# Surnames and Distinction

Testing a Bourdieuian Interpretation of the Latent Factor Model

Noah Sutter

9th January 2026
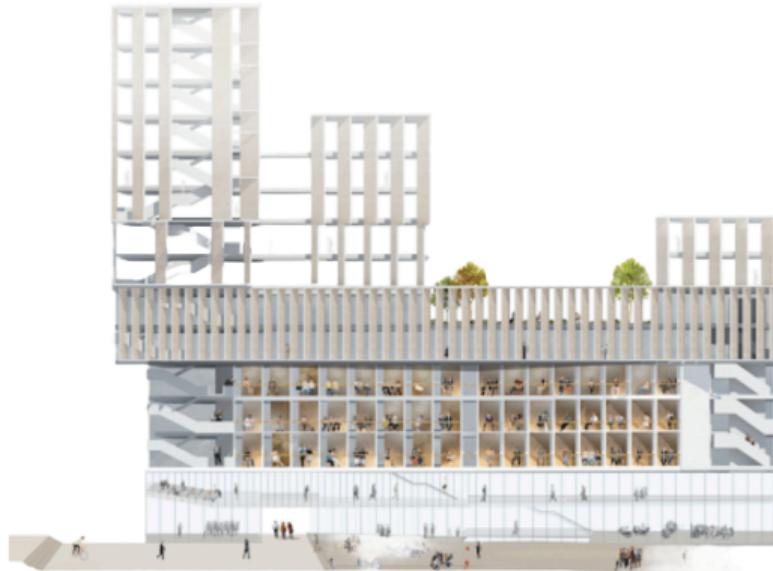
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► Motivation and Literature Review

► The *Bourdieu* Model

► Data

► Preliminary Results

► Conclusion

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Economics literature traditionally conceptualized inter-generational mobility at the individual level between two generations, modeled as an AR-1 process:

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- Surveys: Solon (1999) and Black and Devereux (2011)

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- This has been called *the iterated regression fallacy* by Stuhler (2024)
- Effects of wider family endowment or all endowments other than y_{t-1} on y_t are assumed away.
- Has led to very high social mobility estimates - i.e. low inter-generational correlation coefficients.

Explicitly adopting a multi-generational view or applying rare surnames methodology changes the picture drastically.

- **Multi-generational estimates:** Long and Ferrie (2018), Lindahl et al. (2015), Stuhler (2024) provides a review.

All find drastically higher rates of inter-generational persistence.

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- **Multi-generational estimates:** Long and Ferrie (2018), Lindahl et al. (2015), Stuhler (2024) provides a review.

- **Surname methodology:** Clark & Cummins (2014),Clark (2015) Clark et al. (2015) Adermon et al. (2018), Braun & Stuhler (2018), Adermon et al. (2021), and Barone & Mocetti (2021)

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- **Aristocrats and other elite groups seem to have extraordinarily high persistence** in various contexts (Clark and Cummins, 2014; Noble, 2023; Dupraz and Simson, 2024)

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    — Russian Revolution and Soviet Union (Eeckhout, 2023)
    — Abolition, Emancipation and Revolt in the Danish West Indies (Galli et al., 2024)

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- higher persistence estimates in surname and multi-generational studies?
- why certain elite groups seem to experience slower regression to the mean?
- elite group persistence across critical junctures?

"[Capital] is what makes the game of society [...] something other than simple games of chance offering at every moment the possibility of a miracle. Roulette [...] gives a fairly accurate image of this imaginary universe of perfect competition or perfect equality of opportunity[...], without accumulation, [...] in which every moment is perfectly independent of the previous one [...]."

(P. Bourdieu, 2011, p. 78)

"Capital, which in its objectified or embodied forms, takes time to accumulate and which, as a potential capacity to produce profits and to reproduce itself in identical or expanded form, contains a tendency to persist in its being [...]. And the structure of the distribution of the different types and subtypes of capital at a given moment in time represents the immanent structure of the social world [...], that govern its functioning in a durable way, determining the chances of success for practices."

(P. Bourdieu, 2011, p. 78)

"[An economic discipline must] endeavor to grasp capital and profit in all their forms and to establish the laws hereby the different types of capital (or power, which amounts to the same thing) change into one another."

(P. Bourdieu, 2011, p. 79)

Table of Contents

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- Capturing status on only one of these dimensions - expressed for example in terms of wealth - can bias social mobility measures.
- Measured downward social mobility could just be an expression of selection into other capital forms that offer a higher return.
- Flourishing literature on the importance of social capital (networks and personal contacts) social mobility in terms of incomes (Chetty and Hendren, 2018b, 2018a; Chetty et al., 2020, 2022b 2022a)

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Bourdieuan Intuition
2 The *Bourdieu* Model

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Tsarist Elites Survive as Occupational/Educational Elites
2 The *Bourdieu* Model

Tsarist Military, Political, and Economic elites select into new forms of cultural capital and rebound after the end of the Soviet Union (Eeckhout, 2023, p. 140)
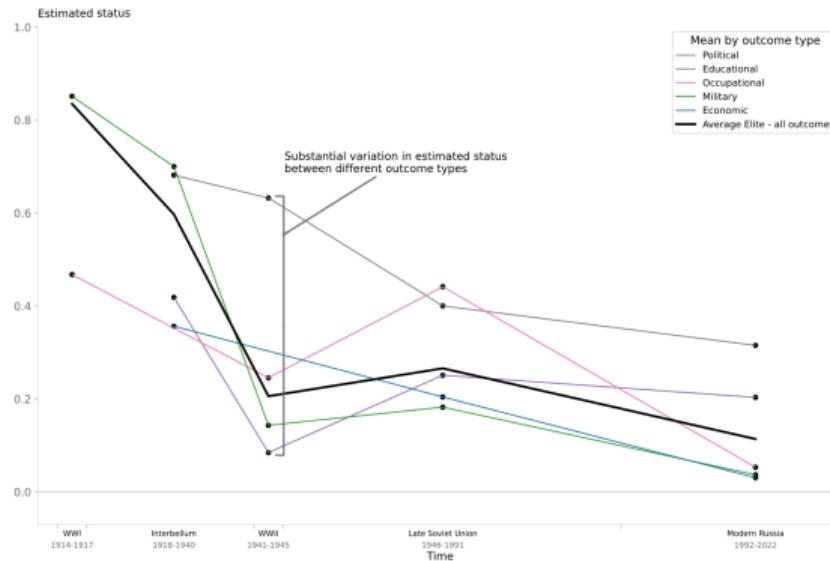
Figure 1: Estimated average status per outcome type, with each colored line the average status for an outcome type. The black line is the overall average (over all outcomes). A black dot indicates an observation for that outcome type and that period.

Wealth at death has two components:

$$w_{it} = x_{it} + u_{it}$$

- x_{it}: **Latent "social competence"** — highly persistent across generations

$$x_{it+1} = bx_{it} + e_{it} \quad \text{where } b \approx 0.70 - 0.75$$

Result:

- Individual parent-child regressions yield $\hat{\beta} \approx 0.4$ (attenuated by noise)
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- u_{it}: **Random noise** — not inherited (luck, timing, measurement error)

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Interpret Clark & Cummins' "latent status" as Bourdieu's *total capital*, consisting of their total capital of all forms $j \in J$:

$$\theta_{i,t} = \sum_{j=1}^{J} K_{i,j,t}$$

Total capital evolves with high persistence according to an AR-1 process with mean reversion:

$$\theta_{i,t} = \mu + b(\theta_{i,t-1} - \mu) + \varepsilon_{i,t} \quad \text{where } b \approx 0.70 - 0.75$$

Observable outcomes are noisy manifestations of underlying capital or the returns to underlying capital:

$$y_{i,j,t} = K_{i,j,t} \text{ or } y_{i,j,t} = r_{j,t} K_{i,j,t} + u_{i,j,t}$$

Details

Families **allocate** total capital across forms strategically:

$$K_{i,j,t} = \alpha_{j,t} + \lambda_{j,t}\theta_{i,t} + \xi_{i,j,t}$$

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where $\lambda_{j,t}$ is the allocation share to capital form j, allocating strategically to maximise utility:

$$\max_{\mathbf{K}_{i,t}} U(\mathbf{y}_{i,t}|\theta_{i,t}, \mathbf{r}_t) \tag{2}$$

subject to $\sum_{j=1}^{J} K_{i,j,t} = \theta_{i,t}$, where:

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Allocation responds to returns on capital $r_{j,t}$

- When $r_{\text{econ},t}$ falls (e.g., revolution), families shift into social/cultural capital
- Allows elites to preserve $\theta_{i,t}$ even when wealth $y_{i,\text{econ},t}$ falls, and to rebound through reconversion

Mathematical details

Proposition: Individual AR-1 estimates suffer from attenuation bias

$$\text{plim}(\hat{\beta}_j) = b \cdot \frac{r_{j,t}}{r_{j,t-1}} \cdot \underbrace{\frac{\lambda_{j,t}\lambda_{j,t-1}\text{Var}(\theta)}{\lambda_{j,t-1}^2\text{Var}(\theta) + \sigma_{\xi,j}^2 + \sigma_{u,j}^2/r_{j,t-1}^2}}_{attenuation\,factor<1} < b$$

Three sources of bias:

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3. **Partial observation**: We only see one noisy measure of one form of capital, not total $\theta_{i,t}$
4. **Intertemporal Changes in rates of return** $r_{j,t}$ **and/or allocation shares** $\lambda_{j,t}$

Full derivation

Aggregation eliminates noise:

$$\bar{y}_{s,j,t} \approx \alpha_{j,t} + r_{j,t}\lambda_{j,t}\bar{\theta}_{s,t}$$

Surname-based persistence:

$$\text{plim}(\hat{\beta}_j^{\text{surname}}) = b \cdot \frac{r_{j,t}\lambda_{j,t}}{r_{j,t-1}\lambda_{j,t-1}}$$

- If returns and allocation stable: $\hat{\beta}_j^{\text{surname}} \approx b$

Why this works

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- Closer to true b than individual-level estimates
- But still biased if $r_{j,t}$ or $\lambda_{j,t}$ changes over time (e.g., after a revolution)

Why this works

Four possible mechanisms to explain why aristocrats appear more persistent. They...

1. Start with higher total capital: $E[\theta_0^{\text{ari.}}] > E[\theta_0^{\text{com.}}]$

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[1]If we match on wealth and still get Noble's results, higher initial total capital implies this relationship.

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3. May truly have higher persistence: $b^{\text{ari.}} > b^{\text{com.}}$
4. May be better at converting capital from one form to the other (conversion matrix of $\phi_{jk,t} \approx \frac{r_{j,t}}{r_{k,t}}$, in equilibrium).

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In a situation where an elite initially has a comparative advantage in non-economic forms of capital, but over the course of the observation period, returns converge, we overestimate the persistence of their underlying total capital:

1. Dynamic Reallocation:

- Initial comparative advantage: $r^{\text{ari.}}_{\neg\text{econ},0} > r^{\text{com.}}_{\neg\text{econ},0} \Rightarrow \lambda^{\text{ari.}}_{\text{econ},0} < \lambda^{\text{com.}}_{\text{econ},0}$
- Returns equalize over time $\Rightarrow \lambda^{\text{ari.}}_{\text{econ},t}$ increases
- Observed persistence: $\hat{\beta}^{\text{ari.}}_{\text{econ}} = b \cdot \dfrac{\lambda^{\text{ari.}}_{\text{econ},T}}{\lambda^{\text{ari.}}_{\text{econ},0}} > b$

2. Matching Bias:

- Matching on equal initial wealth: $y^{\text{ari.}}_{\text{econ},0} = y^{\text{com.}}_{\text{econ},0}$

Result: Even if $b^{\text{ari.}} = b^{\text{com.}}$, we observe $\hat{\beta}^{\text{ari.}}_{\text{econ}} > \hat{\beta}^{\text{com.}}_{\text{econ}}$

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- Higher initial total capital amplifies observed persistence

Result: Even if $b^{\text{ari.}} = b^{\text{com.}}$, we observe $\hat{\beta}_{\text{econ}}^{\text{ari.}} > \hat{\beta}_{\text{econ}}^{\text{com.}}$

In practice, we can never observe total capital θ, nor all of the separate capital forms in which it is manifested. Instead, we observe only $J' < J$ dimensions of total capital.

$$\hat{\theta}_{s,t}^{\text{partial}} = \frac{1}{J'} \sum_{j=1}^{J'} (\tilde{y}_{s,j,t} - \alpha_{j,t})$$

$$\hat{\theta}_{s,t}^{\text{partial}} = \overline{r\lambda}_t^{(J')} \bar{\theta}_{s,t}$$

Resulting persistence estimate:

$$\hat{b}^{\text{partial}} = b \cdot \frac{\overline{r\lambda}_t^{(J')}}{\overline{r\lambda}_{t-1}^{(J')}}$$

- If total allocation to observed forms *and* returns on capital to observed forms are stable over time, $\hat{b}^{partial}$ is an unbiased estimate of b.

- If the return on observed forms decreases and/or families reallocate *out of* observed forms, $\hat{b}^{partial}$ underestimates true persistence b: $\hat{b}^{\text{partial}} < b$ (and vice-versa).

Table of Contents

Data

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- **Social and Cultural Capital Datasets**
  — Universe of *Assemblée Nationale* deputees
  — Universe of *Légion d'Honneur* recipients
  — Imperial Nobility
  — *Ancien Régime* Nobility

Noble and Sutter, tba	**Enquête TRA**	**Postel-Vinay and Rosenthal, 2026**
Sources		
• *Tables des Successions et Absences*	• Combination of all available sources, notably the *Tables des Successions et Absences* and the *Régistres des Mutations par Décès* for wealth.	
Coverage		
• All individuals dying in one of 20 *départements*.	• All individuals with a surname starting with *Tra-*.	• Paris for years ending in -2 or -7.

Noble and Sutter, tba	Enquête TRA	Postel-Vinay and Rosenthal, 2026
Number of Observations		
• > 1,824,208	• 56,110	• 27,928
Inclusion of Elites		
• Captures both urban and rural elites.	• Top of the wealth distribution is not captured. Includes only 8 noble families.	• Includes urban wealth elites but does not capture rural elites.

Summary of the Newly Digitised Data

Table: **Summary of the Data**

Period	Deaths	Non-zero Wealth Obs.	In %	Avg. log wealth	SD log wealth
1790–1800	62,360	13,340	21.4%	7.140	2.162
1800–-1809	109,994	27,248	24.8%	7.122	2.079
1810–-1819	154,885	39,067	25.2%	7.298	2.073
1820–-1829	192,351	44,172	23.0%	7.134	2.045
1830–-1839	243,284	48,336	19.9%	6.996	2.046
1840–-1849	258,101	48,983	19.0%	7.089	1.971
1850–-1859	253,396	53,909	21.3%	7.010	2.010
1860–-1870	274,305	52,194	19.0%	6.884	1.780
All periods	1,824,208	382,431	21.0%	7.041	1.987

Dataset   Digitisation Pipeline   Digitisation Evaluation   Survival of Records

Elite Surname Groups			
Elite	**Unique Surnames**	**Total individuals**	**Source**
Ancien Régime Nobility	7,839	9,704	La Chesnaye des Bois & De Badier (1783)
	2,646	4,173	*Liste des familles subsistantes de la noblesse française*
États Géneraux Second Estate	301	315	*Base de données des députés français depuis 1789*
Imperial Nobility	2,786	3,248	Campardon (1889)
Assemblée Nationale	12,989	17,684	*Base de données des députés français depuis 1789*
Members of Government	462	833	
Légion d'Honneur	109,175	350,434	*Base Léonore*

Table of Contents

Step 1: Classify surnames into groups by initial wealth $W_{g,0}$, using Beider-Morse phonetic matching, and drop frequent surnames.

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$$\bar{w}_{kt} = \frac{1}{n_{kt}} \sum_{j=1}^{n_{kt}} ln(wealth_{ktj}) - \overline{ln(wealth_{Martin,t})}$$

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Step 3: Calculate persistence as ratio of group means:

$$\overline{w}_{k,t+1} = b_k \overline{w}_{kt} + e_{it}$$

$$b_k = \frac{\bar{w}_{k,t}}{\bar{w}_{k,t-1}} = \frac{\text{Normalized log wealth in generation } t}{\text{Normalized log wealth in generation } t-1}$$

Group	$t_0 \to t_1$	$t_1 \to t_2$	Average
Rich (top decile, non-noble surnames)	0.71	1.00	**0.86**
Ancien Rég. Noble Surnames (top decile)	0.72	0.98	**0.85**
For comparison:			
Clark and Cummins, 2014 (England, b)	0.70–0.75	0.70–0.75	**0.70–0.75**
J. Bourdieu et al., 2019 (France, β)	0.30 – 0.42	0.30 – 0.42	**0.30 – 0.42**

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- Rich surnames regress slowly (b $\approx$ 0.85–0.87)
- Similar to Clark & Cummins findings for England
- Disparity between surname method and "direct" bi-generational measure.

Elite Type	Avg. Persistence (b)	Difference from Non-Elite
Among Rich Surnames (Top 10%, rare)		
Ancien Régime Nobility	0.851	-0.009
Parliament	0.851	-0.008
Légion d'Honneur	0.847	-0.023
Imp. Nobility	0.848	-0.017
No Elite Status	**0.924–0.941**	**—**

Do Nobles Convert Status - *de* particles in Parliament

4 Preliminary Results

Proportion of Nobles in Parliament Over Time

LSE

Ancien Régime Noble Surnames and Other Credentials
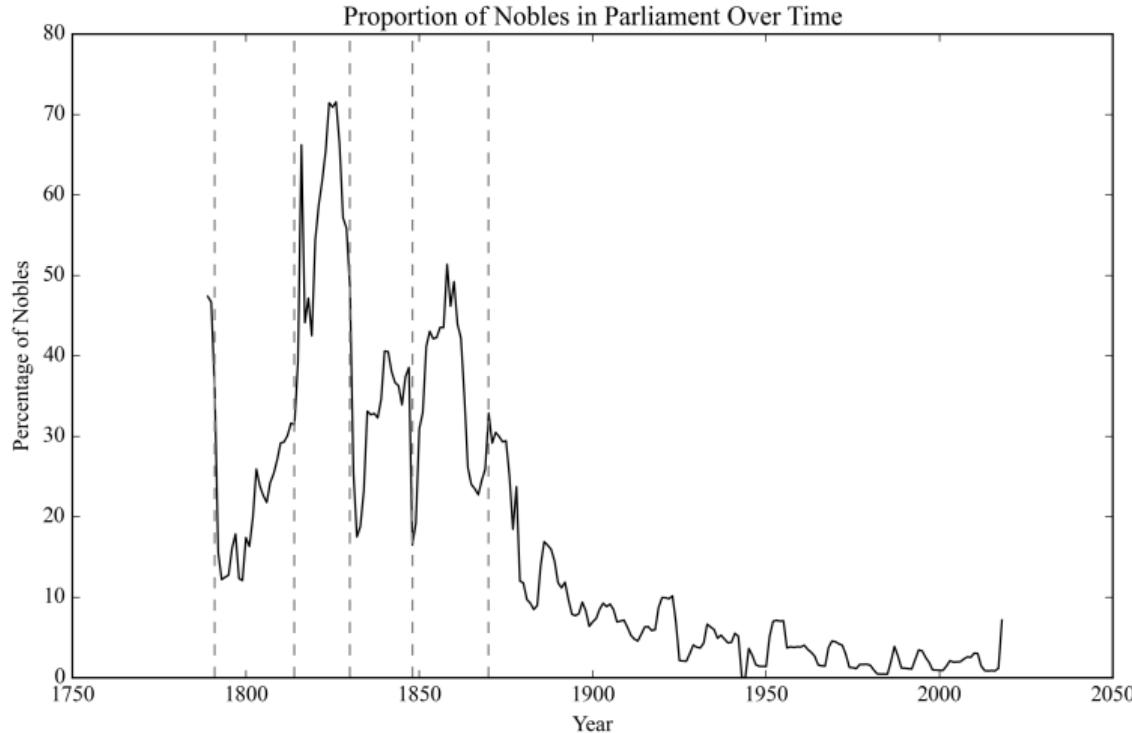
Dependent Variables: Parliament, Légion d'Honneur, Imperial Nobility, Total Count
Sample: Richest quintile only (comparable wealth levels)

	Parliament (Odds Ratio)	**Légion** (Odds Ratio)	**Imp. Noble** (Odds Ratio)	**N Elite Types** (IRR)
AR Noble	0.768** (0.079)	1.090 (0.121)	0.513*** (0.065)	0.884*** (0.039)
Generation FE	Yes	Yes	Yes	Yes
N	1,675	1,675	1,062	1,675

- *Ancien Régime* Noble Surnames 23% **less likely** to hold Parliament seat
- *Ancien Régime* Noble Surnames 49% **less likely** to hold Imperial nobility
- *Ancien Régime* Noble Surnames have 12% **fewer total** elite credentials

Table of Contents

Preliminary Findings:

- Did **French Revolution succeed** in creating a new elite?

Questions

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- How can the model be tested?

- Do we capture the right social/cultural capital? We probably do not capture the cultural/social capital associated with the *ancien régime* nobility as we capture cultural/social capital explicitly associated with the new state/regime.

Adermon, A., Lindahl, M., & Palme, M. (2021).Dynastic human capital, inequality, and intergenerational mobility. *American Economic Review*, *111*(5), 1523–1548.

Adermon, A., Lindahl, M., & Waldenström, D. (2018).Intergenerational wealth mobility and the role of inheritance: Evidence from multiple generations. *The Economic Journal*, *128*(612), F482–F513.

Ager, P., Boustan, L., & Eriksson, K. (2021).The intergenerational effects of a large wealth shock: White southerners after the civil war. *American Economic Review*, *111*(11), 3767–3794.

Alesina, A., Seror, M., Yang, D. Y., You, Y., Zeng, W., et al. (2020). *Persistence through revolutions*. National Bureau of Economic Research.

Barone, G., & Mocetti, S. (2021).Intergenerational mobility in the very long run: Florence 1427–2011. *The Review of Economic Studies*, *88*(4), 1863–1891.

Black, S. E., & Devereux, P. J. (2011).Recent developments in intergenerational mobility. *Handbook of labor economics*, *4*, 1487–1541.

Boillet, M., Kermorvant, C., & Paquet, T. (2021).Multiple Document Datasets Pre-training Improves Text Line Detection With Deep Neural Networks. *2020 25th International Conference on Pattern Recognition (ICPR)*, 2134–2141. https://doi.org/10.1109/ICPR48806.2021.9412447

Bourdieu, J., Kesztenbaum, L., & Postel-Vinay, G. (2014). *L'enquête tra, histoire d'un outil, outil pour l'histoire: Tome i. 1793-1902*. INED.

Bourdieu, J., Kesztenbaum, L., Postel-Vinay, G., & Suwa-Eisenmann, A. (2019).Intergenerational wealth mobility in france, 19th and 20th century. *Review of Income and Wealth*, *65*(1), 21–47.

Bourdieu, P. (1987). *Distinction: A social critique of the judgement of taste*. Harvard university press.

Bourdieu, P. (2011). The Forms of Capital. In M. Granovetter & R. Swedberg (Eds.), *The Sociology of Economic Life* (3rd ed., pp. 78–92). Routledge.

Braun, S. T., & Stuhler, J. (2018).The transmission of inequality across multiple generations: Testing recent theories with evidence from germany. *The Economic Journal, 128*(609), 576–611.

Campardon, É. (1889). *Liste des membres de la noblesse impériale: Dressée d'après les registres de lettres patentes conservés aux archives nationales*. Au siège de la Société.

Chetty, R., Friedman, J. N., Saez, E., Turner, N., & Yagan, D. (2020).Income segregation and intergenerational mobility across colleges in the united states. *The Quarterly Journal of Economics*, *135*(3), 1567–1633.

Chetty, R., & Hendren, N. (2018a).The impacts of neighborhoods on intergenerational mobility i: Childhood exposure effects. *The Quarterly Journal of Economics*, *133*(3), 1107–1162.

Chetty, R., & Hendren, N. (2018b).The impacts of neighborhoods on intergenerational mobility ii: County-level estimates. *The Quarterly Journal of Economics*, *133*(3), 1163–1228.

Chetty, R., Jackson, M. O., Kuchler, T., Stroebel, J., Hendren, N., Fluegge, R. B., Gong, S., Gonzalez, F., Grondin, A., Jacob, M., et al. (2022a).Social capital i: Measurement and associations with economic mobility. *Nature*, *608*(7921), 108–121.

Chetty, R., Jackson, M. O., Kuchler, T., Stroebel, J., Hendren, N., Fluegge, R. B., Gong, S., Gonzalez, F., Grondin, A., Jacob, M., et al. (2022b).Social capital ii: Determinants of economic connectedness. *Nature*, *608*(7921), 122–134.

Clark, G. (2015). *The son also rises: Surnames and the history of social mobility: Surnames and the history of social mobility*. Princeton University Press.

Clark, G., & Cummins, N. (2014).Surnames and social mobility in england, 1170–2012. *Human Nature*, *25*(4), 517–537.

Clark, G., Cummins, N., Hao, Y., & Vidal, D. D. (2015).Surnames: A new source for the history of social mobility. *Explorations in Economic History*, *55*, 3–24.

Dupraz, Y., & Simson, R. (2024).Elite persistence in sierra leone: What can names tell us? *Journal of Development Economics*, *171*, 103333.

Eeckhout, T. (2023). *Measuring corruption, intergenerational mobility and human capital using trace data: Evidence from russia* [Doctoral Dissertation]. Ghent University. Faculty of Economics and Business Administration.

Galli, S., Theodoridis, D., & Rönnbäck, K. (2024).Elite persistence and inequality in the danish west indies, 1760-1914. *Explorations in Economic History*, 101636.

Gay, V., Gobbi, P., & Goñi, M. (2024).The atlas of local jurisdictions of ancien régime france.

La Chesnaye des Bois, F., & De Badier, A. (1783). *Recueil généalogies, pour servir de suite ou dictionnaire de la noblesse*. Paris: Lamy Badiez.

Li, M., Lv, T., Chen, J., Cui, L., Lu, Y., Florencio, D., Zhang, C., Li, Z., & Wei, F. (2023).Trocr: Transformer-based optical character recognition with pre-trained models. *Proceedings of the AAAI Conference on Artificial Intelligence*, *37*(11), 13094–13102.

Lindahl, M., Palme, M., Massih, S. S., & Sjögren, A. (2015).Long-term intergenerational persistence of human capital: An empirical analysis of four generations. *The Journal of Human Resources*, *50*(1), 1–33. Retrieved April 30, 2024, from http://www.jstor.org/stable/24735407

Long, J., & Ferrie, J. (2018).Grandfathers matter (ed): Occupational mobility across three generations in the us and britain, 1850–1911. *The Economic Journal*, *128*(612), F422–F445.

Noble, A. (2023). The persistence of aristocratic wealth: Institutional measures, family measures and social mobility, 1858-1907.

Noble, A., & Sutter, N. (tba). From records to riches: An automated pipeline for digitising french tax records, 1790-1870 [Forthcoming].

Piketty, T., Postel-Vinay, G., & Rosenthal, J.-L. (2006). Wealth concentration in a developing economy: Paris and france, 1807-1994. *American economic review*, *96*(1), 236–256.

Piketty, T., Postel-Vinay, G., & Rosenthal, J.-L. (2014). Inherited vs self-made wealth: Theory & evidence from a rentier society (paris 1872–1927). *Explorations in economic history*, *51*, 21–40.

Postel-Vinay, G., & Rosenthal, J.-L. (2026). *A capital's capital: Wealth and inequality in paris 1807-2023*. Princeton University Press.

Solon, G. (1999). Intergenerational mobility in the labor market. In *Handbook of labor economics* (pp. 1761–1800, Vol. 3). Elsevier.

Stuhler, J. (2024). Multigenerational inequality. *Research Handbook on Intergenerational Inequality*, 100–121.

Table of Contents

► Appendix

Total capital follows an AR(1) process with mean reversion:

$$\theta_{i,t} = \mu + b(\theta_{i,t-1} - \mu) + \varepsilon_{i,t}$$

Long-run convergence:

$$\mathbb{E}[\theta_{i,t}] = \mu(1 - b) + b\mathbb{E}[\theta_{i,t-1}]$$

In steady state: $\bar{\theta} = \mu$

But convergence is extremely slow when $b \approx 0.7$:

- After 1 generation: 70% of gap remains
- After 3 generations: 34% remains
- After 5 generations: 17% remains

Back

Appendix: Capital Allocation Rule

Linear allocation rule:

$$K_{i,j,t} = \alpha_{j,t} + \lambda_{j,t}\theta_{i,t} + \xi_{i,j,t}$$

where:

- $\alpha_{j,t}$: baseline capital needed for survival
- $\lambda_{j,t}$: allocation share to form j (endogenous to $r_{j,t}$)
- $\xi_{i,j,t}$: allocation noise/optimization error
- Budget constraint: $\sum_{j=1}^{J} \lambda_{j,t} = 1$

Could be derived from CES utility maximization

$$\lambda_{j,t} = \frac{\gamma_j^{\sigma} r_{j,t}^{\sigma-1}}{\sum_k \gamma_k^{\sigma} r_{k,t}^{\sigma-1}}$$

Starting from outcome equation:

$$y_{i,j,t} = r_{j,t}(\alpha_{j,t} + \lambda_{j,t}\theta_{i,t} + \xi_{i,j,t}) + u_{i,j,t}$$

Variance decomposition:

$$\text{Var}(y_{i,j,t-1}) = r_{j,t-1}^2\lambda_{j,t-1}^2\text{Var}(\theta) + r_{j,t-1}^2\sigma_{\xi,j}^2 + \sigma_{u,j}^2$$

Covariance (using $\theta_{i,t} = b\theta_{i,t-1} + \varepsilon_{i,t}$):

$$\text{Cov}(y_{i,j,t}, y_{i,j,t-1}) = r_{j,t}r_{j,t-1}\lambda_{j,t}\lambda_{j,t-1}b \cdot \text{Var}(\theta)$$

Therefore:

$$\text{plim}(\hat{\beta}_j) = \frac{\text{Cov}}{\text{Var}} = b \cdot \frac{r_{j,t}\lambda_{j,t}}{r_{j,t-1}\lambda_{j,t-1}} \cdot \underbrace{\frac{\lambda_{j,t-1}\text{Var}(\theta)}{\lambda_{j,t-1}^2\text{Var}(\theta) + \sigma_{\xi,j}^2 + \sigma_{u,j}^2/r_{j,t-1}^2}}_{<1}$$

Back

With surname groups:

$$\bar{\xi}_{s,j,t} \to 0$$
$$\bar{u}_{s,j,t} \to 0$$

Therefore:

$$\bar{y}_{s,j,t} \approx \alpha_{j,t} + r_{j,t}\lambda_{j,t}\bar{\theta}_{s,t}$$

Surname-level persistence:

$$\text{Cov}(\bar{y}_{s,j,t}, \bar{y}_{s,j,t-1}) = r_{j,t}r_{j,t-1}\lambda_{j,t}\lambda_{j,t-1}b \cdot \text{Var}(\bar{\theta})$$
$$\text{Var}(\bar{y}_{s,j,t-1}) = r_{j,t-1}^2\lambda_{j,t-1}^2\text{Var}(\bar{\theta})$$

$$\Rightarrow \hat{\beta}_j^{\text{surname}} = b \cdot \frac{r_{j,t}\lambda_{j,t}}{r_{j,t-1}\lambda_{j,t-1}}$$

The *Tables des Successions et Absences*

The Source

- French inheritance tax registers used - among other sources - in Piketty et al. (2006, 2014)
- Universal coverage
- 1791-1870 (or until 1968), available for 71 of 95 *départements*

Contains information on:

- Name
- Some indicators of wealth at death
- Occupation
- Date of death and age at death
- Information on inheritors or legatees

Back

Different Forms of Wealth reported in the *Tables des Successions et Absences*

7 Appendix

From ca. 1824 onward (different cutoff points for different *bureaux*), the following information on wealth is recorded separately:

- **Amount recorded after inventory** (*Inventaire - Montant de l'évaluation*)
- **Revenue from sale of mobile wealth** (*Ventes des Meubles - Montant de la vente*)
- **Declared value of furniture, money, annuities and receivables** (*Biens Déclarés - Valeur du mobilier, argent, rentes et créances*)
- **Revenue from real estate** (*Biens Déclarés - Revenus des immeubles*)

INVENTAIRES.		VENTES DE MEUBLES.		NUMÉRO du sommier donteux, sous lequel l'article a été relevé.	DATES des déclarations des successions, dons ou legs.	NOMS, PRÉNOMS ET DEMEURES DES HÉRITIERS, donataires ou légataires (*non alphabétiquement*).	BIENS DÉCLARÉS.		
DATE de l'enregistrement.	MONTANT de l'évaluation.	DATE de l'enregistrem.ᵗ	MONTANT de la vente.				VALEUR du mobilier, argent, rentes et créances.	REVENUS des immeubles.	SITUATION des immeubles.

- The *TSA* do *not* contain the sum total of an individual's *actifs* at death.

- The *TSA* were **one of two record sets** used by the administration to organize the process of calculating and collecting inheritance tax.

- The estate declarations were contained in the **Registres de Mutations par Décès (RMD)**, which contain the individual's estate declarations. The *RMD* allow the calculation of a single individual's total wealth.

- Complete digitization of the *RMD* is not feasible. *TSA*'s tabular format allows for automated digitization.

- **Limitation:** Taxes on real estate were filed with the bureau of the location of real estate. Taxes on movable wealth were filed at the legal residence.

LSE

Share of TSA indicating the amount of wealth of the deceased (TRA)
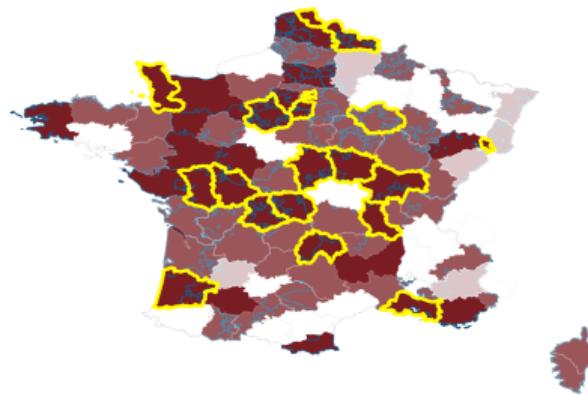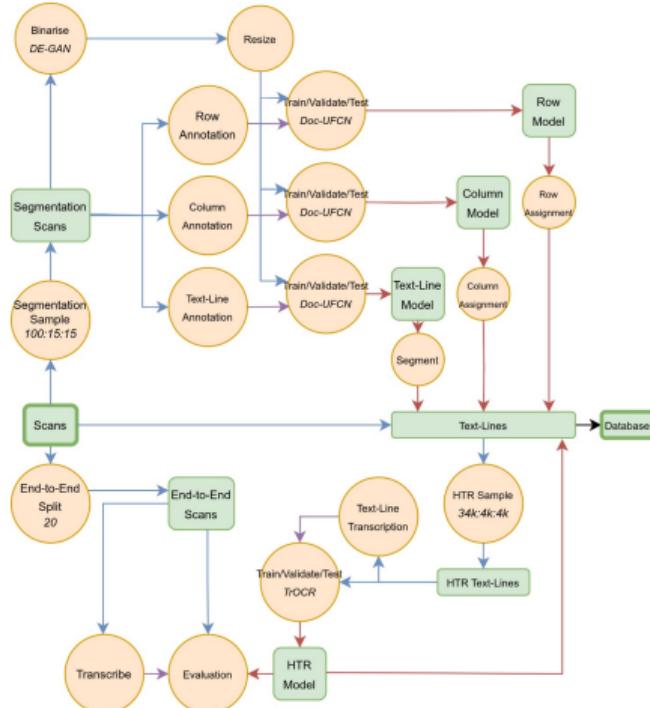
7 Appendix

We use a fine-tuned version of Doc-UFCN (Boillet et al., 2021) to detect text lines:
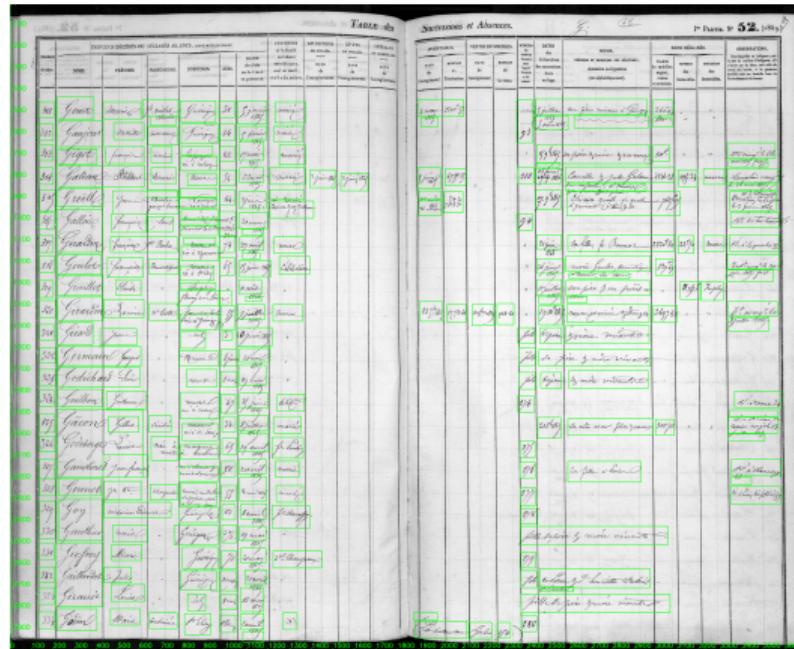
Handwritten Text Recognition

- We use TrOCR (Li et al., 2023), a pre-trained transformer-based OCR model.

To segment the page into columns and rows, we use a combination of:

- Doc-UFCN
- Computer Vision (Hough Line Transform)

Partible type
- Option
- Strict

Impartible type
- Primogeniture
- Ultimogeniture
- Unigeniture

Women
- Included
- Excluded

- Missing
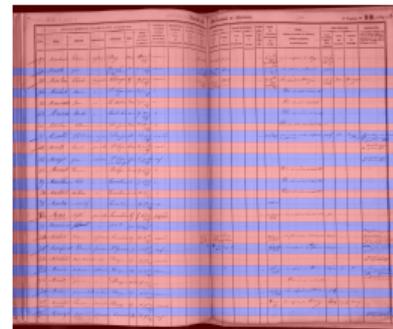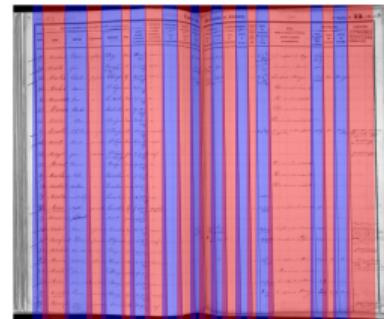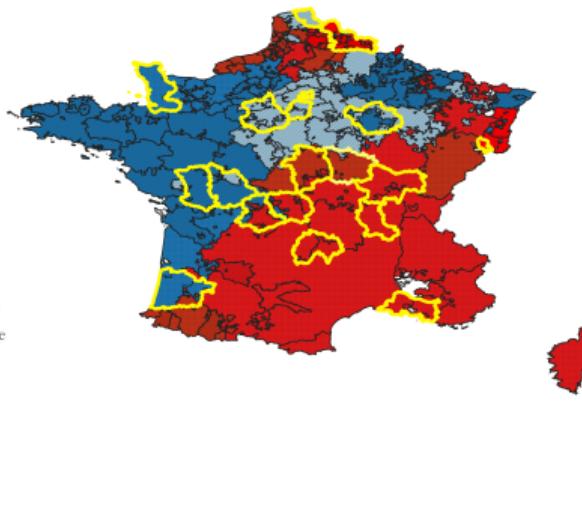
- Aube
- Bouches-du-Rhône
- Cantal
- Cher
- Deux-Sèvres
- Essonne
- Eure-et-Loire
- Haute-Vienne
- Landes
- Loire
- Manche
- Nièvre
- Nord
- Paris
- Pas-de-Calais
- Saône-et-Loire
- Seine-Saint-Denis
- Territoire de Belfort
- Val-de-Marne
- Yvelines

We have digitised now digitised a cross-section of the available TSA for all the départements listed previously:

- We have digitised all the books that cover a year between 1791-1870 that ends in -2, as well as the year 1870;
- Since books span several years, this leads us to capture more than just these 9 years;
- After 1802 we supplement the data for Paris with the data from Postel-Vinay and Rosenthal, 2026;
- containing **1,824,208 individual death records**;
- from **293 Bureaux d'Enregistrement**;
- covering the period **1791-1870**;
- We match them to inheritance customs on the *bureau*-level using the *Customary Atlas of Ancien Régime France* from Gay et al., 2024.
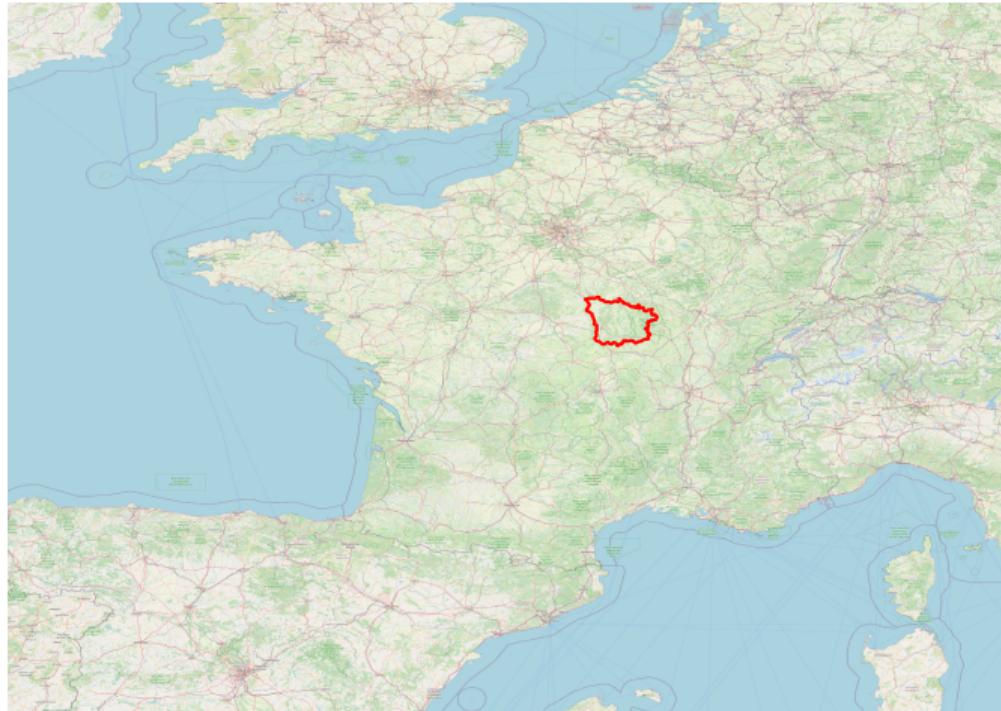
End-to-End: Median Result

| Variable	Ground Truth	Prediction
Age	4 mois	4 mois
Article Number	48	48
Date of Death	17 aout 1866	17 aout 1860
Seals Apposition	Michot	Michot
Declarations Date	17 Xbre	17 10bre
Income from Buildings	143	143
Building Situation	Asnois	asnois.
Furniture Value	361/0	361.5
Wealth Estimation	1230	1230
First Name	Gilbert	Gilbert
Furniture Sale Date	5 8er 1849	5 8e. 1849
Furniture Valuation	258.55	258.55
Trusteeships	27 arvil 1850	27 avril 1850
Marital Status	ep. Marie	ep. Marie
Inventory Date	26 fevrier	26 Fevrier
Inventory Value	714.9	714.9
Location of Death	Revenue C	Revenier
Heirs' Names	Devoucout, antoine	Devoncous, metoine
Dubious Base Number	225	225
Observations	Sans Droits acquis	Sans Edriot et acquis
Profession	mineur	Mineur
Residences	Alluy	Allay
Surname	Louvrier	Louvrier

Note: Comparison of transcription for each variable, showing the observation with median error.