ALL arable land is lost by -y names (34pp drop)
 - Fragmentation of landholdings
 - Impoverishment of the lower nobility
 - 1848 revolution abolishes entailment (*aviticitas*, prohibition of buying and selling land)
- ▶ In parallel with this, the ..y names capture elite occupations, such as public administration, education, military
- ▶ RR increased by 2 points in 70 years in the political elite (lower chamber!)
- ▶ RR increased by 2 points in 100 years in the educational elite
- ▶ (well-documented phenomenon in Hungarian history and literature)

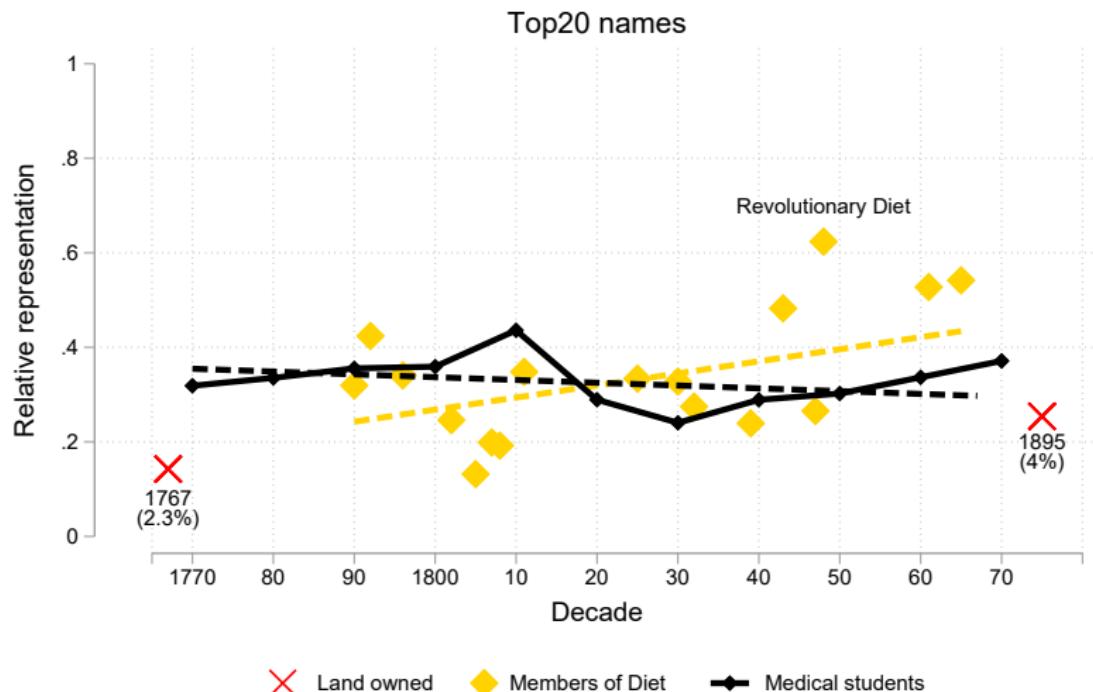
Top 20 most common surnames in the Habsburg Empire: transition out of feudalism



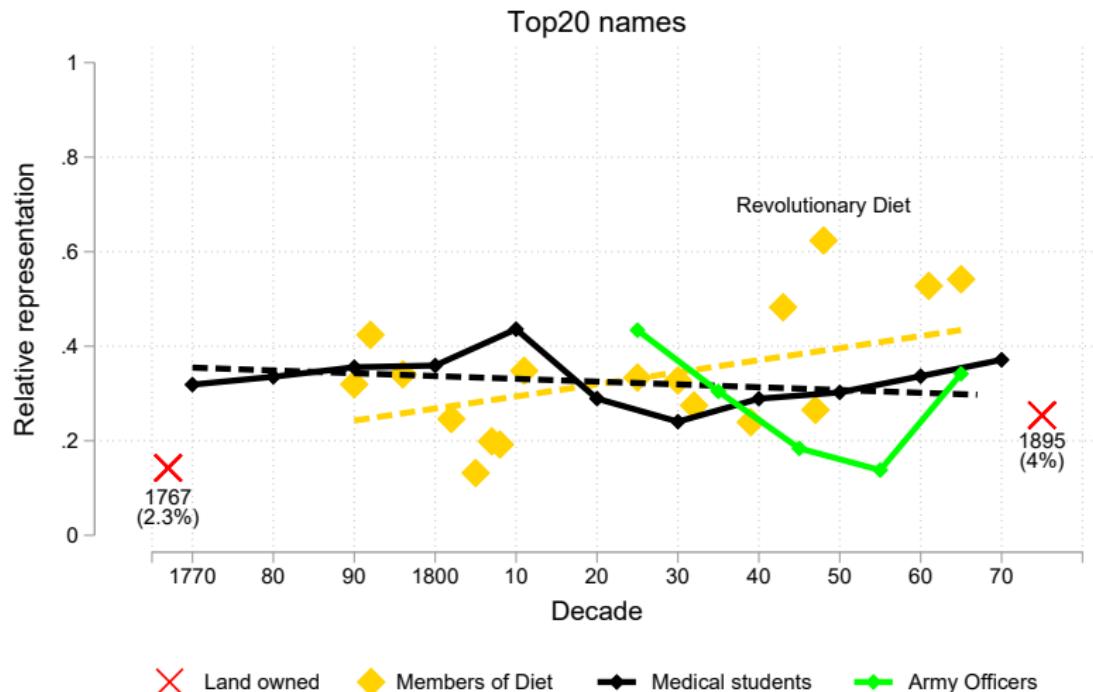
Top 20 most common surnames in the Habsburg Empire: slow convergence in the Diet



Top 20 most common surnames in the Habsburg Empire: educational elite



Top 20 most common surnames in the Habsburg Empire: officers



Social mobility and political regimes: Top20 names in the Habsburg Empire

- ▶ They did not own the land in the 18th century - this hardly changed.
- ▶ They very slowly (if at all) converged to mean social status 1867.
- ▶ Rather: alternating periods of convergence and divergence.

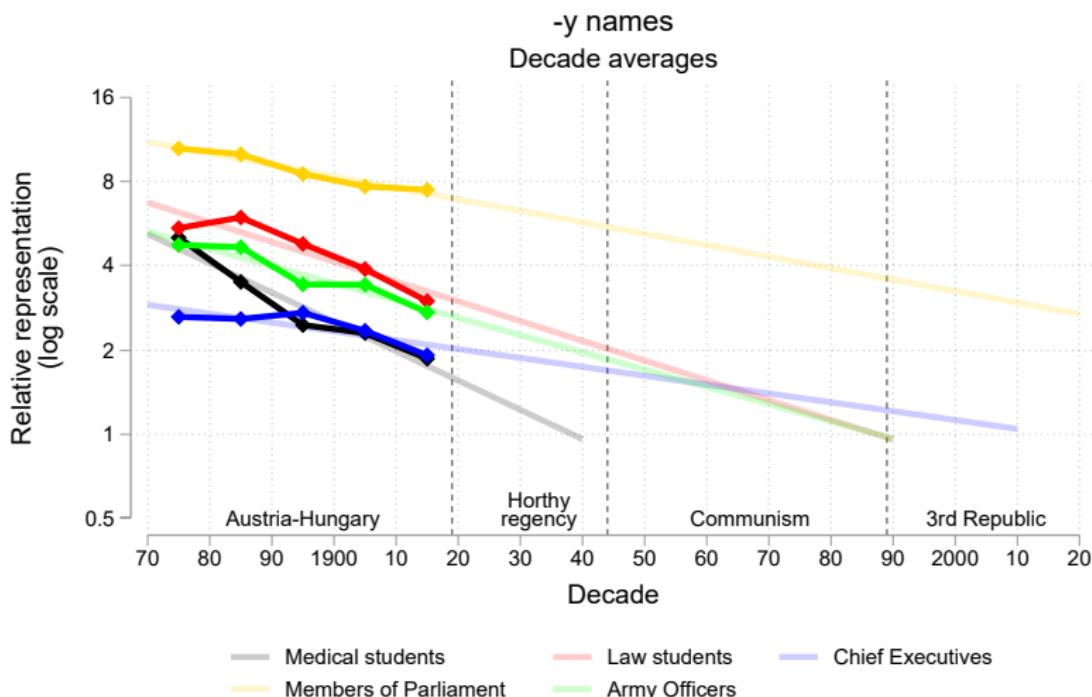
Main results: 1870-2020

- ▶ Modern society was formed since the mid-19th century
- ▶ How does **observed** mobility look like?
- ▶ How does actual RR evolve relative to predicted RR?

Main results: 1870-2020

- ▶ Modern society was formed since the mid-19th century
 - ▶ How does **observed** mobility look like?
 - ▶ How does actual RR evolve relative to predicted RR?
-
- ▶ Assume linear trend **in LOG relative representation.**
 - ▶ (Technically, a constant rate of convergence would imply a linear trend in $\log(RR-1)$ or $\log(1-RR)$)

Austria-Hungary: ...y surnames

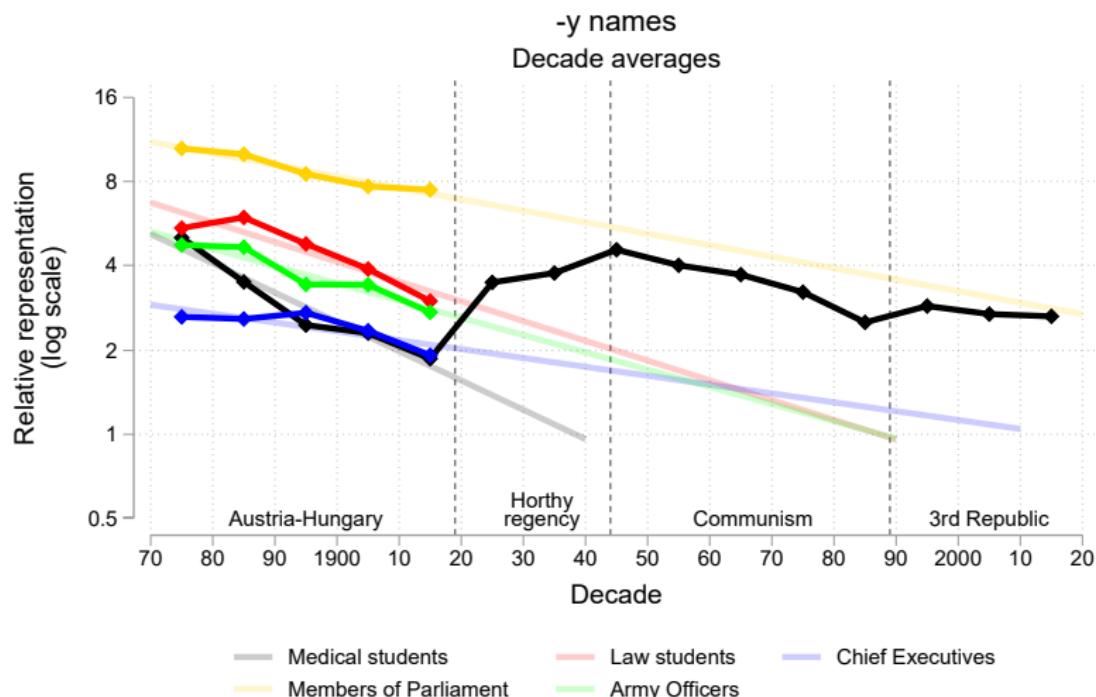


Similar, and almost linear convergence to the mean in log-representation in all elites

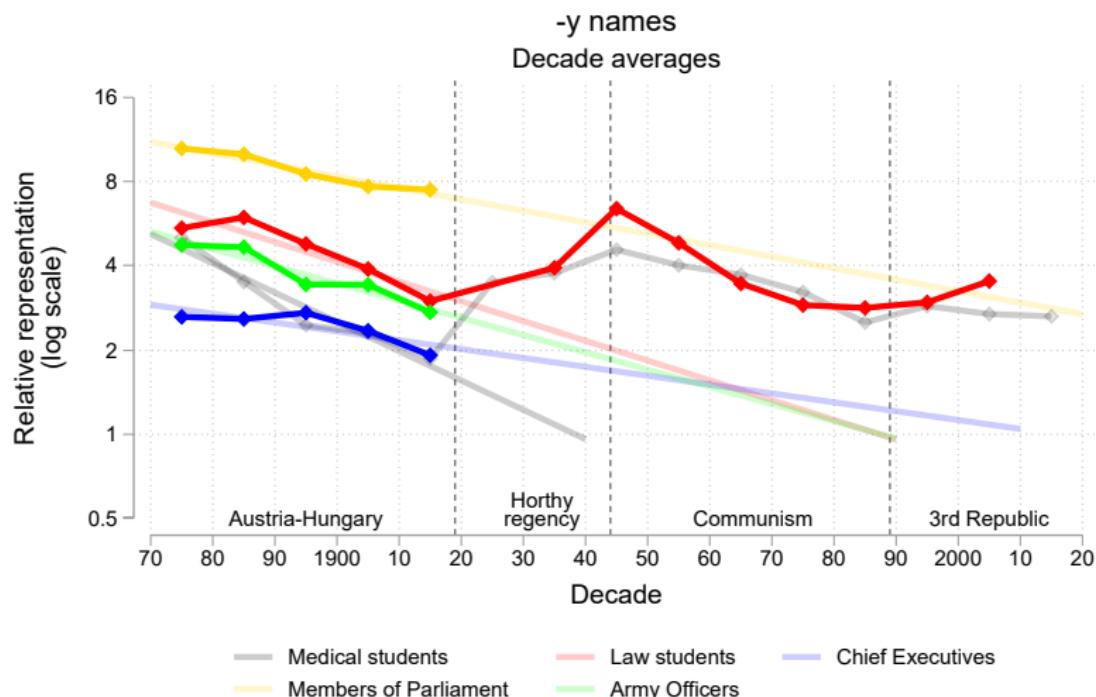
Proportional representation should have been reached by

- ▶ 1940 among doctors
- ▶ 1990 among lawyers and military officers
- ▶ 2010 in the business elite
- ▶ 2120 (!) in the political elite

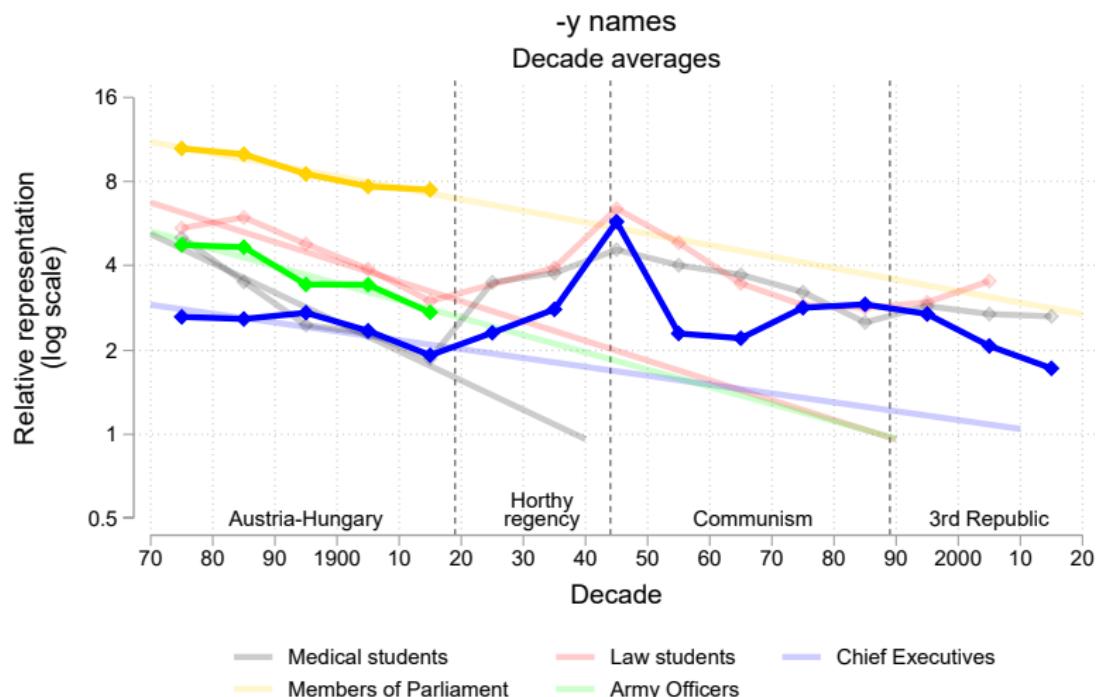
..y names shift trajectory under Horthy among doctors



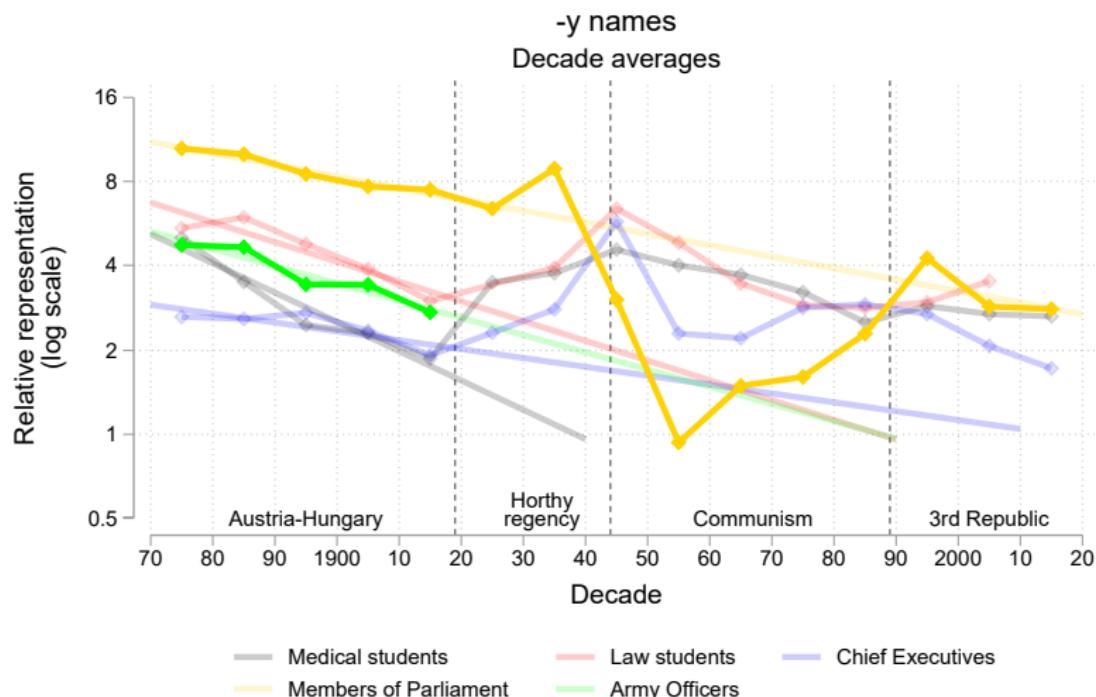
..y names shift trajectory under Horthy among lawyers



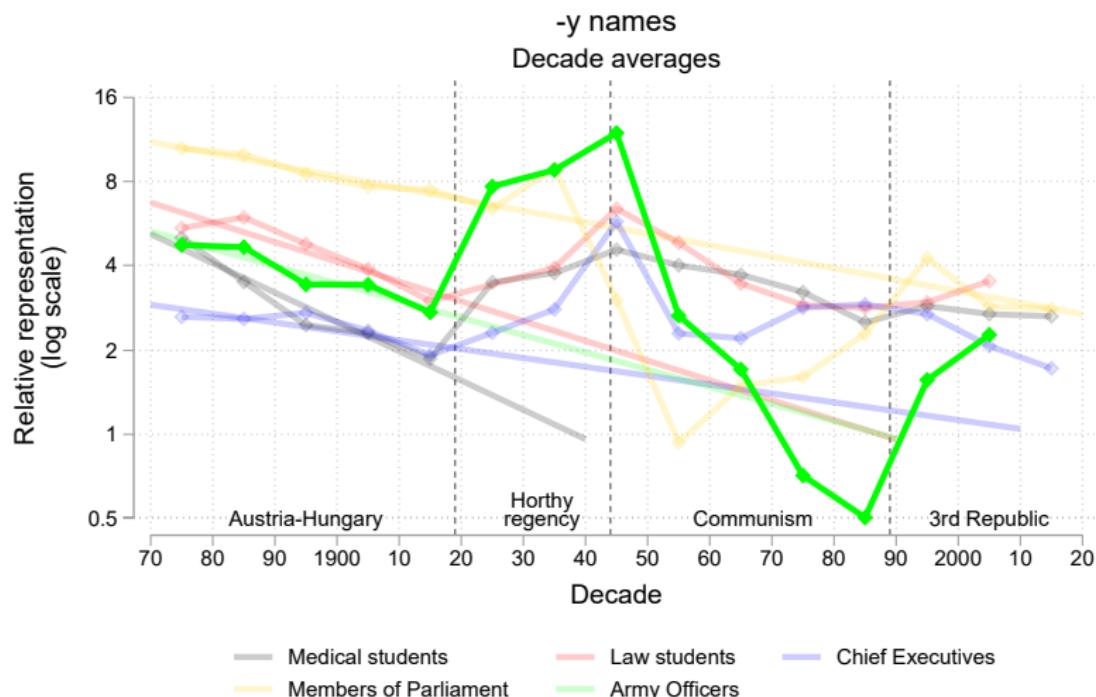
..y names shift trajectory under Horthy among business elites



..y names out from the political elite under Communism - temporarily

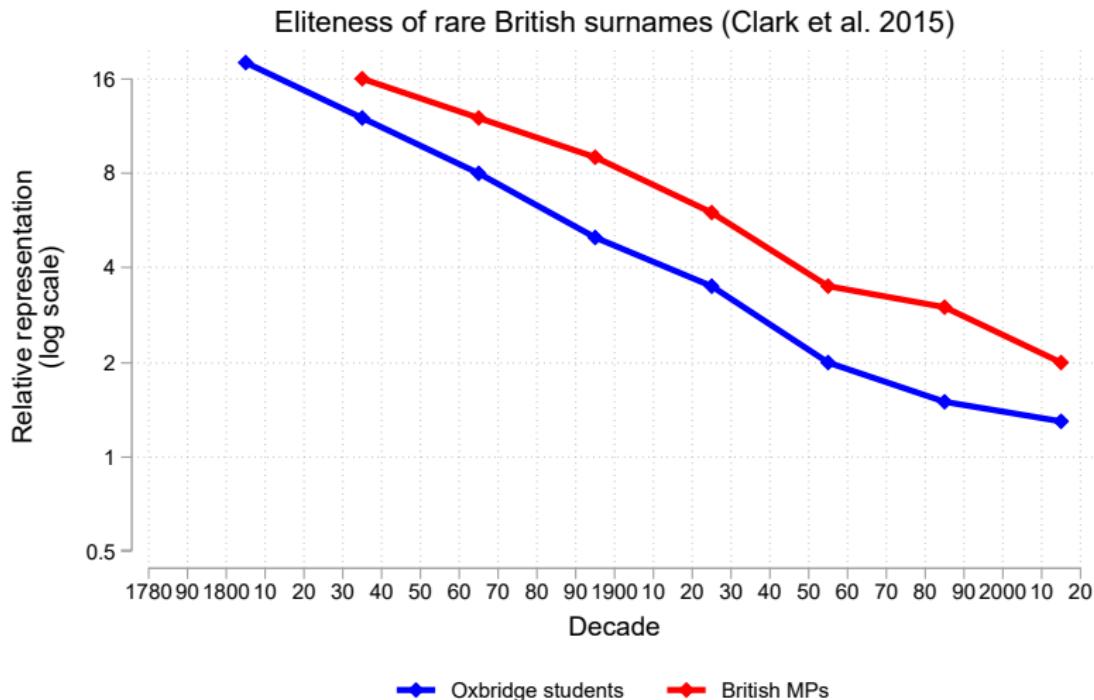


..y names out from the military under Communism - temporarily

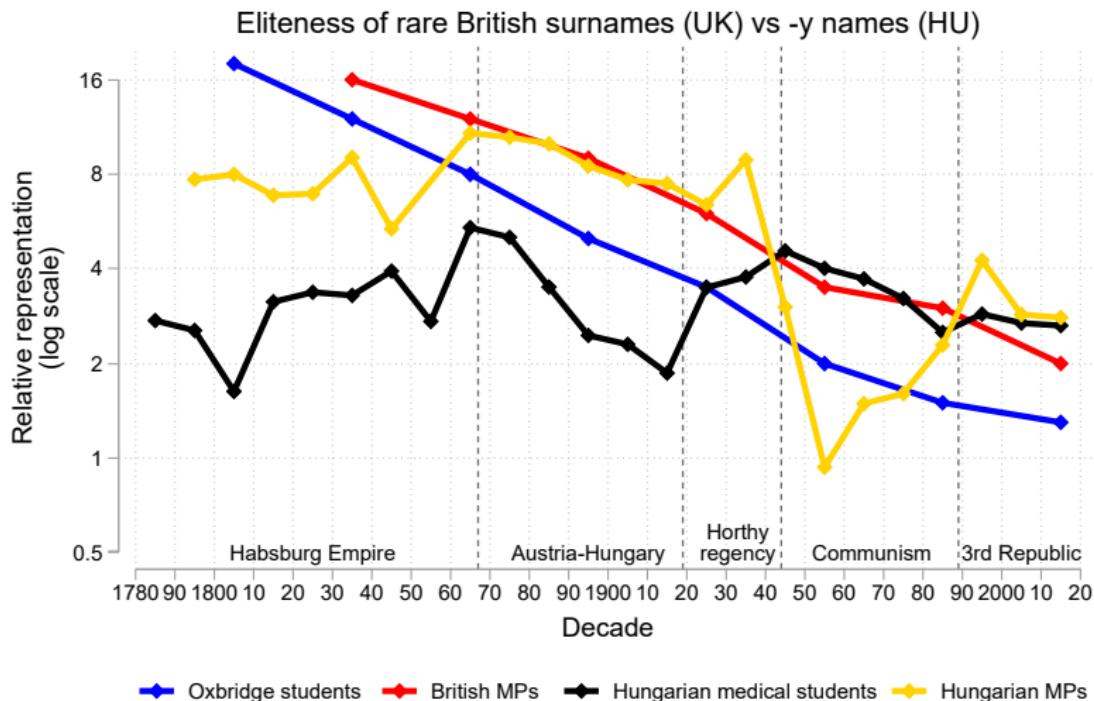


- ▶ The right-wing authoritarian Horthy-regime *permanently* decreased social mobility by pushing old elites on a higher status trajectory
- ▶ Communism's effect is either
 - **nonexistent**: social elites
 - **transitory**: economic, political, military elites - now regressing to the mean after rebounding to post-WWII status
- ▶ Representation in the political elite is *exactly* where predicted from 1918 - proportionality expected by 2120
- ▶ This seems to be the “steady-state” trajectory of downward social mobility for the ..y named group
- ▶ **Convergence to the mean will be late by at least a century**

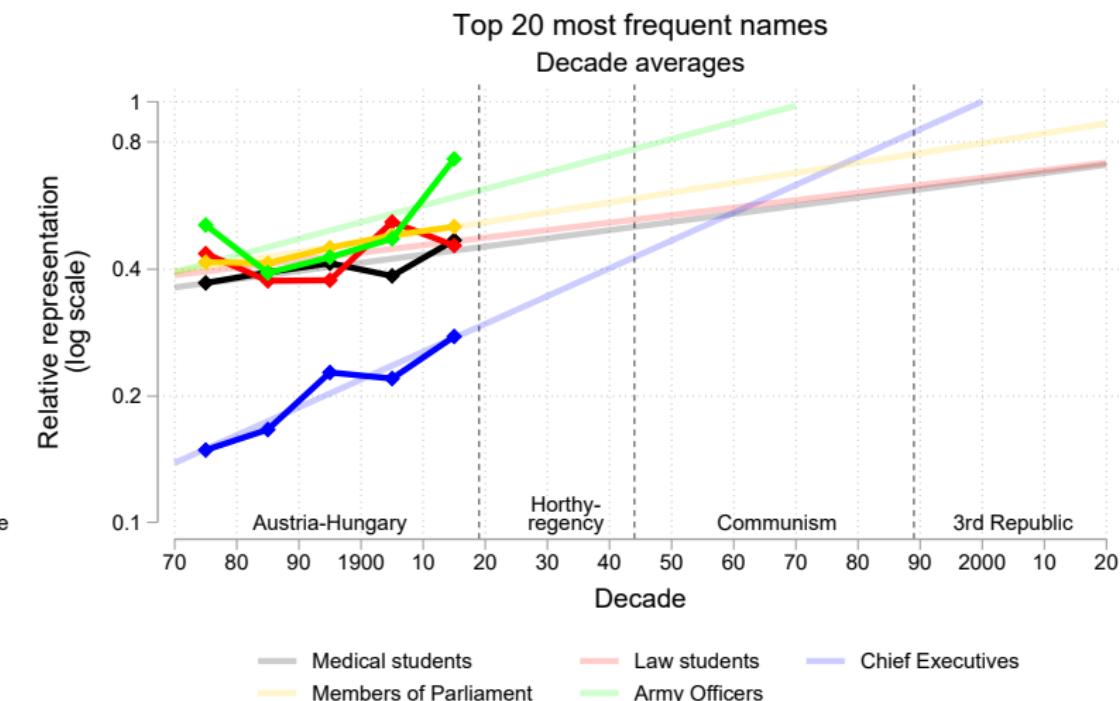
Comparison: Hungary vs UK



Comparison: Hungary vs UK



Austria-Hungary: Top20 surnames



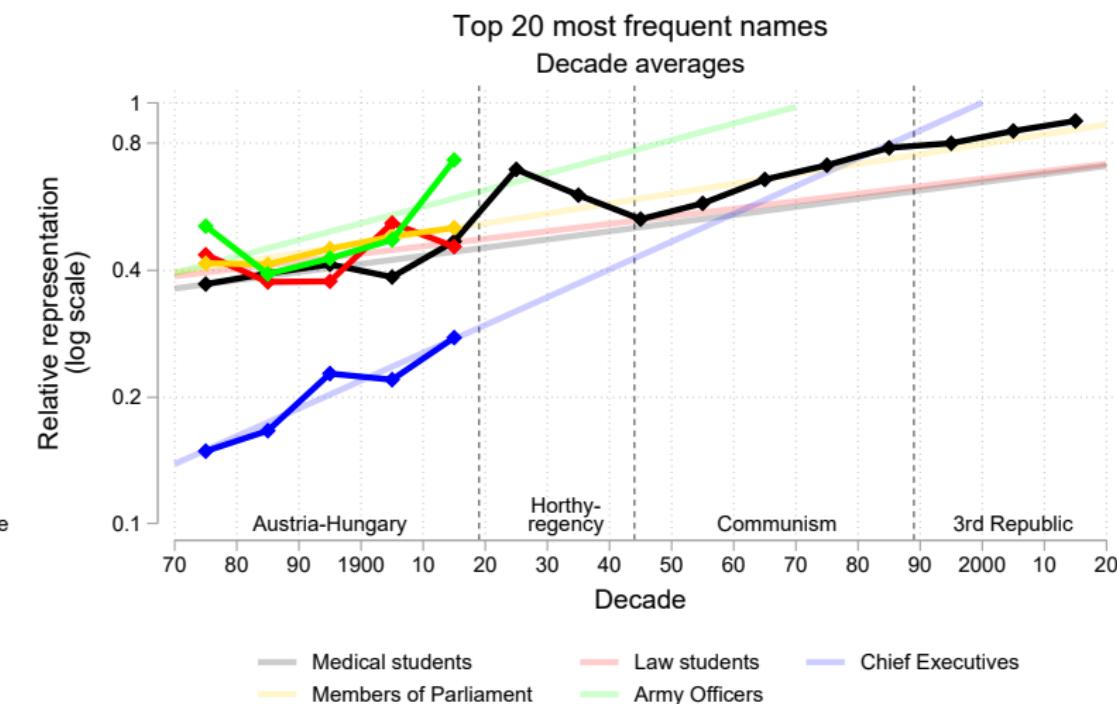
Proportional representation should have been reached by

- ▶ 1970 among army officers
- ▶ 2000 in the business elite
- ▶ 2040s among the political elite
- ▶ 2090s among law students and doctors

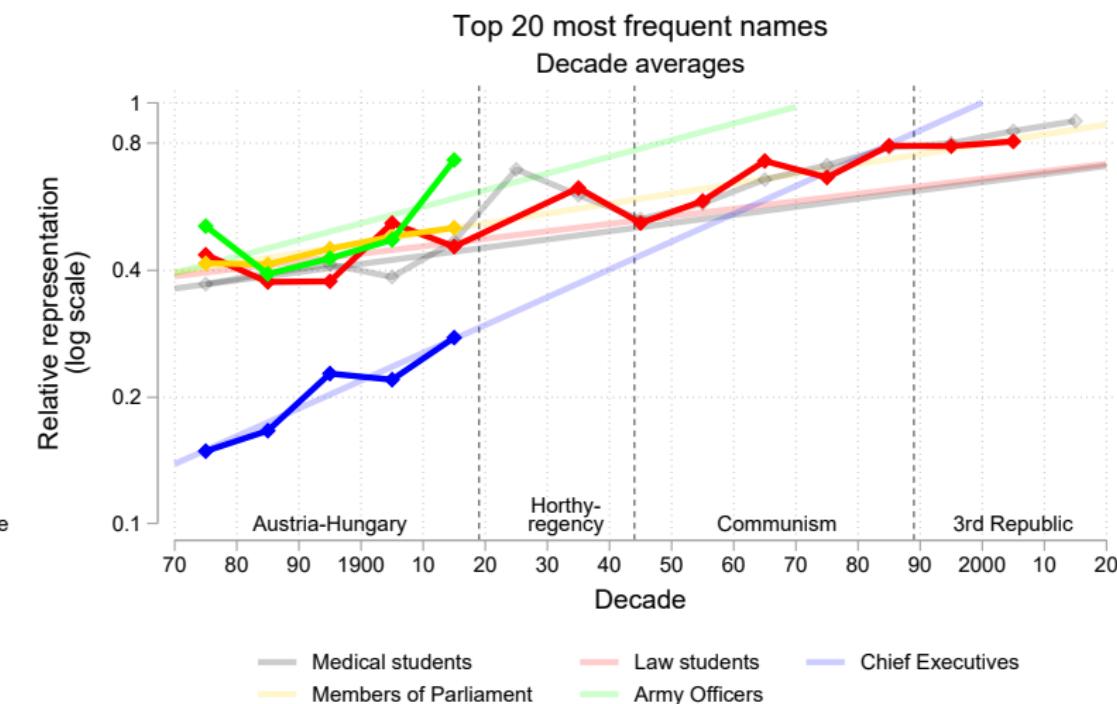
Very similar rates of convergence among different elites.

New institutions offer faster social mobility (national army, capitalist enterprise)

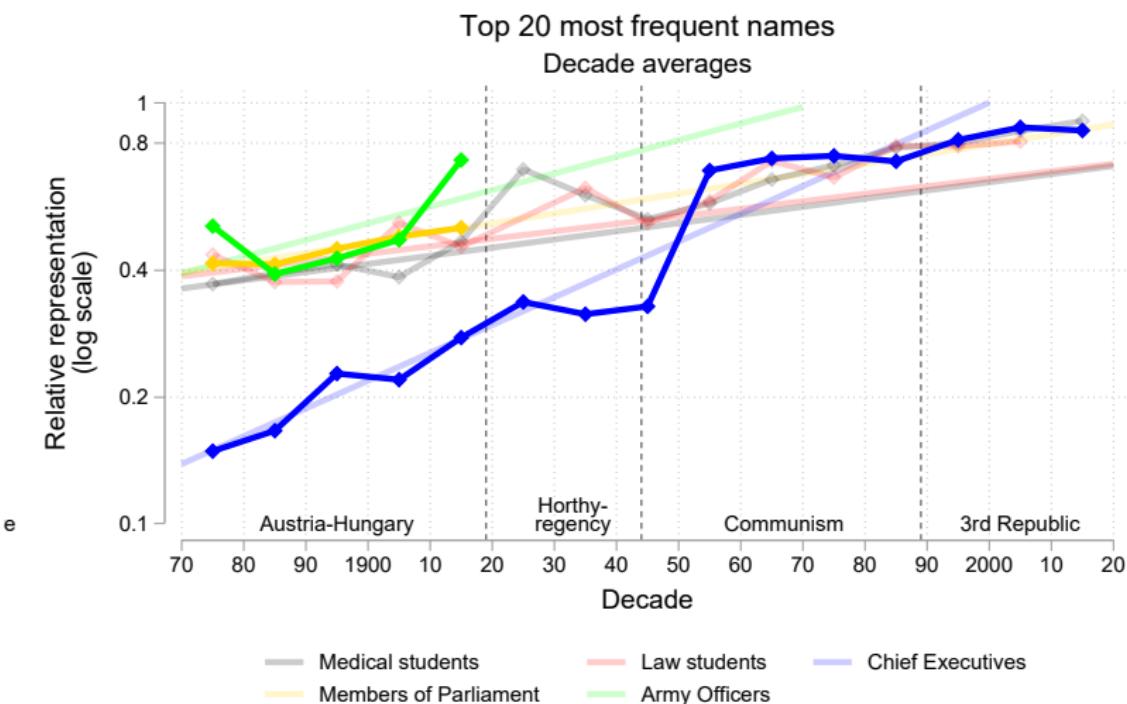
Doctors: upward shift then reversal under Horthy, new trajectory under Communism



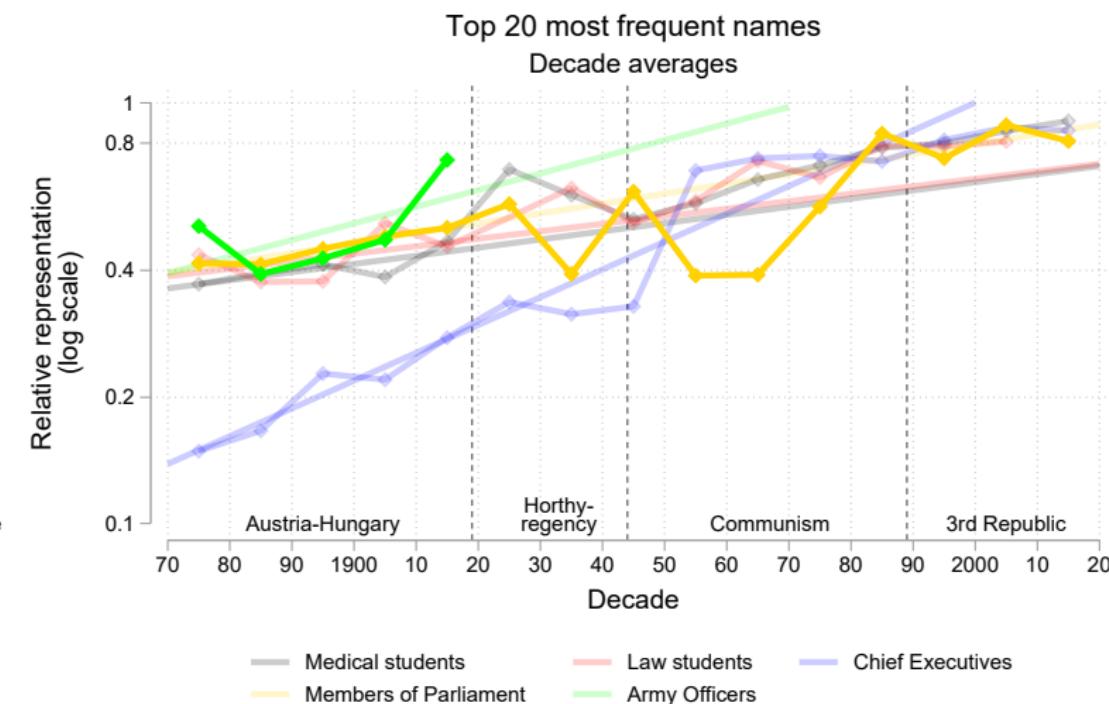
Lawyers: upward shift then reversal under Horthy, new trajectory under Communism



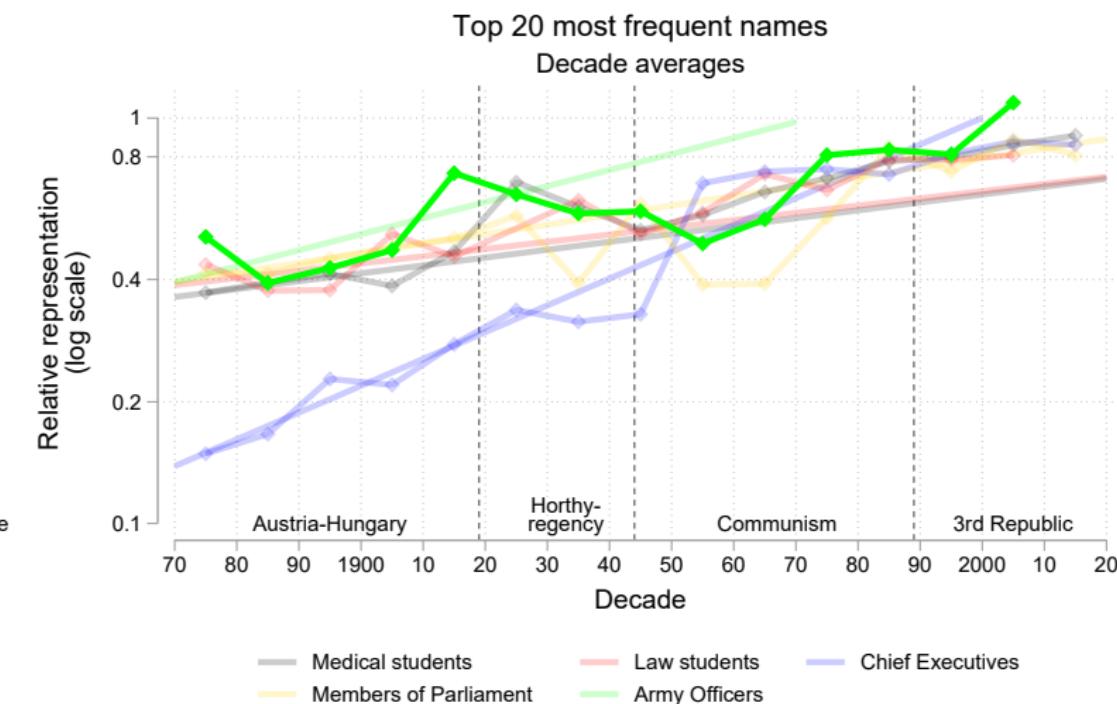
Business: downwards shift under Horthy, new trajectory under Communism



Political elite: downwards shift under Horthy, rebound then decline then rebound under Communism



Military elite: downwards shift under Horthy, rebound under Communism, proportional representation by 2010

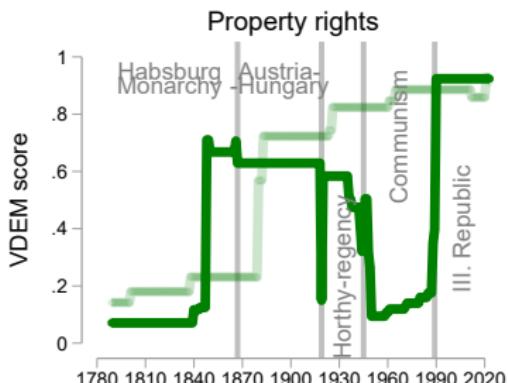
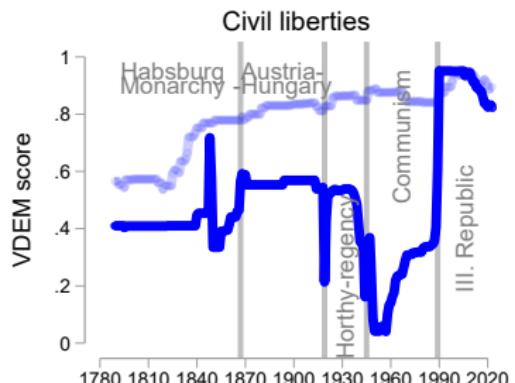
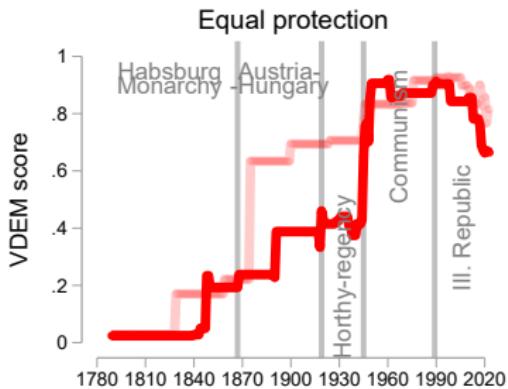
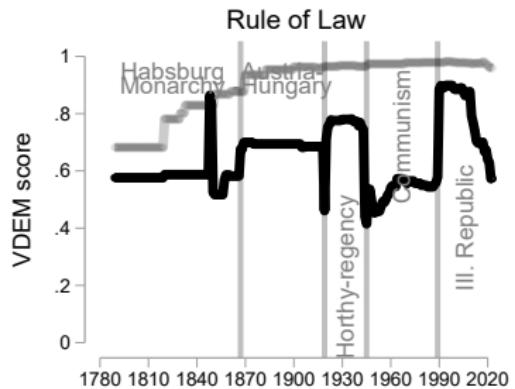


- ▶ The right-wing authoritarian Horthy-regime *temporarily* reversed the status convergence of the top20 most frequent surnames
- ▶ Convergence trajectories shift upward under Communism
- ▶ Again, trajectories “gravitate” towards the predicted trajectory within the political elite
- ▶ Convergence to the mean was achieved by 2010 in the military elite (40 years later than predicted)
- ▶ **Convergence to the mean is expected to be achieved in other elites in the 2040s** - 50 years earlier for educational elites, 50 years later for business elites than expected a century ago

Conclusions

- ▶ We measured social mobility through the **relative representation** of initially high- and low-status Hungarian surname groups in Hungary through **250 years** and **5+ different elite occupations** using hundreds of thousands of pages of historical data
 - **Population shares of names:** Census records: 1720, 1869; Marriage records: 1895-1950; Modern population registry: 1998, 2018; Historical Agricultural censuses: 1767, 1895
 - **Members of Diet/Parliament:** Parliament yearbooks (1770s-1980s), Election Office Databases (1990-2022); **Medical graduates:** Medical graduate yearbooks: 1770-1970s; Official registry of medical practitioners: 1970s-2018; **Law graduates:** Law school yearbooks: 1870-2005; **Business elites:** Historical corporate yearbooks: 1870-1944; Modern firm data: OPTEN (based on Court of Registry data) 1950-2025; **Military elites:** Military Yearbook of the Austrian Empire: 1820-1870; Military Archive/Museum metadata: 1867-1919; Military Academy yearbooks: 1920-2005
- ▶ We digitized these during the last 10 years (initially by typing, OCR software, eventually by Deep Learning + AI)

Despite all of this...



...Social status is incredibly persistent

- ▶ The name group that owned the majority of the land in the **18th century** still enjoys above average social status - **will do so for another century** by current trends
- ▶ The interwar right-wing Horthy regime cemented the status of the old upper class
- ▶ Under Communist dictatorship, changes to mobility patterns are **either modest or temporary**
- ▶ Under more liberal regimes, social mobility is slower but more predictable
- ▶ Long-run trajectory of social mobility is comparable to the UK
- ▶ **Despite revolutions, wars, and institutional upheavals, long-run mobility trajectories are close to the pre-1918 convergence paths**

There is an old Hungarian joke:
“Communism is the longest and most painful transition from capitalism to capitalism”

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Thank you for your attention!

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Acknowledgements:

- ▶ Miklós Koren, Tamás Mátyás
- ▶ NKFI Young Researcher Excellence Program; ELTE CERS Mentor–Mentee Program

Backup slides

Harmonizing corporate datasets: Compass (until 1944) + Opten (from 1945)

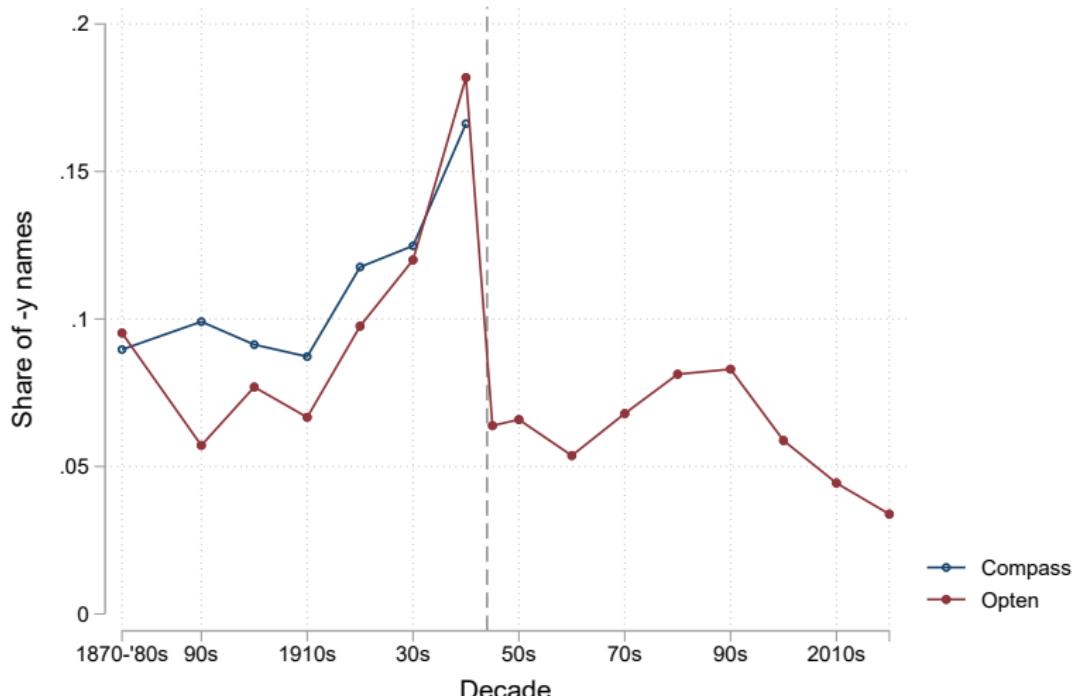
COMPASS:

- ▶ Cleaned in Stata
- ▶ Filter for (chief) directors
- ▶ Identify name groups using the same scripts as for other elite groups
- ▶ Include later managers

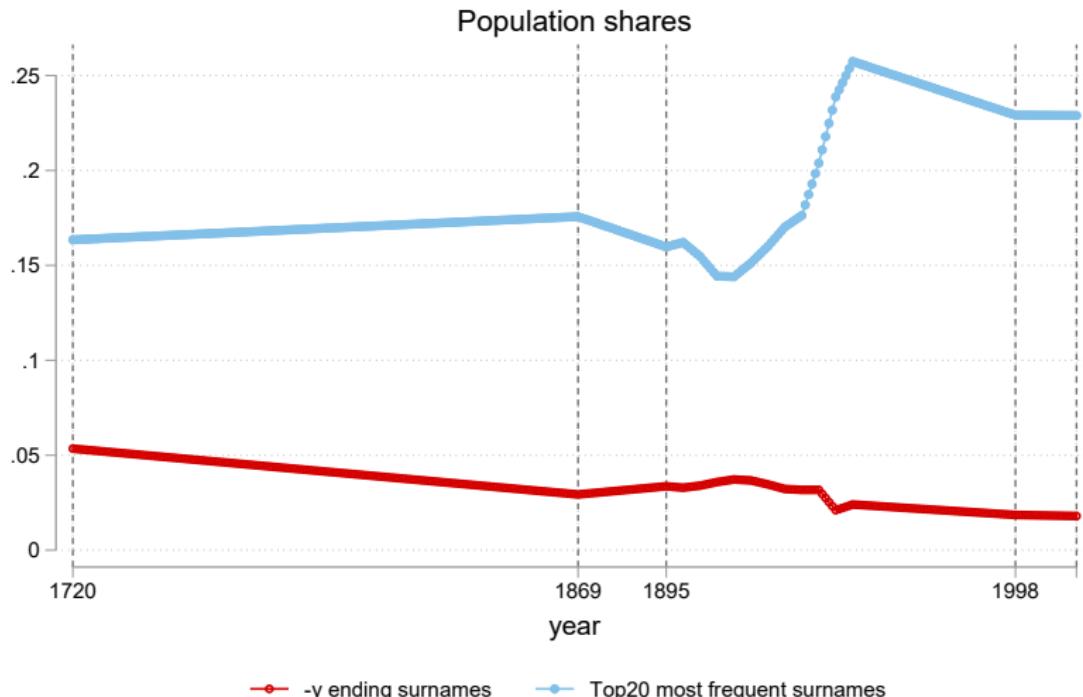
OPTEN:

- ▶ Based on the company register (maintained by the Ministry of Justice)
- ▶ Observations available from the late 19th century, few before the regime change
- ▶ Year–surname frequency observations
- ▶ Dataset: joint-stock companies (and state firms that later/before became joint-stock)

Do we believe the data content is roughly comparable?



Population shares



"Don't give up, Ipszilon!"

Quote: Kálmán Mikszáth – *Two Elections in Hungary* (1899)

