

WEALTH CONFISCATION AND ELITE PERSISTENCE: EVIDENCE FROM THE GREAT REDUCTION*

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September 25, 2026

Abstract

This paper studies how far a wealth shock persists across generations and whether it erodes status by examining the largest confiscation in Swedish history: the Great Reduction of 1680, which took half the nobility's landed wealth. Linking noble genealogies to manor ownership across the Swedish realm, we compare descendants of nobles who lost manors with those of observably similar nobles who did not. Manor ownership falls sharply and stays lower four generations later, by more than mobility correlations predict. Yet careers, marriages, human capital, and demographic outcomes barely move, though they respond strongly to membership in the political elite.

Keywords: WEALTH SHOCKS, ELITE PERSISTENCE, INTERGENERATIONAL MOBILITY, LAND REFORM

JEL Codes: N33, N43, J62, D31, N53

*We are grateful to Arash Nekoei, Torsten Persson, and David Schönholzer for their guidance. We thank Lasse Aaskoven, Michael Lundholm, Martin Nybom, Jesper Roine, and Markus Jäntti, as well as audiences at IIES, Stockholm, the 2024 Stockholm–Uppsala Doctoral Student Workshop in Economics, and the 2025 Danish Historical Political Economy Workshop for valuable comments.

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1. INTRODUCTION

Major political and religious upheavals often dismantle existing social structures, with established elites bearing much of the disruption. Examples include the French Revolution, Henry VIII's dissolution of England's monasteries, and Ivan IV's Oprichnina, a campaign of terror and confiscation against the Russian nobility. Yet elite families have shown remarkable resilience, maintaining status and influence across generations. This persistence is reflected in the long-run prominence of elite surnames and in the continued social standing of elite lineages even after transformative events such as China's Communist Revolution ([Clark, 2014](#); [Alesina et al., 2020](#)).

Estimating the persistence of elite advantage across generations is difficult because it requires two ingredients that rarely coexist: quasi-random variation in family resources and genealogical data that follow descendants over many generations. We overcome this challenge by studying the Great Reduction of 1680, the largest asset confiscation in Swedish history. The Reduction generated a large shock to noble wealth, while newly digitized genealogical data allow us to trace affected families and their descendants over three centuries. By linking these genealogies to detailed biographical information and manor-ownership records, we estimate how strongly ancestral wealth shapes the wealth and broader socioeconomic status of descendants.

In seventeenth-century Sweden, the Crown financed its military campaigns by granting fiefs to the nobility in return for military service. In 1680, however, King Charles XI staged a royal coup that abruptly ended this system of enfeoffment. Through the subsequent Great Reduction, Charles XI, with support from the peasantry, clergy, and burgher estates, confiscated roughly half of the nobility's land, dissolved the Privy Council, and subordinated the Riksdag of the Estates. This reform led to a dramatic shift in land distribution. The nobility's share of land ownership fell from 65 percent in 1654 to 33 percent by 1700, while Crown and freeholder lands expanded.

We construct a new dataset covering the universe of noble individuals in Sweden from roughly 1600 to 1900, which we link to detailed records of manorial holdings. Drawing on genealogical sources, we use large language models alongside extensive manual work to extract biographical information on birth, death, education, occupation, and marriage patterns. Unlike studies that infer persistence from shared surnames (e.g., [Barone and Mocetti, 2021](#)), our data record exact genealogical links, allowing us to follow individuals and their wealth across several centuries with unusual precision.¹

¹Genealogical datasets that combine large population coverage with links across many generations are

We find substantial and persistent intergenerational effects of the Great Reduction on landed wealth. Four generations later, descendants of those affected still hold fewer manors than otherwise comparable individuals. The fifth-generation estimate points in the same direction but is not precise enough to reject the null on its own. These findings are robust across specifications that vary the controls, sample restrictions, and treatment definition. We benchmark our estimates against the effects implied by conventional intergenerational correlations and find that the effects on descendant wealth exceed these predictions, suggesting that conventional correlations understate how strongly wealth in one generation predicts wealth in later generations.

We find virtually no effects on broader socioeconomic outcomes, measured using demographic characteristics, military careers, marriage outcomes, and human capital. We probe this result in two ways. First, we show that wealth covaries with these broader outcomes. Second, using membership in the political elite during the Great Reduction as an alternative treatment, we find that descendants of these families were much more likely to hold high-status administrative and political offices. Taken together, these exercises indicate that our outcomes capture meaningful dimensions of socioeconomic status beyond wealth. The absence of effects therefore suggests that the long-run consequences of the Reduction were concentrated in landed wealth rather than reflected in broader changes in career paths, marriage patterns, or social status.

Contribution to the Literature Our study speaks to two complementary bodies of literature. The first studies the intergenerational consequences of wealth shocks among elite families (Bleakley and Ferrie, 2016; Ager et al., 2021; Alesina et al., 2020; Shiu and Keller, 2025). Relative to this work, we directly observe wealth in descendant generations rather than relying on wealth proxies or status markers. This matters because wealth shocks may persist in wealth even when other status outcomes remain largely unchanged. In addition, our census-like data allow us to examine adjustment along other margins by tracing how affected families adapt in their occupational choices and marital patterns.

Comparisons with the closest of these studies reveal common patterns but also important differences. Like Ager et al. (2021) and Shiu and Keller (2025), we find little movement across descendant generations in broad proxies for social status, consistent with substantial persistence in family position. Over longer horizons, however, Shiu and Keller (2025) find that treated lineages eventually recover and even surpass untreated ones in elite status, as

rare. Important examples include Quebec’s *Registre de la population du Québec ancien*, the Utah Population Database, Iceland’s *Íslendingabók*, and the China Multi-Generational Panel Datasets.

do [Becker et al. \(2020\)](#), who find that descendants of expelled Jews invest more in human capital. We find no such mechanisms of readjustment. [Bleakley and Ferrie \(2016\)](#) come closest to our design: they also study a shock to landed wealth and track descendants' wealth. A key difference is liquidity. Lottery winners could, and often did, sell their land soon after receiving it. By contrast, our shock affected landed wealth in a setting where manors remained central to noble status and were often kept within the family.

The second studies intergenerational mobility across multiple centuries ([Barone and Mocetti, 2021](#); [Clark, 2014](#)). Like us, this literature is concerned with the persistence of elite status, but it typically relies on descriptive correlations in status markers such as surnames. We complement this work by combining a quasi-exogenous wealth shock with precise genealogical links across multiple centuries. This allows us to quantify the extent to which inequality is transmitted across generations and to ask whether long-run status correlations reflect parent-child transmission of latent factors, broader group-level factors, or the inheritance of wealth.

We also revisit the literature on the economic history of the Great Reduction and the Swedish nobility ([Svedelius, 1851](#); [Heckscher, 1935–1936](#); [Ågren, 1976](#); [Prytz, 2013](#); [Bengtsson et al., 2019](#)). Our data allow us to study the rise and decline of the nobility during the early modern period and its role in the dissolution of the medieval political order in Sweden. Historians have long viewed the Great Reduction as a central event in Swedish history, but its social and economic consequences remain difficult to assess. [Ågren \(1976\)](#) makes the point directly: despite their presumed importance, these consequences had never been assessed systematically.

Roadmap The remainder of this paper is organized as follows. Section 2 provides historical background. Section 3 describes the datasets and sources. Section 4 documents the immediate effect of the Great Reduction on the wealth of the confiscated generation. Section 5 details the empirical strategy for the intergenerational analysis. Section 6 presents the effects on descendants' wealth, and Section 7 examines outcomes beyond wealth. Section 8 concludes.

2. BACKGROUND

2.1 The Rise of Noble Landholding

During the seventeenth century, Sweden emerged as one of the dominant powers in Europe. It launched major military campaigns against Russia and the Holy Roman Empire during the Thirty Years' War and conquered important territories, including lands formerly controlled by Denmark, Sweden's long-standing rival. Much of this warfare was financed by granting fiefs to the nobility in exchange for their allegiance and commitment to provide military support to the Crown (Prytz, 2013, p. 67).

Granting fiefs in exchange for a modest monetary payment allowed the Crown to convert in-kind revenues from Crown lands into liquid assets. It also reflected the belief that the nobility were better than the Crown at managing agricultural estates and raising long-run revenues (Nilsson, 1958, p. 72). This policy of enfeoffment nearly tripled the share of land owned by the nobility, from 23 percent in 1560 to 65 percent in 1654.²

These transfers continued into the mid-seventeenth century, when weak royal authority further strengthened the nobility's position. Queen Christina, who abdicated in 1654 and converted to Catholicism the following year, showed little interest in pursuing a more restrained enfeoffment policy. As the Swedish economic historian Eli Heckscher observed:

Thus, the government of Gustavus Adolphus, Christina's guardians, and above all Christina's own rule had, in essence, altered the position of the Crown, the nobility, and the peasants alike. The result was a drained treasury, a ruling nobility that thought in feudal terms, and a peasant estate that, in a fundamental respect, had ceased to be self-owning. (Heckscher, 1943, authors' translation)

Charles XI became king at the age of five in 1660, and his reign began under a regency that lasted until 1672. This period was characterized by continued grants of fiefs to the nobility, as leading nobles used their control over the Crown during Charles XI's minority to secure material gains (Ågren, 1976, pp. 55–56).

Figure 1 plots manors alienated and families ennobled by decade. Alienations began rising in the 1560s, when Erik XIV created countships (*grevskap*) and baronies (*friherreskap*) for the old nobility. Ennoblements surged during the Thirty Years' War and again during the Great Northern War (1700–1721). Entry into the nobility was closely tied to military

²See Table E.1 for the distribution of land across cadastral categories.

service: the Crown rewarded distinguished officers with noble status, and nobles enjoyed preferential access to higher commissions. Many of the later ennoblements, however, conferred title alone, without land.

[Figure 1 about here.]

2.2 The Great Reduction of 1680

Reclaiming alienated fiefs to improve state finances had been discussed since the 1640s, and the Crown had made earlier attempts to recover such estates. In 1655, the three non-noble estates allied with King Charles X and enacted a smaller precursor to the Great Reduction. It was clear that those who had benefited most from the policy of *enfeoffment* were to bear the main burden of restoring state finances. The question was whether this should occur through confiscation or through higher taxes and the removal of tax exemptions (Nilsson, 1958). Opponents argued that a reduction would place an unfair burden on a small number of individuals, while proponents maintained that it would fall precisely on those who had benefited disproportionately from earlier *enfeoffments*. In fact, a majority of representatives in the noble estate supported the Great Reduction. To a large extent, this support reflected that the reform was accompanied by changes to the military system, which reduced the nobility's obligation to participate in future wars.

The issue was finally settled in 1680, when the monarchy had become strong enough to undertake a large-scale recovery of estates that had been donated or sold at deep discounts to the nobility over the preceding decades. With support from the lower nobility and freeholders, Charles XI successfully implemented the Great Reduction through the Riksdag of the Estates, decisively ending the growing power of the nobility. The essence of the bill was that properties granted in fief during the previous century should be returned to the Crown. Notably, the rules did not formally target particular families, although they emerged from fierce political conflict and negotiation within the Riksdag.

The Reduction implied that the surplus—the feudal rent—accrued to the Crown rather than to feudal lords from the point at which a farm was confiscated. How much this flow of income to the Crown increased as a result of the Great Reduction is to a large extent unknown. To the best of our knowledge, Svedelius (1851) remains the most comprehensive attempt at quantifying the scope of the Great Reduction and the revenues it generated. Svedelius estimates that the Great Reduction brought in an annual 1.6 million *daler silvermynt*. A back-of-the-envelope calculation suggests that this amounts to 3 percent of

GDP at the time. The bill targeted specific categories of property, most importantly all fiefs in newly conquered territories, which accounted for the largest share of Svedelius's estimated revenues, but also allodial donations, countships, and baronies. The manors we study are likely concentrated in the latter two categories.³ By 1700, the nobility had lost almost half of the land they held in 1654 (from 65 to 33 percent).

[Svedelius \(1851\)](#) describes the Great Reduction as an extensive administrative investigation. Although the commission sat in Stockholm, it relied on local governors in the provinces to search local records, investigate estates, and carry out orders of confiscation ([Svedelius, 1851](#), pp. 251–255). In practice, decisions were made case by case and often depended on what evidence could be assembled. Deeds and older land records were frequently missing or scattered across offices and private hands, sometimes even abroad, forcing ad hoc searches. As a result, outcomes could hinge as much on the availability of records as on the formal rules:

But with the allodial donations, the same situation arose as with the Norrköping resolution estates, namely that some had been transferred through purchase from man to man. [...] The Reduction Commission did not know where to find the sellers, nor whether they still owned the estates, how large they were, or where they were located. ([Svedelius, 1851](#), pp. 295–296, authors' translation)

2.3 Political Aftermath

Noble families appealed the confiscation decisions well into the eighteenth century, highlighting that the Great Reduction constituted a substantial financial shock rather than merely a change of ownership on paper. These petitions typically invoked long possession, prior investment in land, and compliance with established legal norms, such as vigilance in defending rights and the responsible management of estates. Although the overall success of such appeals is largely unknown, they illustrate how the Great Reduction was contested in both legal and moral terms ([Prytz, 2013](#), pp. 205–208).

The Great Reduction coincided with major institutional changes in political governance. In 1680, the Privy Council was dissolved and replaced by the Royal Council (*kungliga rådet*). Unlike its predecessor, the Royal Council assumed a more restricted role, serving only to provide counsel when requested by the king. These institutional changes were also reflected in the composition of political elites. A handful of individuals were dismissed

³See Table [E.3](#) for the types of confiscated properties.

from the Privy Council in direct connection with the Great Reduction. Figure A.4 displays the tenures of Privy Council members between 1600 and 1800. Dark-red lines represent individuals directly affected by the Great Reduction, ochre lines denote their descendants and ancestors, and gray lines denote all other council members. Before 1680, a large share of council members belonged to a small number of lineages that would later be affected by the Great Reduction; after 1680, only a few members came from families that had previously dominated the council. This pattern highlights a shift from what some historians refer to as a “Privy Council aristocracy” toward a more inclusive political system.

The nobility exercised only limited political power until 1719. The losses of the Great Northern War, the death of King Charles XII, and the uncertain succession that followed marked another critical juncture. Absolutism ended abruptly, and the nobility once again gained a more substantial role in political decision-making through the estate parliament and the Privy Council, a position it would retain until 1772.

One potential complication for our analysis concerns property rights in the post-Reduction period, since differential post-Reduction property regimes could affect the interpretation of our results if descendants of affected families faced less secure property rights than those not affected. The Great Reduction applied to fiefs that had been granted under different ownership conditions. For example, allodial property and baronies could be transferred freely to a son, whereas fiefs under the Norrköping decree faced greater restrictions. In general, the fiefs that were confiscated during the Great Reduction likely had more secure property rights than fiefs that were not confiscated. However, after the Great Reduction, property rights across different estates stabilized. The abolition of countships and the Noble Rights Act of 1723 introduced more standardized conditions governing the transfer and alienation of property.

3. DATA

Nobility The House of Nobility (*Riddarhuset*) maintained detailed handwritten family trees of the entire Swedish nobility.⁴ These records formed the basis for the extensive work

⁴The Swedish nobility proper consisted of families formally introduced to the House of Nobility. Until 1866, when the Riksdag of the Estates was dissolved, only these families had political rights and representation. Nobles who had not been introduced had neither. This group includes those granted titles after 1748 and noble immigrants naturalized as Swedish citizens. Each introduced family was represented in the Riksdag of the Estates by its head, usually the eldest son. In the 1700s, disputes over this role became more common, so the House of Nobility required families to submit genealogies for verification. This is one reason these genealogical records exist today.

done by the Swedish genealogist Gustaf Elgenstierna (1871–1948). Expanding upon the original family trees, [Elgenstierna \(1925–1936\)](#) incorporated comprehensive biographical details, drawing on the seminal work of [Anrep \(1858–1864\)](#) and a wide range of primary sources, including church records, university registries, and military archives. The House of Nobility OCR-scanned Elgenstierna’s work in the 1990s, and a private crowdsourced initiative made it available online in the early 2000s ([Adelsvapen, 2015](#)).⁵ This online version serves as our data source.⁶

Using the structured biographical text in [Adelsvapen \(2015\)](#), we compile a dataset of more than 116,000 individuals from 2,897 families introduced to the House. For each title-holding father, defined as a man alive from the 1600s onward under agnatic succession, the source provides a detailed biography.⁷ From these biographies, we extract names, birth years, occupations, education histories, partners, death places, and father–son links within noble families using regular expressions and large language models.⁸ We identify father–son links across noble families using the naming and formatting conventions in [Adelsvapen \(2015\)](#), supplemented by extensive manual cleaning and verification.

Manors Economic historian [Ulväng \(2024\)](#) has compiled the most extensive database of historical manors (*herrgårdar*) in Sweden and Finland, drawing on a wide range of primary and secondary sources.⁹ It covers all properties ever classified as manors and their ownership chains, using a broad definition that includes manor houses, manor and estate farms, seat farms, estates, fiefs, and castles. The definition captures all the major types of properties owned by the landed nobility but excludes the smaller or less significant farms

⁵Appendix Figure C.6 shows an example family tree from [Elgenstierna \(1925–1936\)](#). The corresponding entry in [Adelsvapen \(2015\)](#) appears in Figure C.7.

⁶There are several issues with using [Adelsvapen \(2015\)](#). First, although [Elgenstierna \(1925–1936\)](#) remains widely used, modern genealogists have shown that it contains many errors, especially incorrect dates and missing individuals. Some of these errors were corrected in two supplementary volumes published in 2008 ([Szabad, 2008](#)). A fully updated edition, incorporating the 2008 supplements and further work by the chief genealogist at the House of Nobility and research assistants, is scheduled for release in 2026. Once available, it will provide the first complete update since [Elgenstierna \(1925–1936\)](#), and we plan to update our dataset accordingly. Second, OCR of [Elgenstierna \(1925–1936\)](#) introduced typographical errors into the extracted text ([Lundholm, 2019](#)), which we corrected when necessary. Third, some information added by private contributors to the online database may contain inaccuracies.

⁷Families exit the data only when a male heir has no known sons.

⁸This extraction process is central to constructing our dataset. We describe it in detail in Appendix C.6 and define the text-based variables in Appendix C.7.

⁹The contents and construction of this database are described in [Ulväng \(2023\)](#).

(*strögårdar*) that were also part of their holdings.¹⁰

By scraping this online resource, we compile a dataset of 15,719 manors in Sweden and Finland spanning the sixteenth through twentieth centuries. In total, we observe 130,167 property-event records, each with a specific name and location, with at least one event identifying the property as a manor. Events record the start of ownership and include details such as the start year; property type; land-registry type (e.g., whether it is registered as noble or Crown land); ownership type (tenant or de facto owner); transaction type (e.g., whether the manor was transferred by inheritance or enfeoffment); the owner's name and title; and the name and title of the owner's partner.¹¹

We supplement this source with a comparable database compiled from archival records by [National Archives of Finland \(2023\)](#). It records manors held by prominent noble families in Finland and parts of Russia, including Karelia and Ingria. It contains 15,675 property-event records across 3,071 manors. Merging the Swedish and Finnish sources and removing duplicate manors by name yields 140,689 property-event records across 17,996 manors.

The Great Reduction Our database on manors allows us to classify a manor as seized in the Great Reduction if it was recorded as confiscated by the Crown between 1680 and 1717.¹² We then manually link the last observed owners of seized manors to nobles. Using these links, we classify a noble as affected by the Great Reduction if they were the last observed owner of a manor seized during the Great Reduction and held the manor after 1640. We describe the manual linking in detail in Appendix C.1.

The main data challenge of this paper is ensuring that the inferred set of affected nobles aligns with those actually affected by the Great Reduction. To assess the accuracy of our classification, we consult a wide range of primary sources. These materials are limited, difficult to access, and often ambiguous; the full scope of the Great Reduction remains imperfectly documented. Nonetheless, they represent the most authoritative accounts available prior to our own reconstruction.

While our approach extends and improves on [Svedelius \(1851\)](#), measurement remains

¹⁰A farmhouse is covered only when a manor either grew out of it or was later converted into it.

¹¹Appendix Figure C.8 shows an example for the manor *Läckö* in Västergötland, Sweden.

¹²Nearly all confiscations occurred within the first decade, although the reduction process formally continued until 1717, when the reduction commissions were dissolved. The policy determining which manors were to be confiscated did not change with Charles XII's accession in 1697, but the process slowed as the Great Northern War (1700–1721) intensified.

complicated by negotiations between fief-holders and the Crown. In some cases, families successfully challenged decisions by the Reduction Commission by exchanging smaller, less significant farms, likely unrecorded in [Ulväng \(2024\)](#), to prevent the confiscation of their manors ([Prytz, 2013](#)).

A few back-of-the-envelope calculations provide a rough sense of our ability to detect those affected by the Great Reduction. First, [Ulväng \(2024\)](#) includes all manors classified in [Almquist \(1931–1976\)](#).¹³ The underlying source material in [Almquist \(1931–1976\)](#) provides a comprehensive overview of manorial holdings in Sweden over a substantial geographical area, shown in Figure [A.3](#), from the sixteenth to the early eighteenth century. This region represents approximately 41 percent of the total taxable land (*mantal*) in Sweden around 1700.¹⁴ Furthermore, roughly 52 percent of the total monetary value of the manorial holdings in Sweden confiscated in the Great Reduction came from this region.¹⁵

Manors of the Nobility To measure wealth among the nobility over time, we link individuals in our database of the Swedish nobility to manor owners. We use full names with harmonized surnames (i.e., similar surnames are assigned a canonical form) and block on the first letter of the given name and whether the individual was alive at the start of ownership. For manor entries that match multiple individuals with similar name-string distances, we use a large language model to incorporate richer contextual information, such as details about spouses, and identify the correct noble owner.

To evaluate the quality of this procedure, we use the 772 manually matched “reduction entries” described above as a validation set: because these entries were linked by hand, they provide a ground truth against which the automated matches can be scored.¹⁶ Figure [C.3](#) shows how the matching procedure performs under different candidate blocking conditions and name-string-distance thresholds in terms of recall (the share of true matches successfully recovered) and precision (the share of proposed matches that are correct). We choose the threshold that maximizes the harmonic mean of recall and precision, known as the F1 score. Figure [C.4](#) traces the precision–recall trade-off under the chosen blocking conditions and shows how performance improves when an LLM discriminates among candidate

¹³Email correspondence with Göran Ulväng, 29 January 2025.

¹⁴Calculation based on Tables 3 and 5 in [Gadd \(2020\)](#).

¹⁵Calculation based on county-level estimates in [Svedelius \(1851\)](#).

¹⁶We focus on these 772 entries for practical reasons rather than drawing a random sample. Because these manors were owned by more prominent individuals, about whom more biographical information is available, the matching procedure is likely to perform somewhat better for this group than it would for a random set of entries.

matches with similar string distances.

Our preferred matching method achieves a recall rate of 72 percent and precision of 89 percent among the manually matched entries.¹⁷ The linking procedure is described in further detail in Appendix C.4. Summary statistics for the resulting linked sample are presented in Table B.1. Overall, 23,850 noble individuals (20.4 percent) are matched to at least one manor, and 60,456 property-event records (43 percent) are linked to noble individuals.

Manors were the core of aristocratic wealth. For the earliest benchmark years in which noble portfolios can be observed, 1750–1900, Bengtsson et al. (2019) find that rural real estate accounts for roughly half of noble wealth, a share measured after the Reduction had already removed much of the nobility’s land. Two independent checks support the measure. Cavalry-service assessments, a contemporary fiscal valuation of noble land compiled from military rolls, order the nobility much as our manor counts do (Appendix C.2). Linking the countships and baronies itemized by Svedelius (1851) to our data shows that the individuals we classify as affected account for 71 percent of the revenue involved (Appendix C.3).

A remaining concern is that manor ownership may have been a weak proxy for economically meaningful wealth, despite its correlation with many dimensions of status (Section 7.1). However, extensive historical work describes the Reduction as a genuine and substantial wealth loss with deep negative effects on affected families; Section 4 quotes contemporary testimony to that effect.

Political Office Wealth is not the only dimension along which the Reduction could have mattered, so we also measure access to political office. The Privy Council (*riksrådet*) was the highest advisory body to the monarch and its members were drawn almost exclusively from the leading noble families, which makes membership a natural indicator of political influence within the nobility. Using the biographical register compiled by Lewenhaupt (1962), we manually match council members to individuals in our dataset and identify 368 nobles who served between 1600 and 1791. We use this measure both as an outcome and as a way of distinguishing families with political access to the Crown from those without.

¹⁷Although our setting differs, a useful benchmark is linkage across adjacent full-count U.S. censuses. Price et al. (2021) report match rates of about 68–71 percent for the 1900–1910 and 1910–1920 links, with precision of around 88 percent, very close to our numbers.

4. EFFECTS ON CONFISCATED NOBLES' WEALTH

To document the first stage, which captures the extent to which the Great Reduction reduced the wealth of affected nobles, we estimate its effect on their manor ownership. Following [Kleven et al. \(2019\)](#), we estimate the following event-study specification:

$$y_{ist} = \sum_{j \neq -1} \alpha_j \mathbb{1}[j = t] + \sum_k \beta_k \mathbb{1}[k = \text{age}_{is}] + \sum_y \gamma_y \mathbb{1}[y = s] + \epsilon_{ist}. \quad (1)$$

Here, y_{ist} denotes the number of manors held by noble i in calendar year s at event time t , defined relative to the year of the first confiscation. Nobles remain in the sample after death, when any remaining manors are held by their estate, although recorded holdings typically drop to zero at death. The specification omits event time -1 and includes indicators for all other event times, along with age and calendar year fixed effects.

Figure 3 reports estimates of Equation (1), restricting event time to the window $[-20, 20]$. The thick blue line plots the coefficients on the event-time indicators, which trace the average number of manors owned relative to the first confiscation, net of age and calendar-year effects. Before the first loss, ownership rises gradually, consistent with life-cycle accumulation. At the event, affected nobles lose about 0.8 manors on average, from a pre-treatment mean of 2.7. After confiscation, ownership does not recover through exchange or compensation and declines little further, consistent with most confiscations occurring during the first decade of the Great Reduction, in the 1680s.

To assess whether this pattern could arise mechanically from the data or from arbitrary treatment timing, we conduct a randomization exercise. In each of 1,000 runs, we randomly assign placebo confiscation years to 355 nobles, matching the number treated in the original data, by sampling from the empirical distribution of confiscation years. The figure plots each resulting event study path in gray, along with the median across placebo draws in thick red. The median placebo path shows no systematic effect, and the baseline estimates lie well outside the distribution of randomized paths, indicating that the estimated effect is unlikely to arise from the structure of the data or from arbitrary treatment timing.

[Figure 3 about here.]

Qualitative Evidence Contemporaries experienced these losses as devastating. [Wienberg \(2025\)](#) draws on letters from the household of Magnus Gabriel De la Gardie, who lost more manors in the Reduction than almost anyone else. His secretary, Jonas Lorin, described the

period as “very evil, hard, and dangerous” and asked rhetorically what hope could remain for the wretched and dependent if even “the highest in the realm” were being so crushed.

5. EMPIRICAL STRATEGY

The event study in Section 4 establishes the immediate wealth shock within the confiscated generation. Tracing its effects to descendants requires comparing outcomes across lineages, which demands stronger assumptions. To estimate these intergenerational effects, we use a selection-on-observables design and estimate the following model:

$$y_{ilg} = \beta \text{Confiscated}_{il} + \gamma' \mathbf{X}_{ilg} + \epsilon_{ilg}. \quad (2)$$

Here, y_{ilg} denotes the percentile rank of noble i in lineage l and generation g in the wealth distribution, defined as the distribution of the number of manors held among nobles of the same generation and birth decade.¹⁸ Generation g of i is defined relative to the index father (with $g = 0$), where the index father is the last-born ancestor of i who was alive during the Great Reduction and is either affected or unaffected by confiscation. $\text{Confiscated}_{il} = 1$ if i in lineage l has an index father who owned at least one manor confiscated during the Great Reduction, and zero otherwise. $\mathbf{X}_{ilg}$ is a vector of controls. We use a binary indicator rather than the number of confiscated manors, as the latter is measured with greater error. The specification compares outcomes between affected and unaffected nobles, capturing both direct exposure and indirect exposure through intergenerational links to affected ancestors. Standard errors are clustered at the lineage level.

Our sample includes 1,086 of 2,850 index fathers for whom a father and at least one child can be observed. Only 140 are affected by confiscation. Among the 897 observed fathers of index fathers (index grandfathers), only 40 link both an affected and an unaffected index father. This limited overlap rules out a difference-in-differences style design with index-grandfather fixed effects. Within-index-grandfather variation is too limited to deliver meaningful statistical power. We therefore control parametrically for grandfather characteristics rather than exploiting within-grandfather comparisons.

To identify the causal effect of the Great Reduction, Confiscated_{il} must be exogenous. This assumption is plausible for two reasons. First, the reform did not target specific

¹⁸The reason for using percentile rank over alternative transformations (e.g., levels, logarithms, or the inverse hyperbolic sine) is that rank differences are invariant to scale changes and insensitive to changes in the shape of the underlying distribution of manor holdings. Given the 300-year horizon of our study, this improves the comparability and interpretability of coefficients across generations.

lineages or nobles but aimed to return previously granted fiefs to the Crown. Although some prominent nobles were disproportionately affected, [Rystad \(2003\)](#) argues that such cases were rare. Confiscation may proxy for changes in political power, as the reform weakened the high nobility relative to the Crown. The Privy Council was itself dissolved in 1680, so the small number of dismissals during the reform period, shown in [Figure A.1](#), is not evidence that affected families retained influence. Our estimates should therefore be read as the reduced form of a joint shock to landed wealth and political standing; we return to the political dimension in [Section 7.2](#). Second, as discussed in [Section 2](#), implementation depended heavily on the availability of documentation. Contemporary accounts describe missing or dispersed land records, such that confiscation could depend as much on record availability as on formal rules.

Nonetheless, to address remaining concerns about preexisting differences, we focus on the characteristics of index fathers. We condition on characteristics that capture their economic and political status: birth decade; manors owned before 1680; number of children; father characteristics, defined as index-grandfather characteristics; and dynasty characteristics, including indicators for high nobility and Privy Council membership.

[Figure 2](#) compares affected and unaffected index fathers along these dimensions by reporting normalized differences. We report these differences both unadjusted and after inverse probability weighting (IPW) using three predictors: pre-1680 manorial holdings, number of children surviving to age 18, and birth decade. The dashed lines at ± 0.25 indicate a common rule-of-thumb threshold; values outside this range may signal meaningful imbalance and warrant further scrutiny ([Imbens and Rubin, 2015](#), p. 277). The reweighting is intentionally parsimonious and substantially reduces imbalance, with most covariate differences falling within the ± 0.25 band. This suggests that a small set of predictors explains much of the difference between affected and unaffected nobles and yields good balance on observables.

[[Figure 2](#) about here.]

6. EFFECTS ON DESCENDANTS' WEALTH

This section presents the effects of the Reduction on descendants' wealth, measured by the number of manors owned.¹⁹ We first show that these effects are substantial and persistent

¹⁹Throughout, we use wealth and manors owned interchangeably. However, equating the two is not unproblematic. Using probate inventories from between 1750 and 1900, [Bengtsson et al. \(2019\)](#) find that

(Section 6.1), then that they are robust to a wide range of sensitivity checks (Section 6.2), and finally relate their magnitude to benchmarks from the intergenerational-mobility literature (Section 6.3).

6.1 Results

Table 1 presents our main results. We report coefficient estimates across five generations of descendants. The analysis is restricted to individuals who reached age 18. The outcome is the percentile rank of manors owned, computed within birth decades.

[Table 1 about here.]

We use *index fathers* to denote both those affected by the Reduction and their controls, who, by virtue of the birth-decade fixed effects, are drawn from the same birth decades. Gen. 1 denotes their children, 2 their grandchildren, and so on. We provide summary statistics of the regression sample in Table B.3. The fifth generation is on average born around 1830, 150 years after the Great Reduction. We restrict the analysis to five generations of descendants, as the number of treated lineages decreases sharply with each generation such that only a few treated lineages remain beyond five generations. Since surviving lineages branch out, however, the number of treated descendants remains stable across generations.

Column 1 includes father birth-decade fixed effects, the father’s number of children, and a linear control for his pre-Reduction wealth rank. Column 2 additionally includes a linear control for the grandfather’s pre-Reduction wealth rank as well as an interaction between the father’s and grandfather’s wealth ranks. Column 3 further adds indicators for whether the father belonged to the Privy Council and to the high nobility in 1680, together with their interaction, as well as controls for the father’s birth order and partner status. The coefficients are stable across these three specifications, showing almost no sign of attenuation as more controls are added.

rural real estate accounted for about half of noble wealth. Their category is broader than manors, covering farmland, mills, and other rural holdings. Their earliest benchmark year postdates the Reduction by seventy years, and the portfolio shares they observe are themselves measured after the confiscation, so they bound the role of manorial wealth in our period only loosely. The constraint is not specific to Sweden. Probate inventories become systematic only once they are made compulsory, which in Sweden happened with the Civil Code of 1734, in force from 1736, and the earliest usable benchmark year is 1750. Earlier cross-sections of assessed wealth exist, but we are aware of no setting in which individual wealth can be observed repeatedly and linked across generations before the middle of the eighteenth century.

Children of those affected by the Reduction rank about 5 percentile points lower in manor ownership than comparable children whose fathers were not affected. Our main finding is that this effect does not fade over time: four generations later, descendants of affected individuals are still less wealthy, as measured by the number of manors owned. The fifth-generation estimate points the same way but is not precise enough to reject the null on its own. The persistence suggests that noble families maintained their relative wealth rankings across generations following the Great Reduction.

The results need to be understood in light of the prevailing institutional features. The fact that the Great Reduction was followed by a relatively peaceful era of gradual progress rather than stark upheavals, during which the nobility's overall share of manors remained broadly stable, likely contributes to this persistence. As [Bengtsson et al. \(2019\)](#) point out, this stability was likely reinforced by the Noble Rights Act of 1723, which reaffirmed the nobility's control over their estates and limited state interference in how noble land was managed.²⁰

Furthermore, [Dackling et al. \(2025\)](#) emphasizes how the land-owning nobility established inheritance arrangements aimed at keeping property intact and securing the material basis of the lineage; manorial wealth remained central to noble status, giving families strong incentives to preserve and consolidate what remained of their estates across generations.

6.2 Robustness

Alternative Treatments In our main specification we focus on descendants of individuals who had a manor confiscated. As an alternative, we also include descendants of individuals whose female spouse had manors confiscated, since a woman's descendants are recorded in our data under her husband's line, so exposure through a wife is not always observable on the individual we follow. While the preferred treatment definition yields 381 treated index fathers, this alternative definition yields 545 treated index fathers. We display these results in [Table B.4](#).

Including Children Because many of our outcomes, such as occupation, are only meaningful for adults, our main specification restricts the sample to individuals who survive

²⁰Interestingly, in stark contrast to the period of the Great Reduction, the Noble Rights Act of 1723 introduced explicit constraints on Crown appropriation of noble land. §24 commits the Crown not to acquire or remove noble estates in ways that would weaken the nobility, and §25 stipulates that such land, if taken, must be redeemed back into noble ownership. This settlement likely reflects the legacy of the Reduction.

to age 18. As a robustness check, we also include individuals who died before reaching adulthood. As shown in Table B.6, the results remain largely unchanged.

Birth Order A common pattern among the landed nobility is that the eldest son inherited a disproportionate share of family wealth. This pattern might suggest focusing the analysis on eldest sons only. However, as shown in Figure A.2, firstborn sons are only modestly more likely than later-born sons to own a manor, by roughly 5 percentage points. Inheritance was therefore not sufficiently concentrated in the eldest son to warrant restricting the analysis to firstborn sons alone.

Rank Definition Our outcome ranks descendants within birth decade, which normalizes within cohorts. Ranking each descendant against his entire generation instead yields similar estimates, reported in Table B.5: slightly larger in absolute value in the first four generations, -6.9 rather than -5.5 in the first, and marginally smaller in the fifth. The results are therefore not an artifact of the within-cohort normalization.

Restricting to Surviving Lineages The effect in generation g combines transmission from generation $g - 1$ to generation g with compositional change across generations as lineages die out. To isolate the intergenerational transmission of wealth, we restrict the sample in Table B.7 to lineages for which we observe at least five generations. This restriction induces survivorship bias if lineage survival is itself an outcome of the Reduction. In Table B.2, we directly assess whether affected lineages survive fewer generations. We find no evidence that they do, although the point estimates are in that direction.

6.3 Benchmarking Against Measures of Intergenerational Mobility

We interpret the magnitude of our estimates by asking how they relate to standard measures of intergenerational mobility. A large literature summarizes persistence in socioeconomic status using rank–rank regressions of the form

$$R_{ig} = \alpha_g + \phi_g R_{i0} + \varepsilon_{ig}, \quad (3)$$

where R_{i0} denotes wealth or income rank for the index generation and R_{ig} is the corresponding rank for a descendant in generation g . See Stuhler (2024) for a summary of recent studies on multigenerational mobility.

The coefficient ϕ_g is a measure of persistence that captures the extent to which families that are high-ranked in the index generation have high-ranked descendants g generations later. However, it does not necessarily identify the causal effect of an exogenous shift in R_0 , since it may also reflect shared traits, assortative matching, and other confounding family characteristics.

We benchmark the causal propagation of the wealth shock against the propagation that would be implied by Equation (3).

This comparison serves two purposes. First, it provides a useful benchmark for whether our causal estimates are of a plausible order of magnitude relative to widely used mobility statistics. Second, and more importantly, it allows us to assess whether descriptive intergenerational correlations can be interpreted as reflecting causal wealth transmission.

Let ΔR_0 denote the change in wealth rank for the index generation implied by the wealth shock. We obtain ΔR_0 by taking the average number of manors lost among treated index individuals from Section 4 and mapping this loss into rank points using the empirical distribution of manors in the index generation. For descendants, let ΔR_g denote our reduced-form estimate of the effect of treatment exposure in generation 0 on the descendant's wealth rank in generation g .

To benchmark these estimated effects, we estimate the rank–rank persistence coefficient ϕ_g from Equation (3) for each g using the same rank definition. Given ϕ_g and ΔR_0 , a simple mobility-implied prediction for the effect of the shock on generation g wealth rank is

$$\widehat{\Delta R_g}^{impl} \equiv \phi_g \cdot \Delta R_0. \quad (4)$$

Finally, we summarize the comparison between the estimated effects and the mobility-implied prediction using

$$\kappa_g \equiv \frac{\Delta R_g}{\phi_g \Delta R_0}. \quad (5)$$

If rank–rank persistence primarily reflected causal wealth transmission, one would expect κ_g to be close to one. Values of κ_g below one would indicate that the shock propagated less than implied by the mobility correlation, consistent with the concern that ϕ_g partly reflects persistent family traits rather than wealth itself. Conversely, values of κ_g above one indicate that the causal propagation of the shock is larger than what would be implied by the descriptive rank–rank slope.

Table 2 reports estimates of the causal effects ΔR_g , the estimated persistence parameters ϕ_g , the mobility-implied predictions $\phi_g \Delta R_0$, and the resulting ratios κ_g . Across descendant

generations, the causal effects are negative and sizable.²¹ In contrast, the estimated rank–rank coefficients ϕ_g are comparatively small and decay across generations, although more slowly than predicted by an AR(1) process, which implies modest benchmark effects. As a result, κ_g is substantially greater than one for all g , indicating that the causal propagation of the wealth shock is much larger than the descriptive rank–rank persistence would suggest.

[Table 2 about here.]

A natural interpretation of the large effects relative to the mobility-implied estimates is that the estimated ϕ_g values understate true persistence because of attenuation bias.

It is well known that intergenerational mobility estimates, including rank–rank estimates, can be substantially attenuated by measurement error in the proxy used for economic status, especially in historical settings with discrete and noisy wealth measures (Nyblom and Stuhler, 2017). Such attenuation would reduce ϕ_g and therefore shrink the mobility-implied benchmark $\phi_g \Delta R_0$ in Equation (4), pushing κ_g upward even if the underlying causal propagation were more modest.

Viewed through this lens, our results are consistent with substantial intergenerational persistence not captured by measures of intergenerational correlations: the causal effects ΔR_g remain large across descendant generations, while the descriptive rank–rank slopes may be biased toward zero.

7. EFFECTS BEYOND WEALTH

Beyond wealth, we study a broad set of outcomes capturing other dimensions of socioeconomic status and life chances in the noble population. We focus on four groups of outcomes: demographic characteristics, military careers, marriage-market outcomes, and occupation and human capital. Across these analyses, we generally find small effects that are statistically indistinguishable from zero. The effects are fairly precisely estimated; Section 7.1 considers the effect sizes we might expect to detect. Descendants of affected families marry at the same age and are equally likely to have a partner. Conditional on having a partner, they are equally likely to have a noble partner; conditional on having a noble partner, they have similarly wealthy fathers-in-law. We likewise find no evidence of adjustment along demographic or military margins.

²¹The generation-1 rank–rank coefficient (0.19) is close to modern Swedish estimates of intergenerational income mobility. Using register data on the 1968–1976 birth cohorts, Heidrich (2017) estimates a child–father income rank–rank slope of 0.19 and a child–parent slope of 0.20.

Although not statistically significant, the coefficients are negative across the human-capital and career outcomes. These patterns provide little support for the idea that the wealth shock pushed descendants toward a service-nobility trajectory centered on administrative careers or other prestigious occupations. If anything, the estimates point in the opposite direction, suggesting that landed wealth and elite careers were complementary components of the same underlying social rank.

[Table 3 about here.]

The combination of large wealth effects and near-zero effects on many other dimensions is surprising. To interpret this pattern credibly, however, we need to show that the non-wealth outcomes measure something real in this historical context rather than being mostly noise.

7.1 Benchmarking Against Cross-Sectional Wealth Gradients

We next benchmark the estimated effects on non-wealth outcomes against the cross-sectional relationship between wealth and these outcomes.²² To increase statistical power, we pool the analysis across the first five descendant generations. Pooling across generations is not innocuous, but it is useful here because the estimated effects of the Reduction on manor rank are fairly similar across these generations. Rather than relying on raw correlations, we estimate a pooled conditional wealth gradient controlling for parent birth decade and descendant generation. This provides a descriptive benchmark for how outcomes vary with wealth among broadly comparable individuals, without imposing the full set of controls from the main regression model. For each outcome Y , we estimate its pooled conditional relationship with manor rank, denoted $\hat{\gamma}_Y$, and combine this with the pooled treatment effect on manor rank, $\widehat{\Delta M}$. This yields an *implied change*,

$$\widehat{\Delta Y}^{impl} = \hat{\gamma}_Y \cdot \widehat{\Delta M}, \quad (6)$$

which we compare to the corresponding pooled treatment effect on the outcome.

[Figure 4 about here.]

Figure 4 helps put the null results for outcomes other than manors in perspective. Panel A reports standardized estimates of $\hat{\gamma}_Y$: the outcomes covary with manor rank in the

²²The benchmarking exercise in this subsection follows Bleakley and Ferrie (2016) and Cesarini et al. (2017).

expected directions, but the gradients are modest. Panel B combines these gradients with the estimated effect of the Reduction on manor rank, pooled across descendant generations. Although the Reduction had a large and persistent effect on manorial wealth, the implied effects on other outcomes are small, typically well below 0.1 standard deviations. In this sense, the absence of statistically significant effects on most non-wealth outcomes is not surprising. If the Reduction affected these outcomes through descendants' wealth, the resulting changes would be difficult to detect in our sample. The exercise suggests that the wealth shock was large enough to persist in the distribution of manorial wealth but not large enough to generate major shifts in other dimensions of status.

7.2 Benchmarking Against Royal Council Lineages

We provide a second validation exercise by examining whether the outcomes respond to an alternative measure of elite status. To do so, we re-estimate the same specifications as in the main analysis but replace the Great Reduction indicator with an indicator for being a descendant of an individual who served on the Royal Council (i.e., the body that replaced the Privy Council between 1680 and 1719). These councilors constituted a post-Great Reduction political elite that replaced the older political elite around the time of the Reduction, although the older elite was not necessarily adversely affected by the wealth shock.

Lineages in which someone attains Royal Council membership are likely to be on systematically different trajectories from lineages in which no one does. Even so, the patterns are informative in three ways. First, associations that persist across descendant generations provide evidence of durable status transmission. Second, the exercise directly validates our measures: if outcomes such as assortative matching in the marriage market, occupational prestige, and elite administrative careers respond to this measure of elite status, these outcomes likely capture meaningful dimensions of elite standing rather than noise. Third, the exercise offers suggestive evidence consistent with a shift in elite composition. Following the Great Reduction, the Privy Council was gradually replaced by individuals who did not belong to the old nobility that had dominated it throughout the seventeenth century, as shown in Figure A.4. The status of this new elite persisted beyond the formal power associated with council membership.

Table B.8 reports the results. They suggest that Royal Council lineages were characterized by higher political and administrative status rather than by landed wealth. Relative to other high-nobility families, their descendants were more likely to die in Stockholm and much

more likely to enter elite administrative careers. Within the very top of Swedish society, Royal Council families may have been tied more closely to the central state bureaucracy than to landed wealth.

Some of the other patterns are harder to interpret. The negative coefficients on age at first marriage and the positive coefficients on noble partner and father-in-law wealth are consistent with stronger status-based assortative matching, but it is not obvious why these families would marry into wealthier families while not appearing wealthier themselves on manor ownership. One interpretation is that they belonged to a relatively new elite whose status derived less from inherited landholding and more from political office, yet who still had sufficient prestige to marry into more landed noble families. The negative, though mostly imprecise, lifespan coefficients are also somewhat puzzling; one possibility is that living in Stockholm and other cities was associated with less favorable disease environments.

Taking Stock Taken together, the results show substantial and persistent effects of the Great Reduction on wealth but essentially no effects on a broad range of other outcomes. The validation analyses confirm that these non-wealth outcomes meaningfully measure socioeconomic position in our context. The null findings can therefore be interpreted as real: beyond wealth, the nobility appears to have been largely resilient to the Great Reduction's consequences.

8. CONCLUSION

This paper examines how long a large wealth shock persists across generations and whether it erodes elite status. Using the Great Reduction of 1680, a major confiscation of noble estates in Sweden, together with newly digitized genealogical records and data on manorial holdings, we follow affected families over three centuries. The effects on landed wealth are substantial and persistent: descendants of affected families hold fewer manors for at least four generations. In contrast, effects on careers, marriages, human capital, and demographic outcomes are limited. These null results do not appear to reflect weak measures. The same outcomes respond sharply when we replace exposure to the Reduction with descent from the post-1680 political elite, whose descendants were markedly more likely to enter elite administrative careers.

This contrast matters for how studies of intergenerational mobility measure persistence. Much of this literature treats different measures of status as proxies for the same underlying

process. Our results show that a shock to landed wealth can persist across generations without producing comparable changes in careers, marriage patterns, or human capital. They also indicate that conventional mobility correlations understate causal transmission: the effect of the Reduction on descendant wealth exceeds what the estimated rank–rank slopes imply, by a factor rising from about two in the first generation to nearly thirty in the fourth.

These findings contribute to the literature on the long-run persistence of inequality and intergenerational mobility, in which evidence from causal wealth shocks and long-run status correlations is mixed. Our results indicate greater persistence of wealth shocks than some previous studies have found. This persistence is unlikely to be a universal feature of wealth shocks, however. It may partly reflect a setting with relatively stable political and economic institutions and a tradition of keeping landed wealth within the family.

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FIGURES

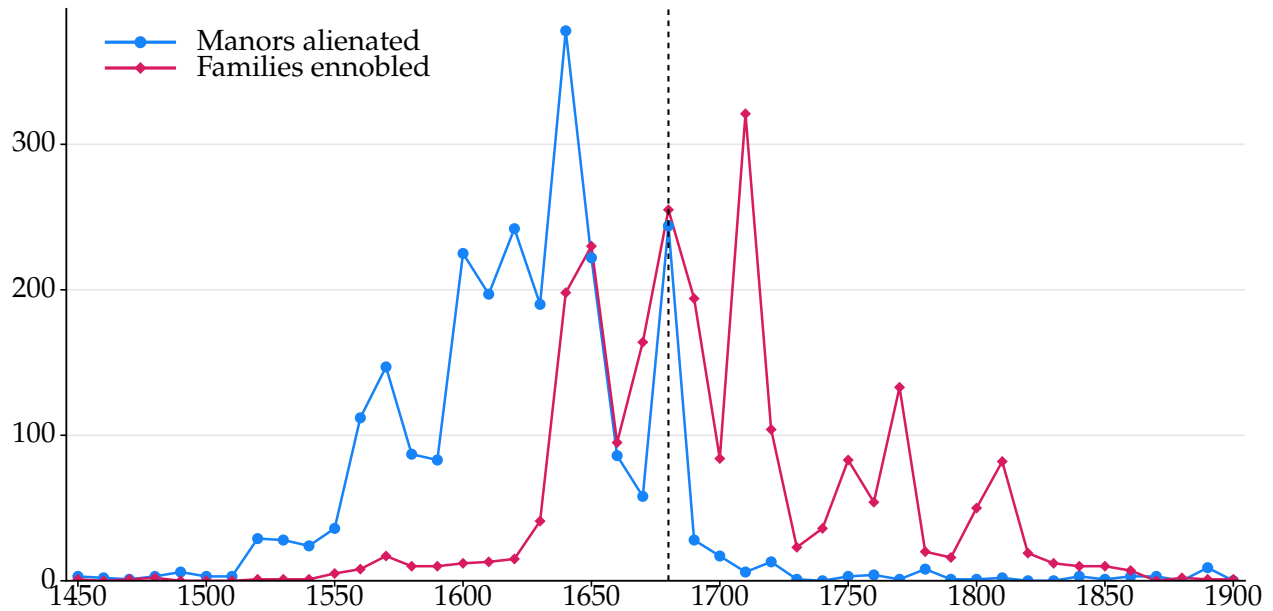


FIGURE 1: TRANSFER OF ECONOMIC AND POLITICAL POWER

Notes: Figure shows the decadal numbers of manors alienated and families ennobled. Connected circles denote alienated manors, and connected diamonds denote ennobled families. Families are dated by year of ennoblement and restricted to those subsequently introduced at the House of Nobility (*Riddarhuset*), which defines our estimation sample and comprises the only nobles represented in the Riksdag of the Estates. The restriction binds before 1626, when introduction did not yet exist, and after 1748, when ennoblement without introduction became common; between those dates, introduction ordinarily followed ennoblement. The dashed vertical line marks the beginning of the Great Reduction in the 1680s. Data are from [Ulväng \(2024\)](#) and [Elgenstierna \(1925–1936\)](#).

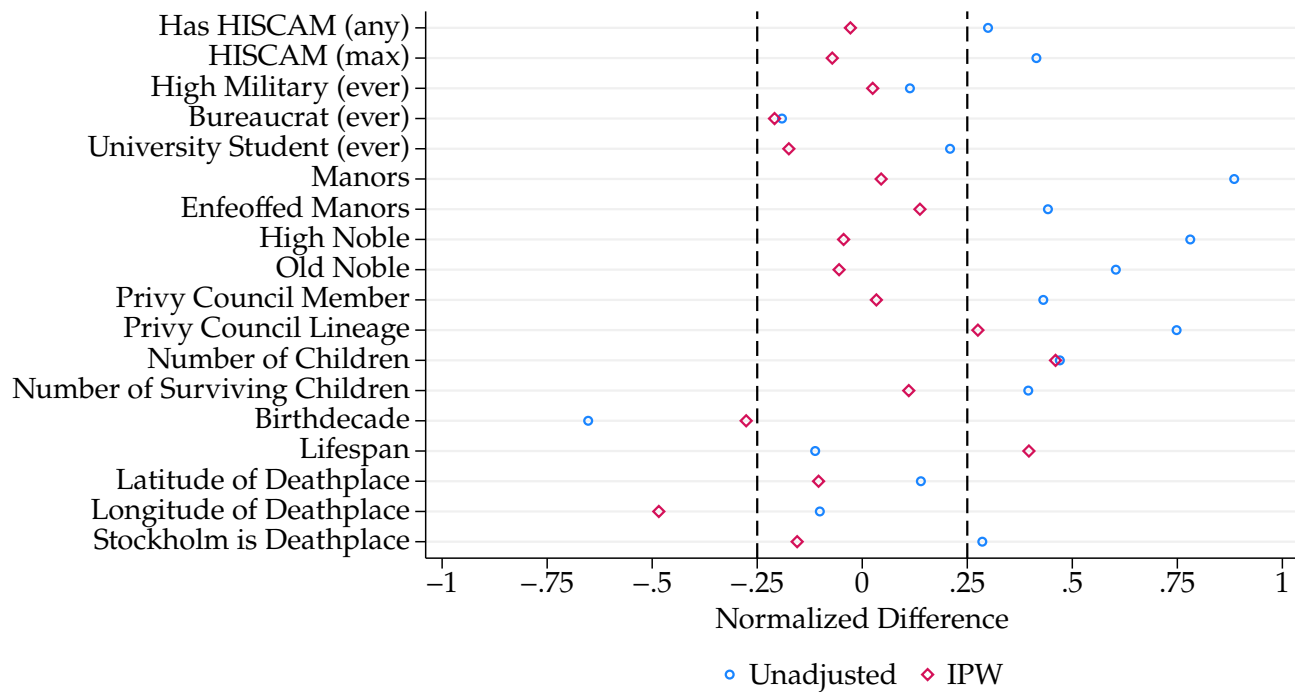


FIGURE 2: BALANCE IN PREDETERMINED CHARACTERISTICS

Notes: Figure plots normalized differences in characteristics between affected and unaffected index fathers. The normalized difference is $\frac{\bar{x}_1 - \bar{x}_0}{\sqrt{(s_1^2 + s_0^2)/2}}$, where $\bar{x}_1$ (s_1^2) and $\bar{x}_0$ (s_0^2) denote the sample mean (variance) of x for affected and unaffected nobles, respectively. The comparison sample is restricted to nobles born in the same birth decades as the affected group. “Unadjusted” reports raw differences; “IPW” reweights observations using pre-1680 manorial holdings, the number of children surviving to age 18, and birth decade.

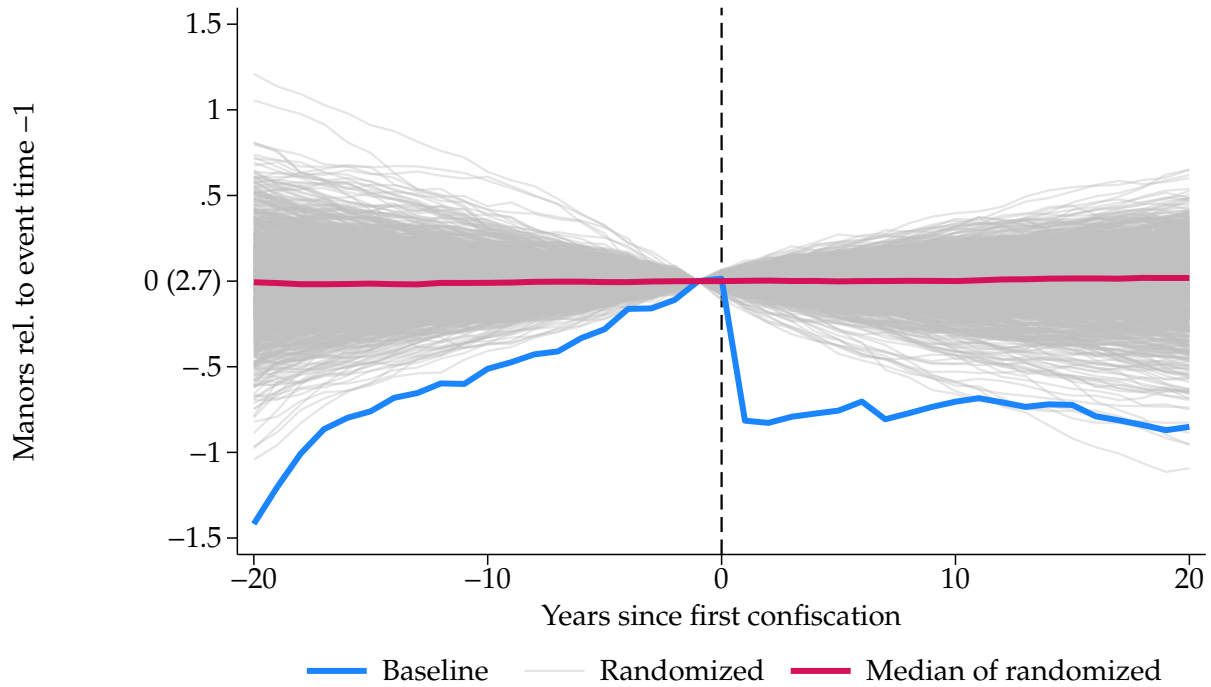
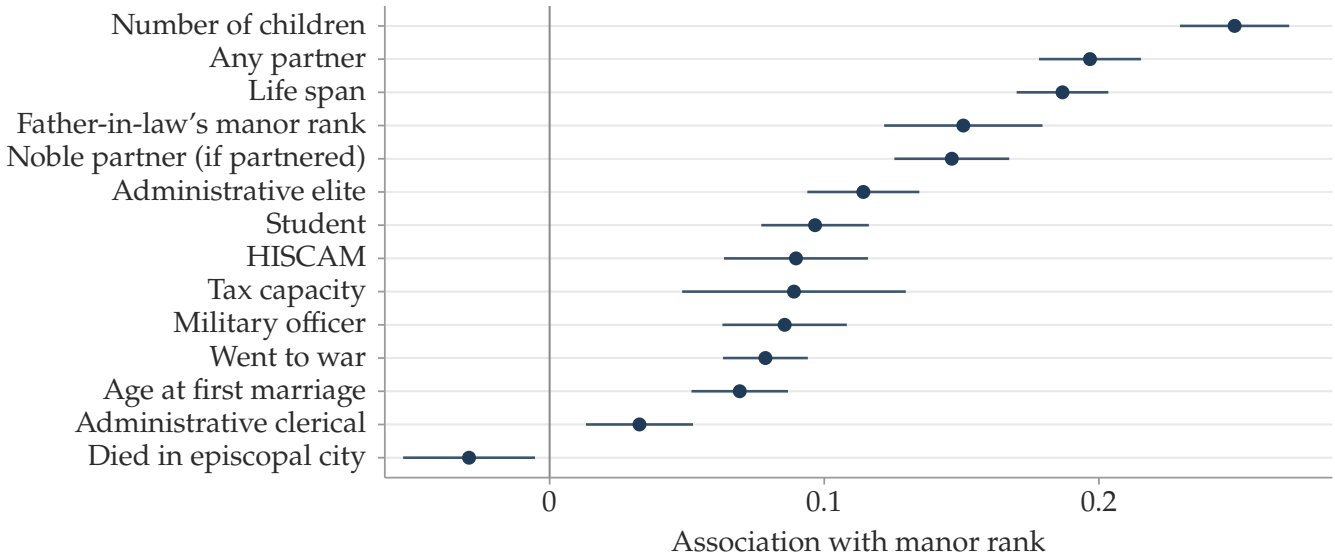


FIGURE 3: EFFECTS OF THE REDUCTION ON WEALTH IN THE CONFISCATED GENERATION

Notes: Figure shows event-study estimates from Equation (1) of the effect of the Great Reduction on the number of manors held by affected nobles. The thick blue line reports coefficient estimates using the actual timing of the first confiscation. Gray lines report coefficient paths from placebo assignments. In each of 1,000 draws, we randomly select 355 nobles, equal to the number of treated nobles in the data, assign each a placebo first-confiscation year drawn from the empirical distribution of confiscation years, and re-estimate Equation (1). The thick red line reports the median coefficient across placebo draws at each event time. The parenthetical beside event time 0 reports the sample mean number of manors one year before the first confiscation.

A: CROSS-SECTIONAL WEALTH GRADIENT



B: REDUCED-FORM EFFECT VS. IMPLIED CHANGE

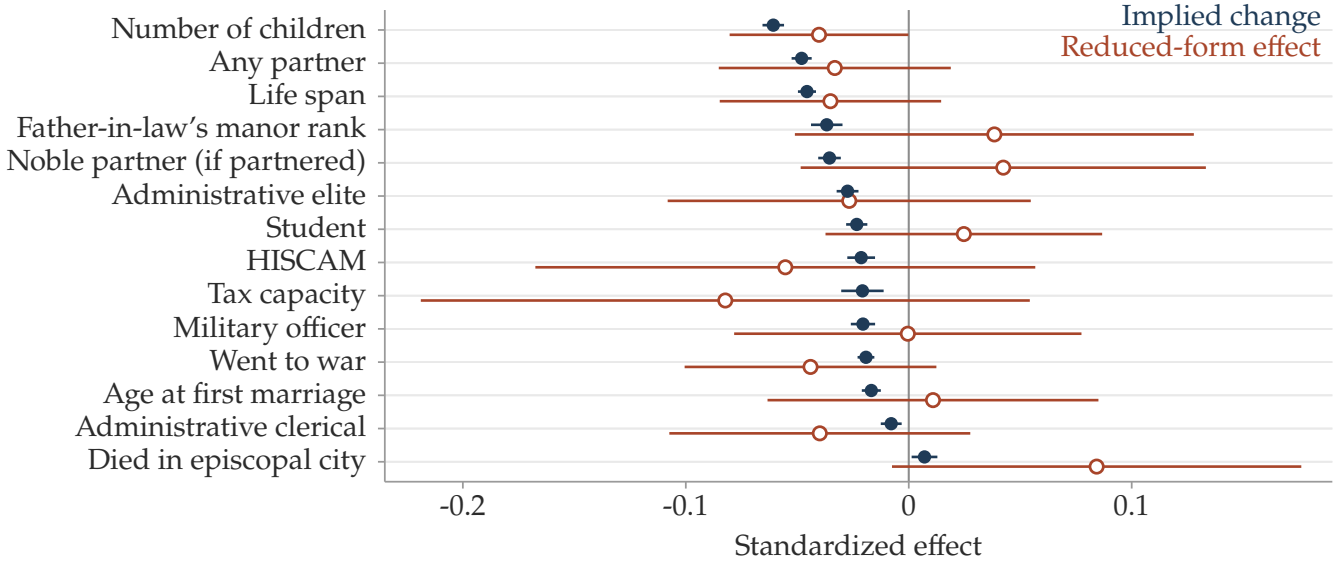


FIGURE 4: CROSS-SECTIONAL WEALTH GRADIENTS AND IMPLIED EFFECTS

Notes: Panel A plots coefficients from regressions of standardized outcomes on standardized manor rank, estimated on the pooled sample of descendant generations 1–5 with parent birth-decade and generation fixed effects. Panel B compares the estimated pooled treatment effect for each outcome, $\widehat{\Delta Y}^{\text{RF}}$, with the implied change $\widehat{\Delta Y}^{\text{impl}} = \hat{\gamma}_Y \cdot \widehat{\Delta M}$, obtained by multiplying the pooled conditional wealth gradient by the estimated pooled treatment effect on manor rank. Outcomes are ordered by the size of the gradient in Panel A. Horizontal lines show 95 percent confidence intervals based on standard errors clustered at the lineage level.

TABLES

TABLE 1: EFFECTS OF THE REDUCTION ON DESCENDANT WEALTH

Generation	Observations	Mean dep. var.	(1)	(2)	(3)
1	3,683	55.99	−5.48 (2.19)	−4.94 (2.26)	−4.63 (2.24)
2	3,777	57.94	−6.81 (2.28)	−6.31 (2.27)	−6.07 (2.30)
3	3,938	58.23	−8.97 (3.02)	−7.38 (3.08)	−6.90 (3.07)
4	4,026	58.36	−14.46 (4.59)	−12.90 (4.63)	−12.30 (4.56)
5	3,727	57.53	−10.11 (4.98)	−9.05 (5.18)	−7.90 (4.87)
<i>Controls</i>					
Birth-decade fixed effects			✓	✓	✓
Index-father controls			✓	✓	✓
Index-grandfather controls				✓	✓
Additional family controls					✓

Notes: Table reports OLS estimates of the effect of the Great Reduction on descendants' manor-ownership percentile rank, constructed within birth decades. Generations are defined relative to the index father; generation 1 comprises children, generation 2 grandchildren, and so on. Entries in columns 1–3 are treatment coefficients. The mean dependent variable is calculated among unaffected descendants. The sample is restricted to descendants who survived to age 18. Index-father controls include the index father's pre-Reduction manor rank and number of children. Index-grandfather controls add the grandfather's manor rank and its interaction with the father's rank. Additional family controls add indicators for high nobility and Privy Council membership, their interaction, and the index father's birth order and partner status. Standard errors are clustered by index-father lineage and reported in parentheses.

TABLE 2: ESTIMATED WEALTH EFFECTS AND RANK-RANK PERSISTENCE

Generation g	Causal effect ΔR_g (SE)	Rank-rank ϕ_g (SE)	Mobility-implied $\phi_g \Delta R_0$	Ratio κ_g
1	-4.63 (2.24)	0.1861 (0.0048)	-2.01	2.30
2	-6.07 (2.30)	0.1074 (0.0050)	-1.16	5.23
3	-6.90 (3.07)	0.0660 (0.0051)	-0.71	9.68
4	-12.30 (4.56)	0.0418 (0.0055)	-0.45	27.27
5	-7.90 (4.87)	0.0224 (0.0060)	-0.24	32.70

Notes: Table benchmarks the estimated causal effects of the Great Reduction on descendants' wealth ranks against predictions from descriptive rank-rank persistence. Wealth ranks R are percentile ranks constructed within birth-decade cohorts. $\Delta R_0 = -10.8$ is the implied rank shift in the index generation, obtained by mapping the average manor loss among treated index individuals into rank points using the pre-shock distribution of manors. ΔR_g is the column-3 treatment estimate from Table 1; standard errors in parentheses are clustered by lineage. ϕ_g is estimated by regressing descendant rank R_g on ancestor rank R_0 , with descendant birth-decade fixed effects and standard errors clustered by ancestor. The mobility-implied prediction is $\phi_g \Delta R_0$, and $\kappa_g = \Delta R_g / (\phi_g \Delta R_0)$.

TABLE 3: EFFECTS OF THE REDUCTION ON OTHER OUTCOMES

Outcome	Generation				
	1	2	3	4	5
<i>Panel A. Wealth</i>					
Manors rank	−4.08 (1.84)	−6.25 (1.95)	−6.44 (2.43)	−9.36 (3.67)	−5.61 (4.08)
<i>Panel B. Demographics</i>					
Died in episcopal city	0.05 (0.03)	0.07 (0.04)	0.02 (0.03)	0.02 (0.04)	0.02 (0.04)
Died in Stockholm	0.05 (0.03)	0.05 (0.04)	0.02 (0.03)	0.00 (0.03)	0.03 (0.04)
Lifespan	−0.32 (1.00)	−1.21 (1.04)	−0.98 (0.96)	−0.94 (1.07)	−0.25 (1.19)
Number of children	−0.16 (0.14)	−0.22 (0.14)	0.00 (0.13)	0.09 (0.13)	−0.35 (0.13)
<i>Panel C. Military</i>					
Military officer	0.02 (0.03)	0.01 (0.03)	−0.02 (0.03)	0.03 (0.04)	−0.02 (0.04)
Went to war	0.00 (0.02)	−0.01 (0.02)	−0.05 (0.02)	−0.01 (0.02)	0.00 (0.01)
<i>Panel D. Marriage</i>					
Any partner	−0.03 (0.02)	−0.01 (0.02)	0.01 (0.03)	0.00 (0.03)	−0.05 (0.03)
Age at first marriage	0.69 (0.59)	−0.36 (0.55)	−0.77 (0.59)	0.45 (0.56)	0.45 (0.55)
Noble partner partner	0.01 (0.03)	0.06 (0.03)	0.03 (0.04)	−0.01 (0.04)	0.01 (0.04)
Manors rank (father-in-law)	1.58 (1.91)	−0.15 (2.26)	−1.21 (2.52)	1.87 (2.58)	6.43 (3.43)
<i>Panel E. Human capital</i>					
HISCAM	−2.15 (1.81)	−1.46 (1.99)	−2.29 (2.04)	−0.53 (1.69)	0.34 (1.44)
Tax capacity	−2.23 (1.70)	−2.07 (1.55)	0.71 (1.10)	−0.51 (1.17)	−0.92 (1.42)
Administrative clerical	−0.03 (0.01)	−0.03 (0.02)	−0.01 (0.01)	0.01 (0.02)	0.00 (0.03)
Administrative elite	−0.02 (0.03)	−0.02 (0.03)	−0.02 (0.03)	−0.02 (0.03)	0.02 (0.03)
Student	−0.01 (0.01)	−0.01 (0.01)	0.00 (0.02)	0.05 (0.02)	0.06 (0.03)

Notes: Table reports OLS estimates from the fully controlled specification in column 3 of Table 1, replacing manor rank with the outcome listed in each row. Generations are defined relative to the index father. Entries are treatment coefficients. The sample is restricted to descendants who survived to age 18. Outcomes are defined in Appendix C.7. Standard errors are clustered by index-father lineage and reported in parentheses.

APPENDIX

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A. APPENDIX FIGURES

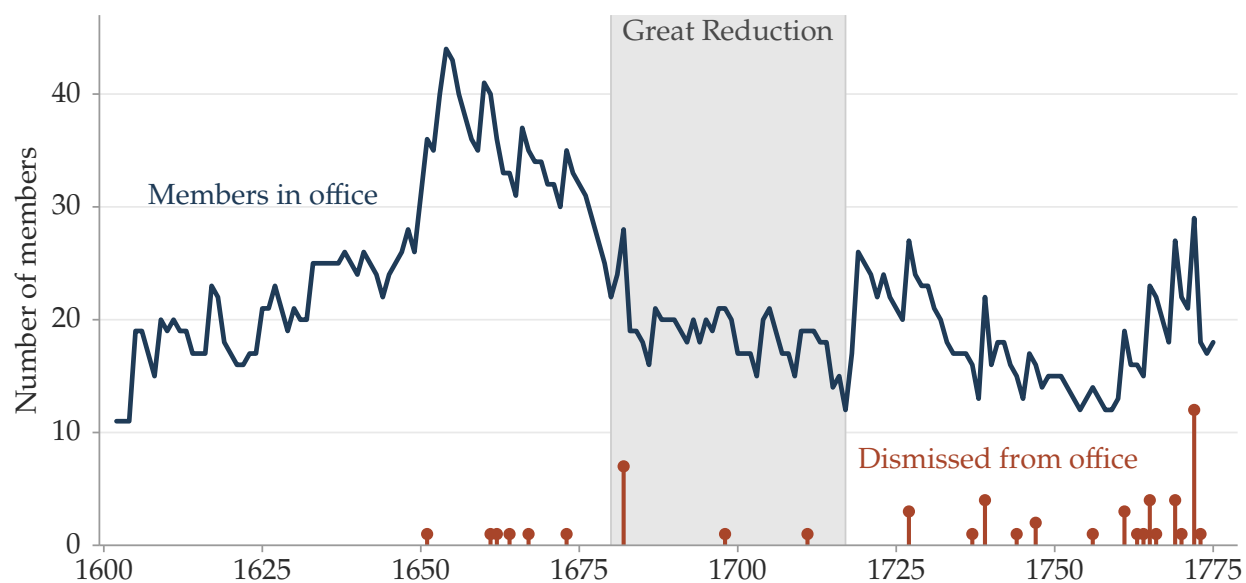


FIGURE A.1: PRIVY COUNCIL MEMBERSHIP AND DISMISSALS OVER TIME

Notes: Figure plots the number of Privy Council members over time and the number dismissed from office rather than those who died in service. Dismissals are shown as vertical spikes. The shaded area marks the Great Reduction, 1680–1717. The series does not distinguish between the Privy Council and the Royal Council during 1680–1719. Data are from [Lewenhaupt \(1962\)](#).

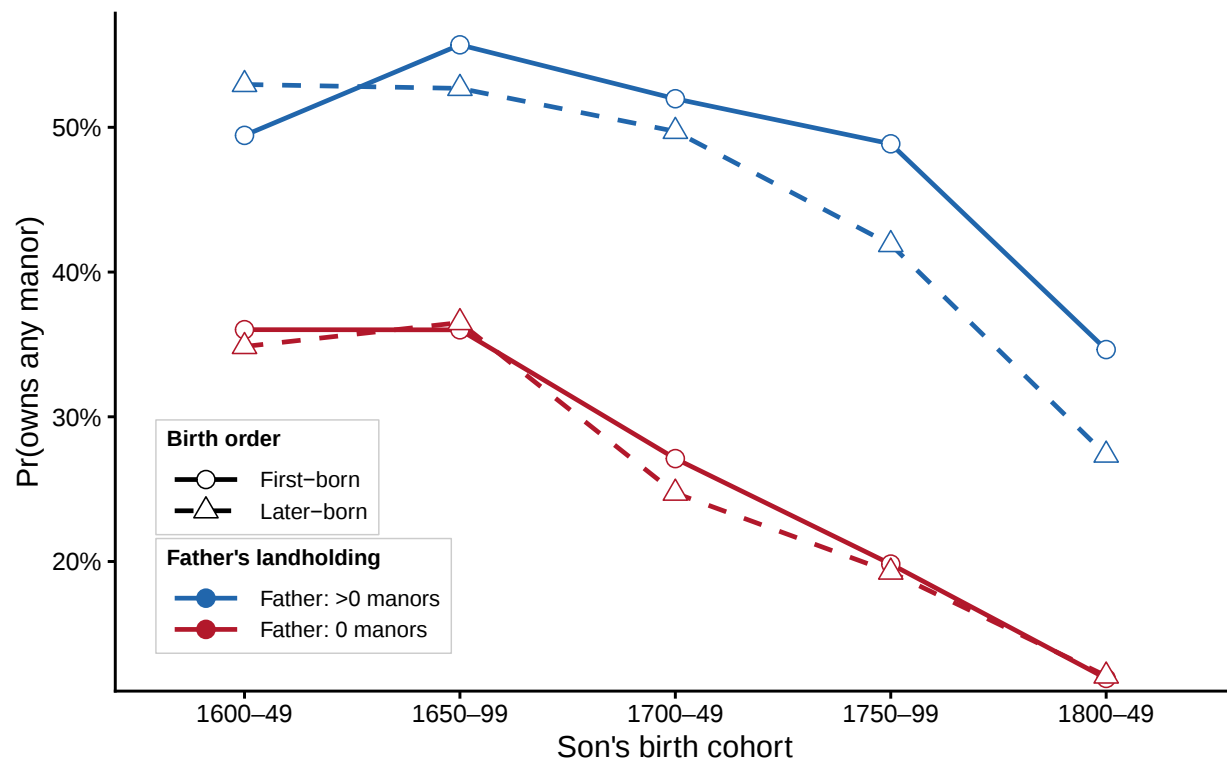


FIGURE A.2: PRIMOGENITURE AND MANOR OWNERSHIP ACROSS COHORTS

Notes: Figure plots the probability that a son owned at least one manor by birth cohort, separately by whether his father owned any manors and whether he was the firstborn or a later-born son. The sample is restricted to families with at least two sons who survived to adulthood. Birth order is defined within the set of adult sons by ordering brothers by birth year.

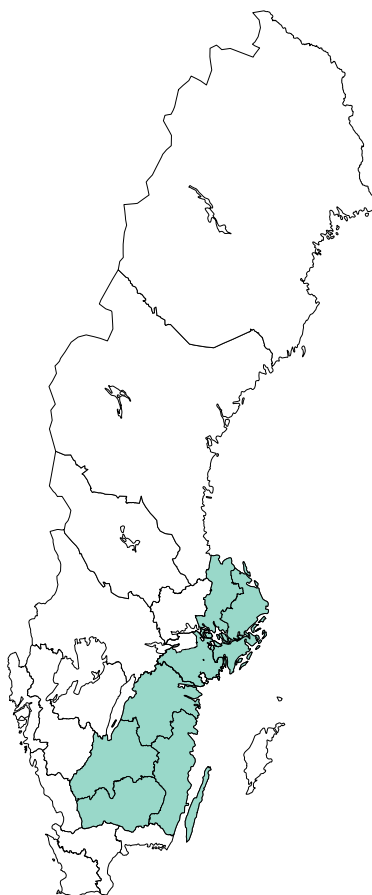


FIGURE A.3: AREA COVERED BY [ALMQUIST \(1931–1976\)](#)

Notes: Figure maps Nyköping, Småland, Stockholm, Uppsala, Östergötland, and the Livgedinge judicial district in Södermanland County. The highlighted area shows the coverage of noble-manor documentation based on the extensive land registers (*landsböcker*) reviewed by [Almquist \(1931–1976\)](#) and included in the manor database of [Ulväng \(2024\)](#).

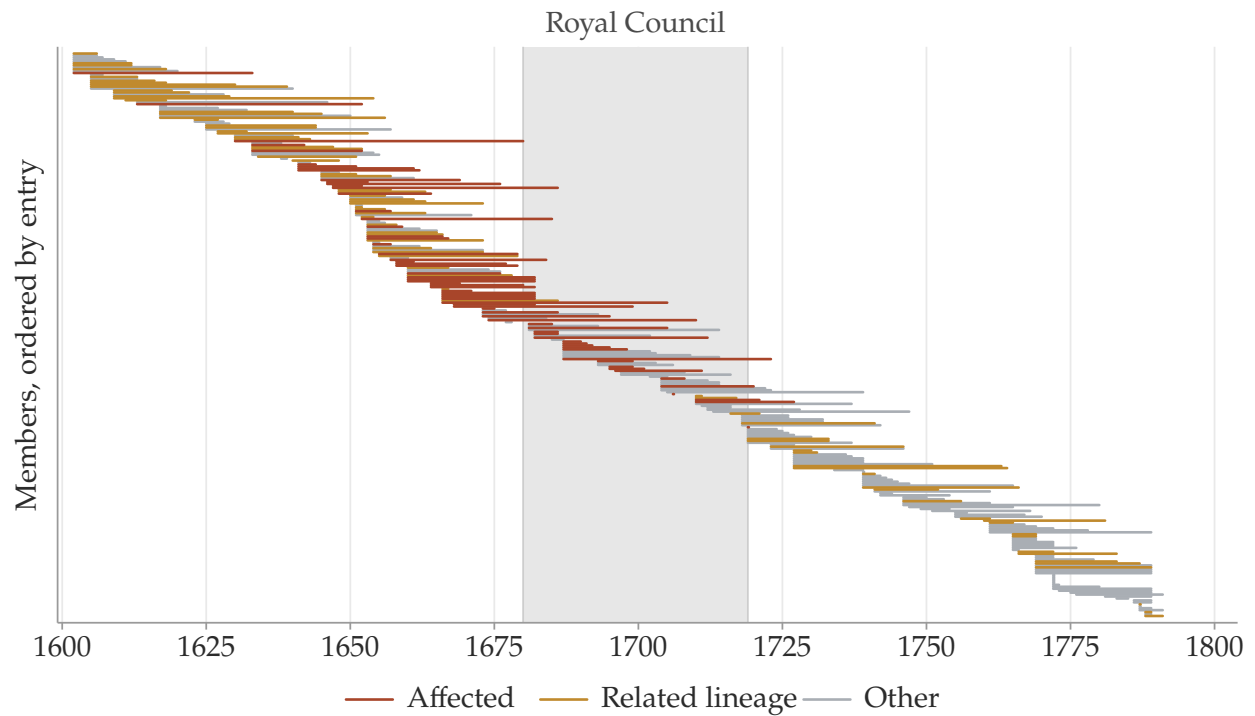


FIGURE A.4: TENURE OF PRIVY COUNCIL MEMBERS

Notes: Each line represents the tenure of one Privy Council member, with members ordered by entry year. Dark-red lines denote individuals affected by the Great Reduction, ochre lines denote their ancestors and descendants, and gray lines denote all other council members. The shaded area marks the Royal Council period, 1680–1719. Tenure data are from [Lewenhaupt \(1962\)](#) and manually matched to our data to infer members' Reduction status.

B. APPENDIX TABLES

TABLE B.1: LINKED NOBLE INDIVIDUALS AND MANORIAL HOLDINGS BY CENTURY

	All	1600s	1700s	1800s
<i>Panel A. Linkage outcomes</i>				
<i>Individual level</i>				
Noble individuals born in century	116,884	14,835	36,119	38,410
Noble individuals linked to at least one manor	23,850	5,723	8,726	5,491
Avg. unique manors owned	0.48	1.08	0.46	0.24
Avg. unique manors owned at least one	2.34	2.80	1.90	1.68
<i>Manor level</i>				
Manor entries in database	140,689	33,125	27,500	37,949
Manor entries linked to nobility	60,456	17,874	17,108	14,215
<i>Panel B. Sample characteristics</i>				
Share high nobility	0.18	0.08	0.14	0.25
Share surviving past age 15	0.48	0.74	0.63	0.54
Share father observed	0.97	0.96	0.99	0.99
Share died in Stockholm	0.19	0.21	0.18	0.21
Share ever married to a noble spouse	0.18	0.36	0.22	0.10

Notes: Table describes the sample obtained by linking the dataset of the Swedish nobility to manor entries in the manor database. In Panel A, individual-level rows refer to noble individuals and manor-level rows refer to manor-database entries. Noble individuals linked to at least one manor denotes individuals matched to at least one manor entry, and manor entries linked to nobility denotes entries successfully linked to a noble individual. Avg. unique manors owned reports the mean number of distinct manors linked to an individual, while the conditional measure restricts attention to individuals linked to at least one manor. Panel B reports descriptive characteristics of the noble sample. The All column counts all observations, while the century columns classify noble individuals by birth century and property-event observations by entry start year. For property-event observations, the century columns therefore need not sum to the All column, since some entries fall outside 1600–1899 or have missing start years.

TABLE B.2: LINEAGE SURVIVAL

	(1)	(2)	(3)
<i>Panel A. OLS (generations survived)</i>			
Treated	−0.242 (0.187)	−0.200 (0.271)	−0.081 (0.272)
<i>Panel B. Lineage-survival hazard ratios</i>			
Treated	1.131 [0.979, 1.306]	1.094 [0.885, 1.351]	1.028 [0.829, 1.276]
Lineages		2,850	
Mean generations survived		4.707	
<i>Controls</i>			
Generation fixed effects (hazard only)	✓	✓	✓
Birth-decade fixed effects	✓	✓	✓
Index-father controls	✓	✓	✓
Index-grandfather controls		✓	✓
Additional family controls			✓

Notes: Panel A reports OLS estimates in which the dependent variable is the number of generations for which a lineage survives, including the index individual. Panel B reports hazard ratios from a discrete-time hazard model estimated with a complementary log–log link; brackets contain 95 percent confidence intervals. Generation fixed effects flexibly account for baseline extinction risk by generation. Birth-decade fixed effects refer to the index individual’s birth decade. Standard errors in both panels are clustered by index individual. Only the treatment coefficient is displayed; control groups follow the definitions in Table 1.

TABLE B.3: SAMPLE COMPOSITION BY GENERATION

Generation	Treated descendants	Treated lineages	Median birth year
0	140	140	1643
1	606	140	1684
2	494	80	1725
3	474	61	1763
4	513	51	1802
5	555	41	1835

Notes: Table reports the composition of the main estimation sample by generation. A lineage is defined by its index father, and generation 0 is the index generation. The treated-descendants column counts descendants of treated index fathers in each generation; the treated-lineages column counts the index fathers represented in that generation. The number of lineages declines across generations as lineages die out and disappear from the data.

TABLE B.4: EFFECTS OF THE REDUCTION ON DESCENDANT WEALTH: ALTERNATIVE TREATMENT

Generation	Observations	Mean dep. var.	(1)	(2)	(3)
1	4,516	55.82	−3.72 (1.95)	−3.56 (1.98)	−3.39 (1.97)
2	4,621	57.71	−5.31 (2.00)	−5.06 (1.97)	−4.45 (2.03)
3	4,741	57.49	−9.31 (2.73)	−8.60 (2.78)	−8.21 (2.79)
4	4,803	57.40	−15.70 (4.09)	−14.40 (4.11)	−14.14 (4.08)
5	4,195	56.92	−12.31 (4.58)	−11.43 (4.77)	−10.97 (4.48)
<i>Controls</i>					
Birth-decade fixed effects			✓	✓	✓
Index-father controls			✓	✓	✓
Index-grandfather controls				✓	✓
Additional family controls					✓

Notes: Table reports OLS estimates of the effect of the Great Reduction on descendants' manor-ownership percentile rank, constructed within birth decades. Generations are defined relative to the index father; generation 1 comprises children, generation 2 grandchildren, and so on. Entries in columns 1–3 are treatment coefficients. The mean dependent variable is calculated among unaffected descendants. Treatment also includes noble husbands of women whose manors were confiscated; the sample is restricted to descendants who survived to age 18. Index-father controls include the index father's pre-Reduction manor rank and number of children. Index-grandfather controls add the grandfather's manor rank and its interaction with the father's rank. Additional family controls add indicators for high nobility and Privy Council membership, their interaction, and the index father's birth order and partner status. Standard errors are clustered by index-father lineage and reported in parentheses.

TABLE B.5: EFFECTS OF THE REDUCTION ON DESCENDANT WEALTH: ALTERNATIVE RANK DEFINITION

Generation	Observations	(1)	(2)
1	3,683	−6.90 (2.26)	−5.88 (2.32)
2	3,777	−8.03 (2.32)	−7.19 (2.35)
3	3,938	−9.31 (3.00)	−7.23 (3.05)
4	4,026	−14.64 (4.56)	−12.48 (4.55)
5	3,727	−9.78 (4.78)	−7.72 (4.66)
<i>Controls</i>			
Birth-decade fixed effects		✓	✓
Index-father controls		✓	✓
Index-grandfather controls			✓
Additional family controls			✓

Notes: Table reports OLS estimates of the effect of the Great Reduction on descendants' manor-ownership percentile rank, constructed across the descendant's entire generation rather than within birth decades as in the main specification. Generations are defined relative to the index father; generation 1 comprises children, generation 2 grandchildren, and so on. Entries in columns 1–2 are treatment coefficients. The sample is restricted to descendants who survived to age 18. Index-father controls include the index father's pre-Reduction manor rank and number of children. Index-grandfather controls add the grandfather's manor rank and its interaction with the father's rank. Additional family controls add indicators for high nobility and Privy Council membership, their interaction, and the index father's birth order and partner status. Standard errors are clustered by index-father lineage and reported in parentheses.

TABLE B.6: EFFECTS OF THE REDUCTION ON DESCENDANT WEALTH: INCLUDING CHILDREN

Generation	Observations	Mean dep. var.	(1)	(2)	(3)
1	13,006	51.01	−7.14 (1.40)	−6.58 (1.37)	−6.29 (1.38)
2	14,961	50.86	−7.56 (1.56)	−6.94 (1.49)	−6.72 (1.44)
3	16,050	51.16	−8.54 (1.97)	−7.73 (1.87)	−7.37 (1.85)
4	15,465	52.21	−10.65 (2.72)	−9.61 (2.60)	−9.45 (2.52)
5	15,301	52.73	−10.10 (3.35)	−9.13 (3.14)	−8.84 (3.00)
<i>Controls</i>					
Birth-decade fixed effects			✓	✓	✓
Index-father controls			✓	✓	✓
Index-grandfather controls				✓	✓
Additional family controls					✓

Notes: Table reports OLS estimates of the effect of the Great Reduction on descendants' manor-ownership percentile rank, constructed within birth decades. Generations are defined relative to the index father; generation 1 comprises children, generation 2 grandchildren, and so on. Entries in columns 1–3 are treatment coefficients. The mean dependent variable is calculated among unaffected descendants. The sample includes descendants of all ages. Index-father controls include the index father's pre-Reduction manor rank and number of children. Index-grandfather controls add the grandfather's manor rank and its interaction with the father's rank. Additional family controls add indicators for high nobility and Privy Council membership, their interaction, and the index father's birth order and partner status. Standard errors are clustered by index-father lineage and reported in parentheses.

TABLE B.7: EFFECTS OF THE REDUCTION ON DESCENDANT WEALTH: SURVIVING LINEAGES

Generation	Observations	Mean dep. var.	(1)	(2)	(3)
1	367	70.13	−8.77 (4.24)	−9.09 (4.28)	−8.64 (4.51)
2	1,701	60.74	−7.95 (3.25)	−8.04 (3.17)	−7.24 (3.22)
3	2,783	60.02	−8.27 (3.70)	−7.30 (3.77)	−6.17 (3.85)
4	3,611	59.16	−15.23 (4.92)	−13.46 (4.96)	−13.05 (4.88)
5	3,727	57.53	−10.11 (4.98)	−9.05 (5.18)	−7.90 (4.87)
<i>Controls</i>					
Birth-decade fixed effects			✓	✓	✓
Index-father controls			✓	✓	✓
Index-grandfather controls				✓	✓
Additional family controls					✓

Notes: Table reports OLS estimates of the effect of the Great Reduction on descendants' manor-ownership percentile rank, constructed within birth decades. Generations are defined relative to the index father; generation 1 comprises children, generation 2 grandchildren, and so on. Entries in columns 1–3 are treatment coefficients. The mean dependent variable is calculated among unaffected descendants. The sample is restricted to descendants who survived to age 18 in lineages observed through generation 5. Index-father controls include the index father's pre-Reduction manor rank and number of children. Index-grandfather controls add the grandfather's manor rank and its interaction with the father's rank. Additional family controls add indicators for high nobility and Privy Council membership, their interaction, and the index father's birth order and partner status. Standard errors are clustered by index-father lineage and reported in parentheses.

TABLE B.8: ROYAL COUNCIL LINEAGE STATUS AND OTHER OUTCOMES

Outcome	Generation				
	1	2	3	4	5
<i>Panel A. Wealth</i>					
Manors rank	1.74 (2.51)	−1.25 (2.63)	0.37 (3.40)	3.52 (3.79)	7.43 (4.04)
<i>Panel B. Demographics</i>					
Died in episcopal city	0.19 (0.05)	0.18 (0.07)	0.12 (0.06)	0.03 (0.07)	0.00 (0.05)
Died in Stockholm	0.23 (0.05)	0.20 (0.07)	0.09 (0.05)	0.07 (0.06)	0.05 (0.05)
Lifespan	−2.75 (1.50)	−2.27 (1.73)	−1.16 (1.71)	0.22 (1.34)	−0.06 (1.32)
Number of children	−0.49 (0.22)	−0.14 (0.21)	0.02 (0.31)	0.12 (0.21)	−0.16 (0.16)
<i>Panel C. Military</i>					
Military officer	0.04 (0.04)	−0.15 (0.06)	−0.09 (0.04)	0.08 (0.04)	0.16 (0.05)
Went to war	0.01 (0.03)	−0.01 (0.03)	−0.05 (0.03)	0.00 (0.02)	0.00 (0.01)
<i>Panel D. Marriage</i>					
Any partner	0.00 (0.03)	−0.01 (0.03)	0.10 (0.04)	0.06 (0.05)	0.00 (0.04)
Age at first marriage	−1.99 (0.80)	−2.10 (0.60)	−1.28 (0.93)	−0.95 (0.60)	−0.29 (0.73)
Noble partner partner	0.13 (0.04)	0.09 (0.06)	0.13 (0.07)	0.10 (0.07)	0.07 (0.07)
Manors rank (father-in-law)	9.80 (3.14)	13.52 (3.47)	0.67 (4.61)	11.58 (4.26)	3.26 (6.27)
<i>Panel E. Human capital</i>					
HISCAM	10.27 (2.15)	7.73 (3.12)	4.47 (2.39)	4.92 (1.63)	4.91 (2.65)
Tax capacity	7.35 (2.39)	5.92 (1.96)	3.07 (1.83)	3.35 (2.11)	93.53 (2.19)
Administrative clerical	−0.05 (0.02)	0.03 (0.04)	0.01 (0.03)	−0.01 (0.02)	−0.02 (0.04)
Administrative elite	0.22 (0.04)	0.19 (0.07)	0.18 (0.06)	0.14 (0.04)	0.04 (0.04)
Student	0.01 (0.01)	0.00 (0.01)	0.03 (0.04)	0.07 (0.04)	−0.02 (0.04)

Notes: Table reports OLS estimates from the fully controlled specification in column 3 of Table 1, replacing the Great Reduction indicator with an indicator for descent from a Royal Council member and using the outcome listed in each row. Generations are defined relative to the index father. Entries are coefficients. The sample is restricted to descendants who survived to age 18. Outcomes are defined in Appendix C.7. Standard errors are clustered by index-father lineage and reported in parentheses.

C. DATA APPENDIX

C.1 Manual Linking of Reduced Manors

We start from 976 entries classified by [Ulväng \(2024\)](#) as reduced. For each entry, we use the recorded owner information together with biographical material and (when needed) additional sources to link the reduction entry to a specific person. In cases where the owner is listed as *dödsbo* (estate) or *arvingar* (heirs), we attribute the event to the individual who died (i.e., the underlying person rather than the estate/heirs).

We use the manual linking to assign each reduced entry to a noble individual whenever a unique and defensible identification can be established from the recorded owner information and supporting sources. We exclude 218 entries that either correspond to non-individual entities, to non-noble individuals (and individuals without a noble partner), or to noble individuals for whom we cannot uniquely identify the correct person.

We define treatment in two ways. Under a narrow definition, we classify as treated the 556 noble individuals who are directly linked to a reduction entry. Under an extended definition, we additionally classify as treated the noble male partner in the 211 cases where the reduction entry is linked to a woman with a noble husband, yielding 767 treated individuals.

Two implementation details are worth noting. First, in a small number of cases the relevant affected person is not the name that appears in the reduction entry (defined as the entry preceding the reduction event) but instead a nearby individual in the ownership chain; our linking therefore uses the full owner history rather than the single recorded label. Second, when the affected individual is female and there are multiple potential partners, assigning the relevant partner is sometimes ambiguous; we primarily follow the partner recorded in the entry and otherwise rely on auxiliary identifying information when available.

C.2 Cavalry-Service Assessments

Noble land carried an obligation to equip and maintain cavalry, *rusttjänst*, in proportion to the assessed rent of the estates held. The musters therefore record a contemporary valuation of landed wealth, compiled independently of the sources behind our manor data. [Asker \(1983\)](#) tabulates these assessments from the rolls of 1658, referring to 1655, and from those of 1697. He lists only holders assessed at 600 mark or more: 82 nobles in 1655 and 47

in 1697. We locate 75 and 44 of them in our manor data. Nobles who do not appear on Asker's list were therefore assessed below 600 mark, and we group them accordingly.

Figure C.1 reports the mean number of manors we record by assessment bracket. Nobles assessed below 600 mark hold 0.8 manors on average in 1655, those assessed at 600 to 2,000 mark hold 5.1, and those above 2,100 mark hold 10.4. The 1697 rolls give 0.4, 4.3, and 11.5. Among those Asker lists, the rank correlation between assessed rent and manors held is 0.50 in 1655 and 0.34 in 1697. We collapse Asker's brackets above 600 mark, six in 1655 and three in 1697, into two, since the upper ones are thinly populated; in 1655 the top two contain one individual each.

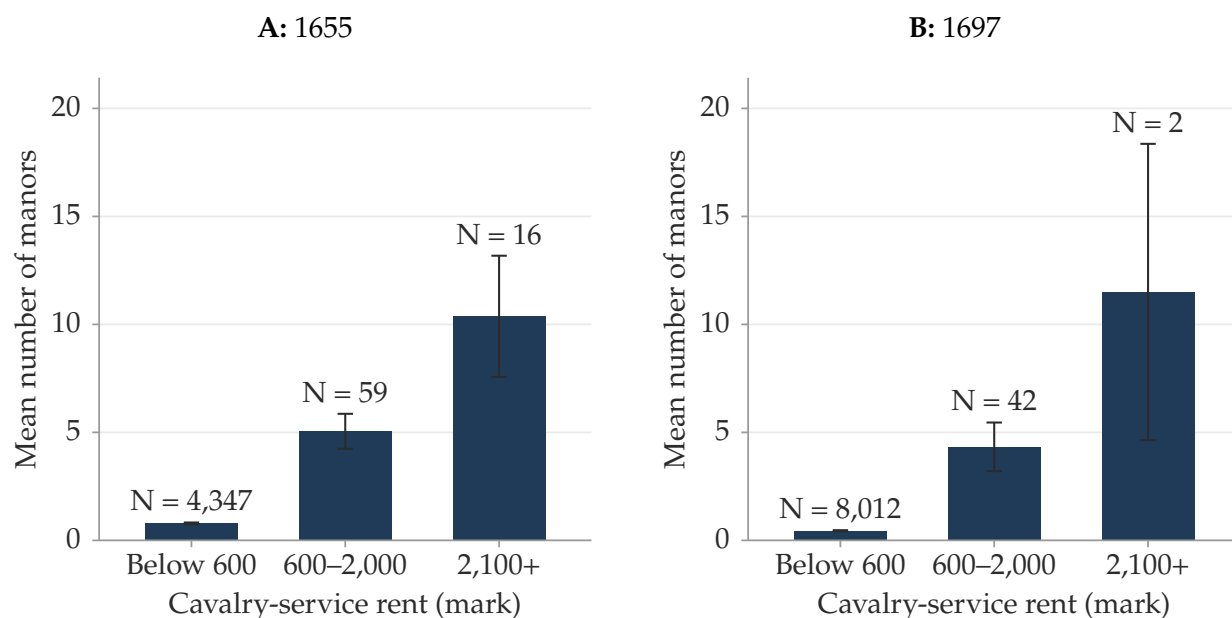


FIGURE C.1: MANOR OWNERSHIP BY CAVALRY-SERVICE ASSESSMENT BRACKET

Notes: Mean number of manors in our data by bracket of the cavalry-service rent assessments tabulated by [Asker \(1983\)](#), with 95 percent confidence intervals and the number of nobles in each bracket. [Asker \(1983\)](#) lists only holders assessed at 600 mark or more, so the first bracket comprises nobles assessed below that threshold. Panel A uses the 1655 assessment, drawn from the rolls of 1658; Panel B uses the assessment of 1697. The two panels share a common vertical scale. The upper brackets collapse Asker's groups above 600 mark, six in 1655 and three in 1697, into two, since the upper ones are thinly populated; in 1655 the top two contain one individual each.

C.3 Validation against [Svedelius \(1851\)](#)

[Svedelius \(1851\)](#) reports the annual revenue the Crown gained from individual countships

and baronies recovered in the Reduction. We transcribe 37 such holdings and link each to a noble individual by hand, using the recorded holder together with biographical material, following the same procedure as in Appendix C.1. The 37 holdings are held by 26 individuals.

We classify 15 of these 26 individuals as affected under our narrow treatment definition. They account for 71 percent of the revenue Svedelius attributes to the 37 holdings. Figure C.2 plots the revenue against the number of manors we record as confiscated for each of the 26. The relationship is positive: each additional manor we record corresponds to 1,039 daler silvermynt of lost annual revenue (s.e. 389), against a mean of 6,956 daler.

Of the eleven individuals we do not classify as affected, several are women whose holdings enter our data through a husband. This is the case our extended treatment definition is designed to capture, and it accounts for part of the gap between the two definitions reported in Section 6.2.

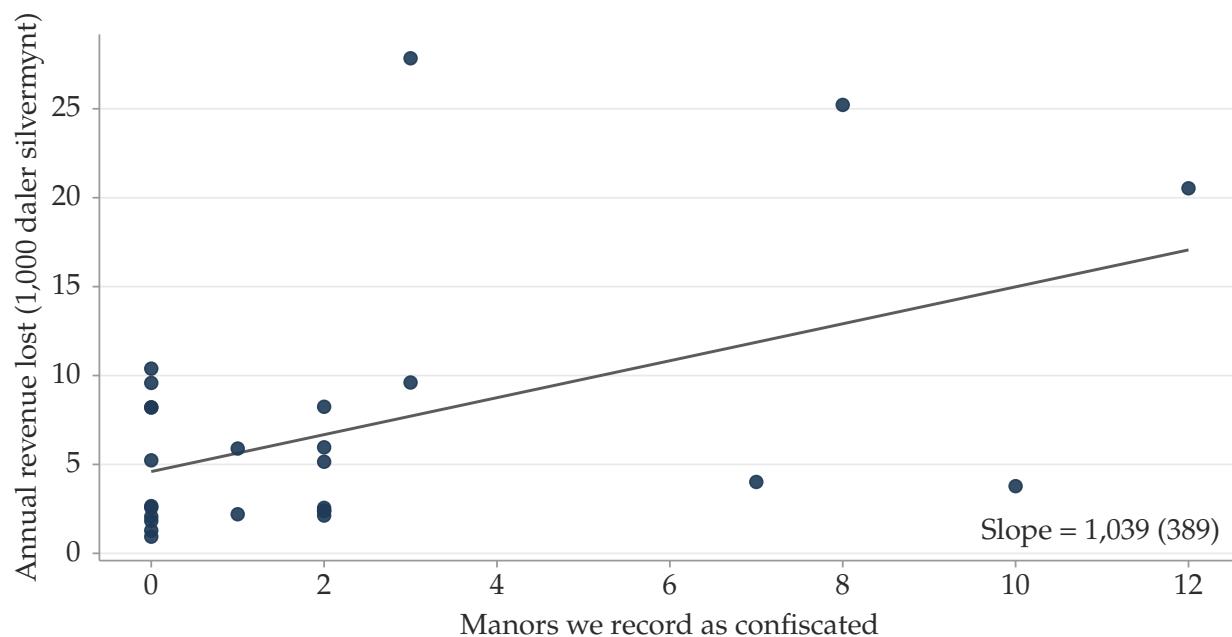


FIGURE C.2: CONFISCATED MANORS AND REVENUE REPORTED BY [SVEDELIUS \(1851\)](#)

Notes: Each dot is one of the 26 individuals linked to the countships and baronies itemized by [Svedelius \(1851\)](#). The horizontal axis is the number of manors we record as confiscated; the vertical axis is the annual revenue Svedelius attributes to their recovered holdings. The line is a bivariate least-squares fit; the slope and its standard error are reported in the panel.

C.4 Automatically Linking Manors

We start by harmonizing surnames in both [Ulväng \(2024\)](#) and [Adelsvapen \(2015\)](#) by removing suffixes such as “-Ätten” and “-Släkten,” as well as trailing identifiers such as “nr 123.” In a second step, we concatenate given names and surnames so that each individual is represented by a single string in each source. We then use fuzzy string matching, with Jaccard similarity as the measure of name similarity, to link each manor event to a potential owner. Because computing similarity scores for every individual–manor–event pair is infeasible, we use probabilistic record linkage with blocking.

We consider three candidate blocking conditions: (i) first letter of the first name, (ii) harmonized family name, and (iii) the event start year must fall between the individual’s birth and death year. We then evaluate all eight combinations of these candidate blocking rules, together with different similarity thresholds, on our manually matched sample. To summarize performance, we report F_1 , precision, and recall. As expected, a lower similarity cutoff yields more matches but a lower share of correct matches, while a higher cutoff yields fewer matches with higher precision.

We choose the similarity threshold and blocking rules that maximize the F_1 score in the manually matched sample. As [Figure C.3](#) shows, this criterion selects blocking on the first initial and the year restriction, although the difference relative to also blocking on harmonized family name is negligible.

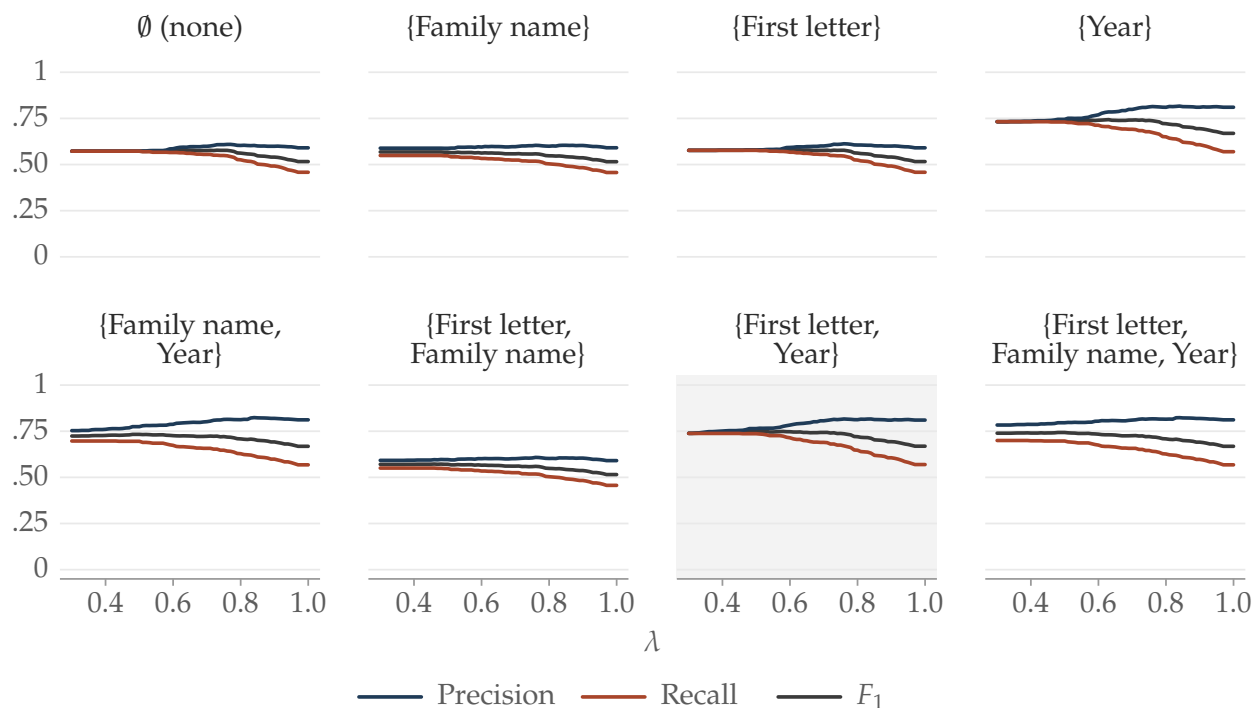


FIGURE C.3: RECORD-LINKAGE QUALITY UNDER ALTERNATIVE BLOCKING STRATEGIES

Notes: Figure reports match quality, measured by precision, recall, and the F_1 score, for alternative values of the name-similarity parameter λ . Higher values of λ indicate greater name similarity. Each panel is titled with the set of blocking conditions it imposes, ordered by the size of that set. Blocking on the first letter restricts comparisons to individuals sharing the same given-name initial; blocking on family name uses harmonized surnames; and the year restriction requires the recorded start year of manorial holding to fall within the individual's observed lifespan. The shaded panel is the preferred specification.

LLM-Augmented Manor Linking For manor entries that match multiple nobles, we retain candidates whose Jaccard similarity is within 0.1 of the highest similarity for the manor entry. We then use a language model to select a single match. The model uses two sources of information not incorporated in the baseline automatic matching: (i) the biographies of the candidate nobles and (ii) the full descriptions of the current and preceding manor entries, including information about the previous owner. The model can often use information about spouses, for example, to identify the correct owner. Figure C.4 illustrates the precision–recall trade-off and shows that LLM reranking improves both measures in the manual sample, increasing the F_1 score from 0.75 to 0.81.

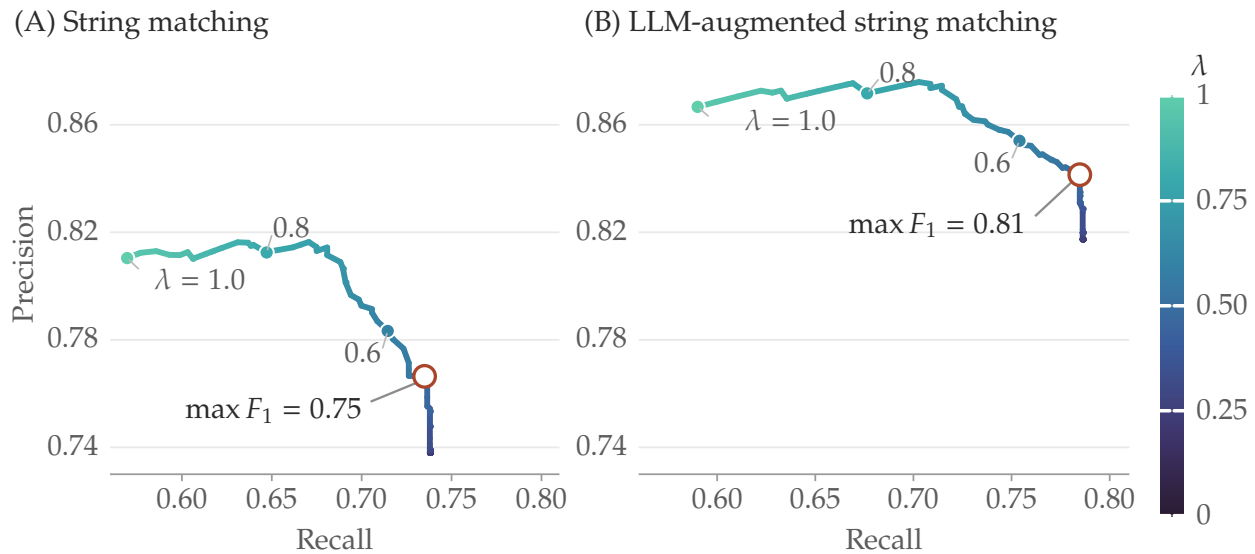


FIGURE C.4: MATCH QUALITY BY LINKAGE METHOD

Notes: Panel A reports the precision–recall curve for string matching. Panel B reports the corresponding curve after LLM reranking. Both panels use a manually matched sample of 772 manor entries. Recall is the share of true matches successfully recovered, precision is the share of proposed matches that are correct, and F_1 is their harmonic mean. The preferred method blocks on the first letter of the given name and restricts candidates to nobles alive at the manor-entry start year. λ denotes Jaccard similarity.

C.5 LLM-Augmented Partner Linking

We begin by extracting partner names from the biographical text. For each individual, we concatenate the extracted given name and surname into a single string and treat it as a linkage target. We then link these targets to the universe of noble individuals using a two-stage procedure. In the first stage, we apply fuzzy matching based on the Jaro–Winkler string distance after standardizing names (lowercasing and removing punctuation and

whitespace) and blocking on the first letter of the given name, as in the manor-owner linkage. For each target partner name, we retain the closest candidate or candidates within the block and keep only links with distances below 0.15.

In the second stage, we distinguish among these candidate links using an LLM that exploits the richer biographical information. For each focal individual and the associated set of candidate partners, we provide the model with (i) the focal record’s name and biographical text and (ii) each candidate’s name, biographical text, and string distance from stage one. The model returns a probability-like score in $[0, 1]$ for each candidate, together with a brief justification. We then link the focal individual to the candidate with the highest score, provided that the score exceeds 0.9.

Among the manually matched entries discussed in Appendix C.1, we observe 164 couples. The automated procedure identifies 151 (92 percent) of them.

C.6 LLM-Based Extraction of Key Variables

Each entry in our dataset on the Swedish nobility contains a short biography with relevant information but lacks a consistent structure, making regular expressions unsuitable for reliable extraction. To address this limitation, we use the GPT-4o mini large language model through the OpenAI Chat Completions API to identify and extract the desired variables. For each individual, the procedure supplies a system prompt followed by the corresponding biography. The prompts are listed below.

Occupation Extraction

This text potentially contains information about occupations or titles held by one individual.

Extract the occupations or titles that the individual held and any associated years if these are stated.

Important rules:

- Do not include education.
- Do not include workplace employer or place information.
- Do not translate occupations or titles and keep the original language as written Swedish or English.
- The text may sometimes refer to a partner a child or a parent. Exclude occupations

or titles that belong to someone else.

Year rules using the string field year:

- If a single year is stated return that year for example 1712.
- If an interval is stated for example 1712–1716 1712–1716 or 1712 till 1716 return only the start year for example 1712.
- If a decade or approximation is stated for example 1680-talet ca 1712 or omkr 1712 return it exactly as written without conversion.
- If no year is stated set year to Unknown.

If no occupations are found return an empty array occupations empty.

If an occupation or title is mentioned but cannot be resolved use Unknown.

Return only JSON that conforms to the required schema.

Education Extraction

This text potentially contains information about education undertaken by one individual.

Extract the education or educations completed by the individual and any associated years if these are stated.

Provide both the field of education and the place of education when available.

Note that education may sometimes refer to a partner a child or a parent of the individual. In such cases do not include it.

Do not include occupations and do not include any military titles or military duties.

Return only JSON that conforms to the required schema.

Partner Extraction

This text potentially contains information about partners or spouses of the focal individual.

Extract the partner or partners of the focal individual and if stated the year of marriage.

Rules:

- Only include partners of the focal individual and not partners of children parents siblings or other individuals.
- If multiple marriages or partners are listed output one object per partner.
- Output names exactly as written and do not translate.
- If a marriage date is given as a full date extract only the year YYYY.
- If the marriage year is not stated set year to Unknown.
- If a first name or family name is missing set that field to Unknown.
- If no partner is mentioned return an empty array partners empty.

Return only JSON that conforms to the required schema.

Death Place Extraction

From the following historical passages, extract the place of death. Follow these rules: If the name of the place does not uniquely identify a location, use other geographical or contextual information provided in the passage to infer which place the name is most likely referring to. Assume the place of burial (if mentioned) is the same as the place of death unless explicitly contradicted. Provide as detailed information as possible about the location. In particular, try to infer the correct parish and region. Output the place as a single string with the place name and where it is located (parish, region, etc.), or "Unknown" if not resolvable. Do NOT output anything else than this. Here is the text:

Death Place Coordinates Extraction

Try to provide the coordinates for this place.

Output the result as a JSON object with:

"latitude": The geographic latitude or "Unknown" if not resolvable.

"longitude": The geographic longitude or "Unknown" if not resolvable.

Here is the place:

Birth Place Extraction

From the following historical passage, extract the place of birth.

Your task is to extract:

- place of birth

Rules:

- If the place name is ambiguous, infer the most likely location using context.
- Assume the place of baptism equals place of birth unless explicitly contradicted.
- Try to infer parish and region if possible.
- Output a single string describing the place.
- If not resolvable, return Unknown.

Return only JSON that conforms to the required schema.

Birth Place Coordinates Extraction

Try to provide the coordinates for this place.

Output the result as a JSON object with:

"latitude": The geographic latitude or "Unknown" if not resolvable.

"longitude": The geographic longitude or "Unknown" if not resolvable.

Here is the place:

Birth Year & Death Year Extraction

This text potentially contains information about the birth year and death year of one focal individual.

Your task is to extract:

- birth year (YYYY)
- death year (YYYY)

Rules:

- Only extract years that refer to the focal individual in the passage.
- If the passage mentions years for a partner child parent or other person ignore those.
- Prefer explicit birth and death years.
- If not explicitly stated you may infer a year using nearby evidence such as baptism year funeral or burial year or other clearly linked events but only if this evidence strongly indicates the birth or death year.
- Output must be exactly four digits (YYYY) or the string Unknown.

– Do not output ranges months or full dates.

– Ensure the year lies between 1000 and 2025. In very rare instances the year may fall outside this interval. In such cases you may infer a plausible year but only if the extracted year clearly lies outside this range.

Return only JSON that conforms to the required schema.

War Participation Extraction

You are an information extraction system.

Task:

Given a biographical passage (often Swedish), determine whether there is fairly clear textual evidence that the individual personally went on a military campaign, expedition, or war-related journey, including foreign military service.

Output (strict):

Return ONLY JSON matching this schema:

```
{  
  "went_to_war": 0 or 1,  
  "evidence": "short quote or paraphrase from the text that justifies the decision (max  
~25 words), or empty string if went_to_war=0"  
}
```

Decision rule:

Set `went_to_war = 1` ONLY if the passage explicitly indicates personal participation in a war-related movement, campaign, battle, siege, expedition, or service in an army or navy in a way that implies the person was present or active. Otherwise set `went_to_war = 0`.

Critical constraint:

Do NOT infer war participation from military rank or title alone (e.g., “överste”, “kapten”, “amiral”, “hövitsman”) unless the text also describes campaign participa-

tion, movement, or command in a specific operation.

Positive triggers (examples, not exhaustive):

- Campaign or field service: “följde . . . i fält”, “i fält”, “fälttåg”, “på tåget mot . . .”, “tågade” or “marscherade till . . .” (clearly military)
- Participation in operations: “deltog i . . .”, “landstigningen på . . .”, “slaget vid . . .”, “träffning”, “belägring(en)”
- Command in a named operation: “förde befäl vid . . .”, “anföll . . .”, “slog . . .”, “erövrade . . .” in clear war context
- Naval expedition or service: “på skeppet . . .”, “i . . . flotta” when tied to an expedition or operation
- Capture or surrender: “kapitulation(en) i . . .”, “gav sig fången”, “krigsfånge”
- Foreign military service: explicit statements such as “begav sig utrikes för att söka utländsk krigstjänst”, “tjänst i . . . armé eller flotta”, “i främmande härar” (counts even if no battle is named)

Negative examples (went_to_war = 0):

- Only lists titles or offices without any campaign or operation wording.
- Only indicates the person was a soldier or officer in general, without describing participation.
- Mentions wartime period generally without linking the person to participation.

Evidence field:

- If went_to_war = 1: include one short supporting excerpt or a tight paraphrase naming the operation, campaign, or service.
- If went_to_war = 0: evidence must be "".

If ambiguous, default to went_to_war = 0.

Return only JSON that conforms to the required schema.

See Figure C.5 for an illustration of the LLM-based extraction of key variables.

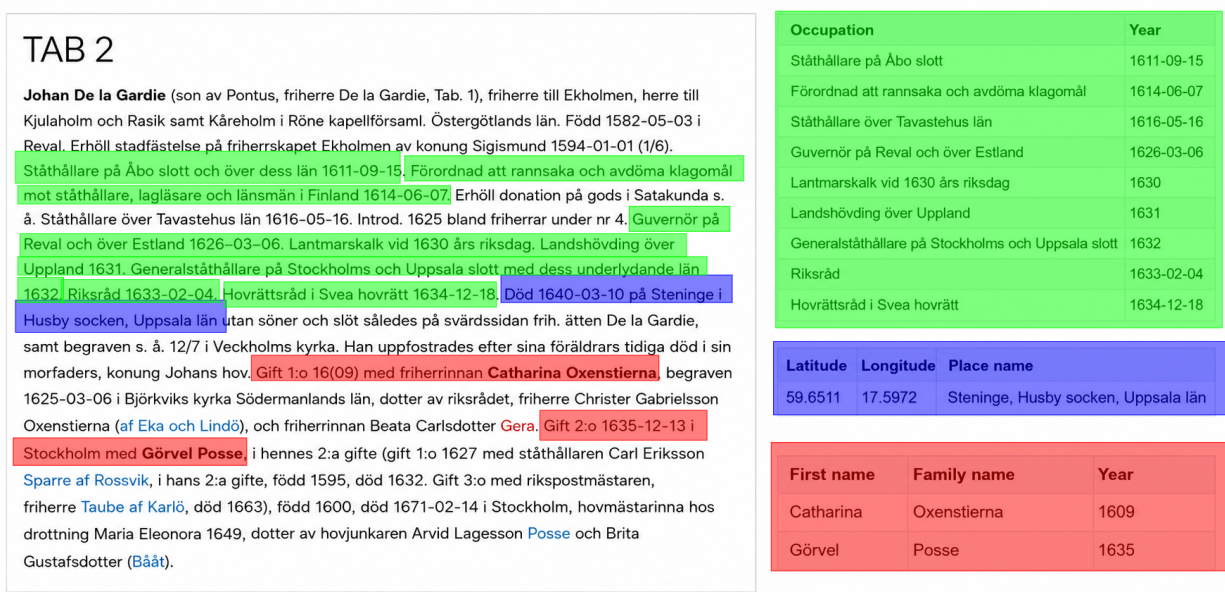


FIGURE C.5: LLM-BASED KEY-INFORMATION EXTRACTION FOR JOHAN DE LA GARDIE

Notes: Figure illustrates the LLM-based extraction of key information from the biographical entry for Johan de la Gardie (1582–1640). The source text appears on the left, and the structured outputs appear on the right. Green highlights occupations and their dates; blue highlights the place of death and its coordinates; and red highlights partners and marriage years. The source text comes from [Adelsvapen \(2015\)](#).

C.7 Variable Definitions

This section defines the analytical variables that are not fully defined in the main text. Variables derived from occupations, partners, participation in war, and death places use the LLM-based extraction described in [Appendix C.6](#).

Number of Manors Owned. The number of manors an individual ever owned during their lifetime; the analysis uses its percentile rank within birth decades ([Section 6.1](#)). Counting manors ever owned avoids uncertainty about exact years of ownership, at the cost of treating someone who exchanged properties over a lifetime as equally wealthy as someone who held many at once. Individuals not matched to the manor database of [Ulväng \(2024\)](#) are assigned zero.

Manors Alienated. The number of distinct manors alienated to an individual through an enfeoffment or donation recorded in the manor database.

HISCAM. An occupation-based status measure. We match each occupation string identified by the language model to HISCO, a historical occupation classification, using a key from raw occupation strings to HISCO codes constructed in the SwedPop research infrastructure (SwedPop, 2026). We then link each HISCO occupation to HISCAM, a unidimensional social-stratification index, using a key constructed by Lambert et al. (2013). For each individual, we assign the highest HISCAM score not associated with a military rank. The Johan de la Gardie example in Figure C.5 illustrates the procedure. GPT identifies nine occupations, of which *guvernör*, *hovrättsråd*, *landshövding*, *riksråd*, *ståthållare*, and *åbo* appear in SwedPop. Both *riksråd* and *hovrättsråd* have the maximum HISCAM value of 99, so he is assigned 99.

Has HISCAM. Equal to 1 if at least one of an individual’s occupations can be assigned a HISCAM score. Figure 2 labels this variable “Has HISCAM (any)” and labels the individual’s highest score “HISCAM (max).”

High Military. Equal to 1 if an individual ever held an occupation with the 3-digit HISCO code 583. Figure 2 labels this variable “High Military (ever).” The most common occupations are Lieutenant (*Löjtnant*), Captain (*Kapten*), Ensign (*Fänrik*), Sergeant (*Sergeant*), Major (*Major*), Second Lieutenant (*Underlöjtnant*), Lieutenant Colonel (*Överstelöjtnant*), Rittmeister or Cavalry Captain (*Ryttmästare*), and Cadet (*Kadett*).

Bureaucrat. Equal to 1 if an individual ever held an occupation with the 3-digit HISCO code 310.

Student. Equal to 1 if an individual was enrolled as a student. This information comes primarily from student records, which generally do not report the field of study. Among the nobility, it was also common to register children as students at a young age without their necessarily pursuing higher education.

Went to War. Equal to 1 if the biographical text contains explicit evidence, as identified by the LLM, that the individual personally participated in a military campaign, expedition, battle, siege, or foreign military service.

Tax Capacity. An occupation-based proxy for tax capacity, built from a one-time tax levied in 1613 to finance a ransom payment to Denmark, under which the Crown assigned occupations to 26 taxable classes. We use a large language model to classify occupations into these classes and then map our LLM-extracted occupations, and hence individuals, into tax-capacity bins using the values reported in [Andersson and Molinder \(2024\)](#) and the occupational descriptions in their Appendix I.

Administrative Clerical. Equal to 1 if an individual ever had an occupation with one of the 2-digit HISCO codes 11, 30, 32, 33, or 39. The most common LLM-extracted occupation strings, in rough translation, are Chancellor (*Kanslist*), Secretary (*Sekreterare*), Amanuensis (*Amanuens*), Clerk (*Kammarsskrivare*), Civil Servant (*Tjänsteman*), Bookkeeper (*Bokhållare*), Copyist (*Kopist*), Cameralist or Treasury Official (*Kamrerare*), Registrar (*Registrator*), Cashier (*Kassör*), and Office Clerk (*Kontorsskrivare*).

Administrative Elite. Equal to 1 if an individual ever had an occupation with one of the 2-digit HISCO codes 12, 20, or 31. The most common LLM-extracted occupation strings, in rough translation, are Chamberlain (*Kammarherre*), Gentleman of the Chamber (*Kammarjunkare*), Deputy District Judge (*Vice häradshövding*), District Judge (*Häradshövding*), Extraordinary Notary (*Extra ordinarie notarie*), Assessor (*Assessor*), and Privy Council Member (*Riksråd*).

Died in Episcopal City. Equal to 1 if the death-place coordinates fall within boxes we define for Stockholm, Uppsala, Linköping, Skara, Strängnäs, Västerås, Växjö, Lund, Göteborg, Karlstad, Härnösand, Visby, Kalmar, or Åbo.

Died in Stockholm. Equal to 1 if the death-place coordinates fall within a box of roughly 25 × 25 kilometers around the city center.

Lifespan. The number of years between an individual’s recorded birth and death dates.

Number of Children. The number of children linked to an individual in the genealogical data.

Number of Surviving Children. The number of linked children who survive to age 18.

Any Partner. Equal to 1 if the LLM identifies a partner, noble or non-noble, in the biographical text.

Noble Partner Conditional on Partner. Equal to 1 if an individual has a partner whom we successfully match to another noble individual in our dataset, as described in Appendix C.5. The variable is defined only among individuals with a partner.

Age at First Marriage. Age at the first recorded marriage, irrespective of the partner's nobility status.

Manors Rank of Father-in-Law. The birth-decade percentile rank of the number of manors owned by the father-in-law, defined when the individual's partner is noble and the partner's father is observed.

High Nobility. Equal to 1 if an individual belongs to a family that had attained baronial or comital rank by 1680. The lineage version used in Figure 2 equals 1 for members of a lineage containing such an individual.

Old Nobility. Equal to 1 if an individual's family was introduced at the House of Nobility by 1625 or is described in the genealogical source as belonging to the old nobility. The lineage version used in Figure 2 equals 1 for members of a lineage containing such an individual.

Privy Council Member. Equal to 1 if an individual is among the council members manually matched from Lewenhaupt (1962).

Privy Council Lineage. Equal to 1 if an individual belongs to the ancestral or descendant lineage of a matched Privy Council member.

Birth Decade. The decade containing the individual's recorded birth year.

Death-Place Coordinates. The latitude and longitude assigned to the death place extracted from the biographical text. Figure 2 reports the coordinates separately and also reports the indicator for Stockholm as the death place.

C.8 Sample Extracts from Historical Data

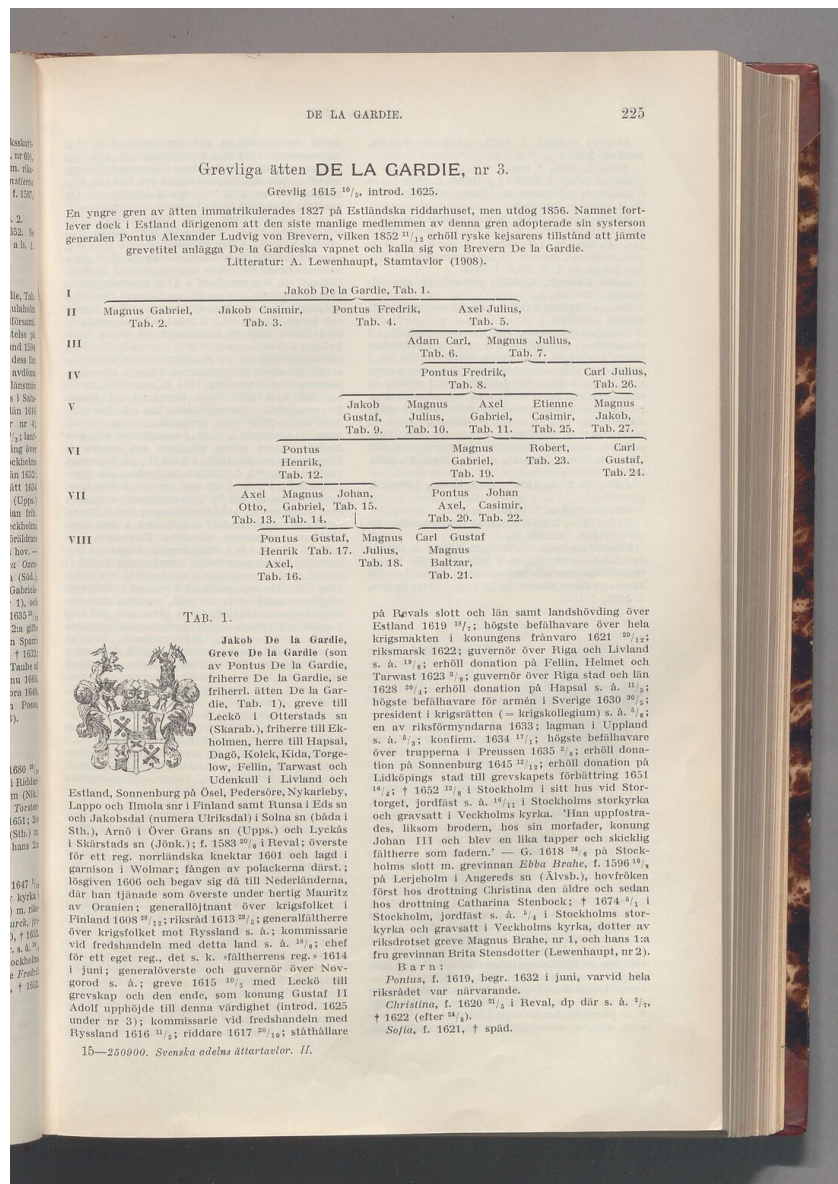


FIGURE C.6: FAMILY TREE FOR *DE LA GARDIE*, NR. 3

Notes: Figure reproduces the family tree for *De la Gardie*, nr. 3 from [Elgenstierna \(1925–1936\)](#).

De la Gardie nr 3

Grevliga ätten De la Gardie nr 3

Grevlig 1615-05-10, introducerad 1625.

En yngre gren av ätten immatrikulerades 1827 på Estländska riddarhuset, men utdog 1856. Namnet fortlever dock i Estland därigenom att den siste manlige medlemmen av denna gren adopterade sin systerson generalen Pontus Alexander Ludvig von Brevern, vilken 1852-12-11 erhöill ryske kejsarens tillstånd att jämte grevetitel anlägga De la Gardieska vapnet och kalla sig von Brevern De la Gardie.

I	Jakob De la Gardie, Tab. 1.			
II	Magnus Gabriel, Tab. 2.	Jakob Casimir, Tab. 3.	Pontus Fredrik, Tab. 4.	Axel Julius, Tab. 5.
III	Adam Carl, Magnus Julius, Tab. 6. Tab. 7.			
IV	Pontus Fredrik, Tab. 8.			Carl Julius, Tab. 26.
V	Jakob Gustaf, Tab. 9.	Magnus Julius, Tab. 10.	Axel Gabriel, Tab. 11.	Elisette Casimir, Tab. 25.
VI	Pontus Henrik, Tab. 12.	Magnus Gabriel, Tab. 19.	Robert, Tab. 23.	Magnus Jakob, Tab. 27.
VII	Axel Magnus, Tab. 13.	Johan Axel, Tab. 14.	Pontus Johan Axel, Tab. 20.	Casimir, Tab. 22.
VIII	Pontus Henrik, Tab. 16.	Gustaf, Tab. 17.	Magnus Julius, Tab. 18.	Carl Magnus, Tab. 21.



TAB 1

Jakob De la Gardie, Greve De la Gardie (son av Pontus De la Gardie, friherre De la Gardie, se friherri, ätten [De la Gardie](#), Tab. 1), greve till Leckö i Otterstads socken, Skaraborgs län, friherre till Ekholmen, herre till Hapsal, Dagö, Kolck, Kida, Torgelow, Fellin, Tarwast och Udenkull i Livland och Estland, Sonnenburg på Ösel, Pedersöre, Nykarleby, Lappo och Ilmola socknar i Finland samt Runsa i Eds socken och Jakobsdal (numera Ulriksdal) i Solna socken båda i Stockholm, Arnö i Över Grans socken, Uppsala län och Lyckås i Skärstads socken, Jönköpings län. Innehade 1622 säteriet Redberga i Marka sn Född 1583-06-20 i Reval. Överste för ett regemente norrländska knektar 1601 och lagd i garnison i Wolmar. Fångnen av polackerna i Wolmar. Lösgiven 1606 och begav sig då till Nederländerna, där han tjänade som överste under hertig Mauritz av Oranien. Generallöjtnant över krigsfolket i Finland 1608-12-28. Riksråd 1613-05-23. Generalfälttherre över krigsfolket mot Ryssland 1613. Kommissarie vid fredshandeln med detta land 1613-06-18. Chef för ett eget regemente, det sk »fälttherrens reg.» 1614-06-00. Generalöverste och guvernör över Novgorod 1614. Greve 1615-05-10 med Leckö till grevskap och den ende, som konung Gustaf II Adolf upphöjde till denna värdighet (introducerad 1625 under nr 3). Kommissarie vid fredshandeln med Ryssland 1616-05-11. Riddare 1617-10-20. Ståthållare på Revals slott och län samt landshövding över Estland 1619-07-18. Högste befälhavare över hela krigsmakten i konungens frånvaro 1621-12-20. Riksmarsk 1622. Guvernör över Riga och Livland 1622-08-19. Erhöll donation på Fellin, Helmet och Tarwast 1623-09-03. Guvernör över Riga stad och län 1628-04-20. Erhöll donation på Hapsal 1628-05-11. Högste befälhavare för armén i Sverige 1630-05-30. President i krigsrätten (= krigskollegium) 1630-06-05. En av riksförmyndarna 1633. Lagman i Uppland 1633-03-05. Konfirmerat 1634-01-17. Högste befälhavare över trupperna i Preussen 1635-06-02. Erhöll donation på Sonnenburg 1645-12-12. Erhöll donation på Lidköpings stad till grevskapets förbättring 1651-04-16. Död 1652-08-12 i Stockholm i sitt hus vid Stortorget, jordfäst 1652-11-16 i Stockholms storkyrka och gravsatt i Veckholms kyrka. 'Han uppfostrades, liksom brodern, hos sin morfader, konung Johan III och blev en lika tapper och skicklig fältherre som fadern.' Gift 1618-06-24 på Stockholms slott med grevinnan **Ebba Brahe**, född 1596-03-16 på Lerjeholm i Angereds socken Älvsborgs län, hovfröken först hos drottning Christina den äldre och sedan hos drottning Catharina Stenbock, död 1674-01-05 i Stockholm, jordfäst 1674-04-05 i Stockholms storkyrka och gravsatt i Veckholms kyrka, dotter av riksdrotset greve Magnus [Brahe](#), och hans 1:a fru grevinnan Brita Stensdotter ([Lewenhaupt](#)).

Barn:

- **Pontus**, född 1619, begravnen 1632-06-00, varvid hela riksrådet var närvarande.
- **Christina**, född 1620-05-21 i Reval, döpt där 1620-07-02, död 1622 (efter 24/8).
- **Sofia**, född 1621, död spä.
- **Magnus Gabriel**, född 1622. Riksdrots. Död 1686. [Se Tab. 2](#)

FIGURE C.7: ONLINE ENTRY CORRESPONDING TO FIGURE C.6

Notes: Figure reproduces the online entry from [Adelsvapen \(2015\)](#) corresponding to the family tree in Figure C.6.

Svenska herrgårdar

Gårdsposter

Tillbaka till sökrultatet

Läckö
Otterstad, Kålland, Västergötland
Ladda ner som Excelfil

År	År början	År slut	År anm	Status	Jordnatur	Ägar/arr	Typ	Titel tjänst	Titel familj	Namn	Efternamn	M1 titel tjänst	M1 titel familj	M1 namn	M1 efternamn
1298				Herrgård		Ägare		Biskop		Brynolf	Algotsson				
1300	Omkring			Herrgård		Ägare				Biskoparna i Skara					
1528				Herrgård		Ägare	Indraget			Svenska staten					
1543		1571		Herrgård säteri		Ägare	Förläning	riksråd	greve	Svante Stensson	Sture			Marta Eriksdotter	(Leijonhufvud)
1569				Herrgård säteri		Ägare	Förläning		friherre	Hogenskild	Bielke af Åkerö				
1571		1591		Herrgård säteri		Ägare	arv, dotter		grevinna	Anna	Sture	ståthållare	friherre	Hogenskild	Bielke af Åkerö
1591		1593		Herrgård säteri		Ägare	Indraget			Svenska staten					
1593		1600		Herrgård säteri		Ägare	återgick		ståthållare	friherre	Hogenskild	Bielke af Åkerö	grevinna	Anna	Sture
1600		1615		Herrgård säteri		Ägare	Förläning		hertig	Johan	av Östergötland	Prinsessa	Maria Elisabet		
1615		1652		Herrgård säteri		Ägare	Förläning	riksmarsk	greve	Jakob	De la Gardie	grevinna	Ebba		Brahe
1652				Herrgård säteri		Ägare	Arv, son	överste	greve	Jakob Casimir	De la Gardie		friherrinna	Ebba	Sparre
1652				Herrgård säteri		Ägare	Arv, son	överste	greve	Pontus Fredrik	De la Gardie	grevinna	Beata Elisabeth		von Königsmark
1652		1680		Herrgård säteri		Ägare	Arv, son	riksdrotts	greve	Magnus Gabriel	De la Gardie	prinsessa	Maria Eufrosyne		
1680		1752		Herrgård	krono.kungsgård	Ägare	Indraget			Svenska staten					
1720				Herrgård	krono.kungsgård	Ärendator		riksråd	greve	Carl Gustaf	Dücker		grevinna	Hedvig Vilhelmina	Oxenstierna af Korsholm och Vasa
1730	Omkring			Herrgård	krono.kungsgård	Ärendator		riksråd	greve	Claes	Ekeblad		grevinna	Eva	De la Gardie
1752		1770		Herrgård	krono.kungsgård	Ärendator		kanslipresident	greve	Carl Gustaf	Tessin		grevinna	Ulrika Lovisa	Sparre af Sundby
1770	Omkring	1805		Herrgård	krono.kungsgård	Ärendator		riksråd	greve	Gustaf Adolf	Hjärne			Anna Maria	Ehrensward
1810		1815		Herrgård	krono.kungsgård	Ägare	Förläning	exellens	greve	Carl Johan	Adlercreutz			Margareta Beata	von Engeström
1815		1845		Herrgård	krono.kungsgård	Ägare	Förläning, bror	överste		Gustaf Magnus	Adlercreutz			Elisabet Charlotta	von Arbin
1845		1864		Herrgård	krono.kungsgård	Ägare	Förläning, svärson	kaptän	greve	Carl	Rudenschöld			Margareta Charlotta Christina Sofia	Adlercreutz
1864		1914		Herrgård	krono.kungsgård	Ärendator	arv, son	överste	greve	Axel	Rudenschöld			Sara Eufrosyne Gunilla	Wennerberg
1883	omkring			Herrgård	krono.kungsgård										
1914		1923		Herrgård	krono.kungsgård	Ärendator					Friberg/Billing				
1923		1937		Herrgård	krono.kungsgård	Ärendator				Adolf	Gustafsson				
1930	Omkring			Herrgård	krono.kungsgård	Ägare				Svenska staten					
1937		1961		Herrgård	krono.kungsgård	Ärendator				Ragnar	Jansson				
1938				Herrgård	krono.kungsgård	Ärendator				Erik Ragnar	Jansson				
1938				Herrgård	krono.kungsgård	Ärendator				Karl Gustaf	Jansson				
1942				Herrgård	krono.kungsgård	Ägare				Svenska staten					
1961		1968		Herrgård	krono.kungsgård	Ärendator				Gunnar	Nilsson				
1968		2013		Herrgård	krono.kungsgård	Ärendator				Christer	Svederberg				
2013				Herrgård	krono.kungsgård	Ärendator	arv, son			Carl-Fredrik	Svederberg				

FIGURE C.8: MANOR LÄCKÖ IN VÄSTERGÖTLAND, SWEDEN

Notes: Figure reproduces the ownership history of *Läckö* in the manor database of [Ulväng \(2024\)](#).

Kuuterselkä

Links

Owned by



12.1564–1580

[Anders Nilsson Sabelfarna](#)

Talin herra. Savonlinnan linnanhaltija 1552. Kivennavan linnakkeen vouti 1553. Ratsumestari 1561. Viipurin linnan vouti 1567, käskynhaltija 1571. † 1580

Spouse 1:o Margareta; 2:o ~1564 Margareta Mattsdotter (Teetgren) † ~1615



12.9.1570–1571

[Hans Larsson](#)

Isnäsän herra. Kuninkaan sihteeri (1550). Lähettiläs 1551. Porvoon kihlakunnan tuomari 1561–71. Amiraali 1562. Turun linnanhaltija 1563–64. Suomen käskynhaltija ja kuvernööri sekä Viipurin linnan päällikkö 1568. † 1571

Spouse 1:o Anna Persdotter Ållongren i Finland; 2:o 1567 Ingeborg Nilsdotter Boije † 1580



22.2.1583–

[Margareta Mattsdotter](#)

† 1615~

Spouse ~1564 Anders Nilsson Sabelfarna † 1580



(1618)–1628

[Henrik Jönsson](#)

Kamarikirjuri (1592). Viipurin tullinhoitaja (1597), samalla linnan kirjuri. Viipurin linnan alikäskynhaltija 1625–26. † 1628

Spouse 1:o N. N.; 2:o Barbara Petersdotter Plagman † 1671



(1618)

[Tali](#)

Talis; Leipämaa

Vanhaa rälssiä, rälssisäteri.



~(1680) perilliset

[Teetgren, noble family](#)

svA557,1652†;fiA44,immatr1818†

FIGURE C.9: MANOR KUUTERSELKÄ IN KARELIA, RUSSIA

Notes: Figure reproduces the ownership history of Kuuterselkä from [National Archives of Finland \(2023\)](#).

D. SWEDEN DURING THE GREAT REDUCTION OF 1680

TABLE D.1: SWEDISH POSSESSIONS SINCE 1523 AND COVERAGE IN THE MANOR DATASET

Possession	Present-day countries	Start	End	In dataset
Sweden under Gustav Vasa	Sweden	1523		✓
Finland	Finland	1523	1809	✓
Duchy of Estonia	Estonia	1561	1721	
Ingria	Russia	1617	1721	✓
Kexholm County (Karelia)	Finland, Russia	1617	1721	✓
Livonia	Estonia, Latvia	1629	1721	
New Sweden	United States	1638	1655	
Idre and Särna	Sweden	1644		✓
Jämtland	Sweden	1645		✓
Härjedalen	Sweden	1645		✓
Gotland	Sweden	1645		✓
Ösel	Estonia	1645	1721	
Halland	Sweden	1645*		✓
Swedish Pomerania	Germany, Poland	1648	1815	
Wismar	Germany	1648	1803 [†]	
Bremen–Verden	Germany	1648	1719	
Swedish Gold Coast	Ghana	1650	1663	
Scania	Sweden	1658		✓
Blekinge	Sweden	1658		✓
Bohuslän	Sweden	1658		✓
Bornholm	Denmark	1658	1660	
Trøndelag	Norway	1658	1660	
Porto Novo [‡]	India	1733	1733	
Saint Barthélemy	France	1784	1878	
Guadeloupe	France	1813	1814	
Kingdom of Norway [§]	Norway	1814	1905	

Notes: Table lists historical possessions held by Sweden, their locations in present-day countries, and the period of Swedish control. A blank end date indicates continued Swedish control. Shaded rows denote territories held by Sweden during the Great Reduction, 1680–1717. The final column indicates whether a possession falls within the geographic scope of the manor dataset: Sweden, Finland, Ingria, or Kexholm County in Karelia. Data are from [Asker \(2009\)](#); [Nováky \(1992\)](#); [Gill \(1958\)](#); [Thomasson \(2018\)](#). *Halland was transferred to Sweden for 30 years in 1645 and became permanently Swedish in 1658. [†]Wismar effectively ceased to be under Swedish control in 1803, although Sweden retained formal redemption rights until 1903. [‡]Porto Novo was a short-lived trading post, not a sovereign possession. [§]Norway was in personal union with Sweden from 1814 to 1905.

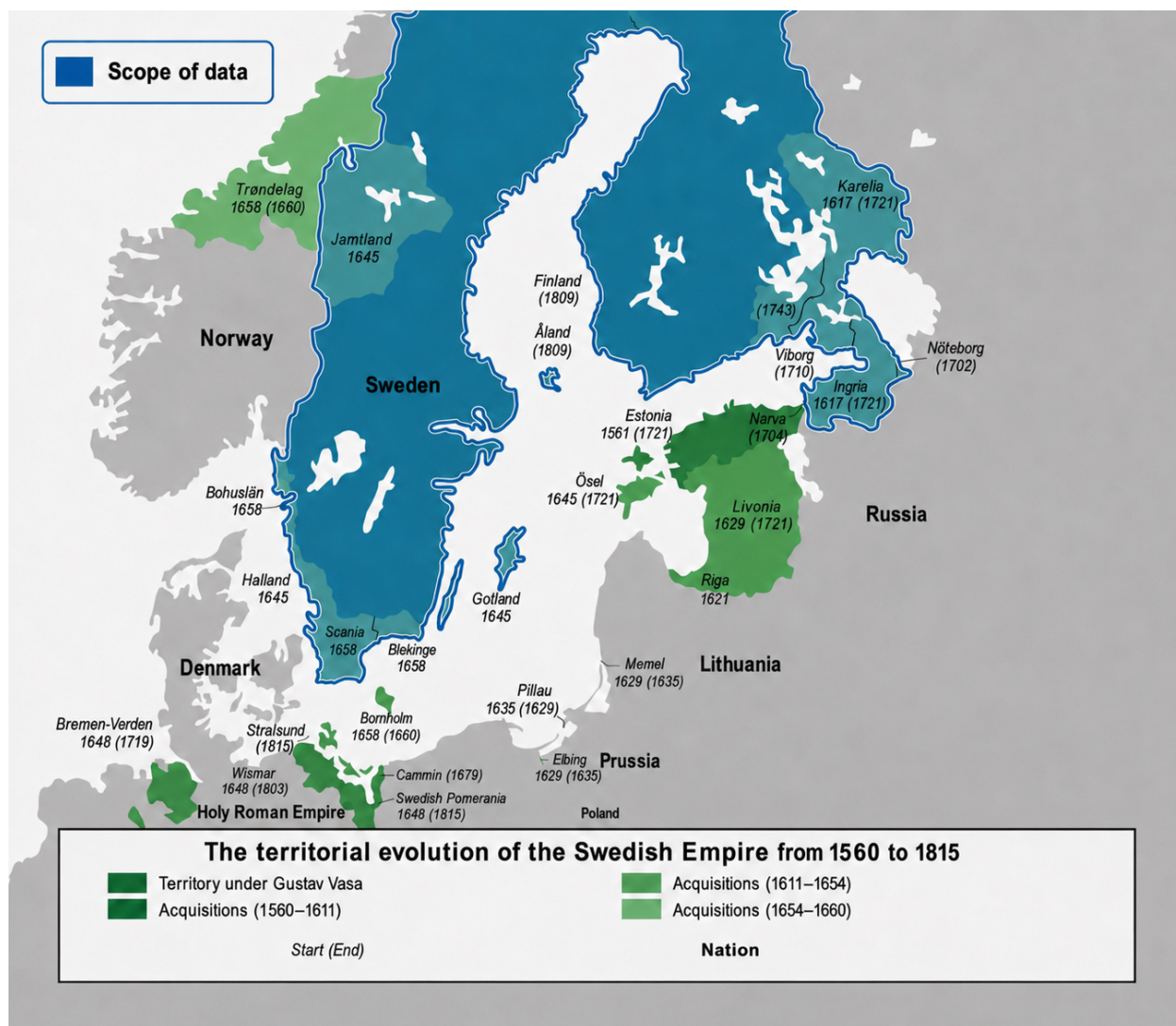


FIGURE D.10: THE SWEDISH EMPIRE AND THE SCOPE OF THE MANOR DATASET

Notes: Figure maps the territorial evolution of the Swedish Empire from 1560 to 1815 and the geographic scope of the manor dataset. The map makes some simplifications relative to Table D.1 and excludes New Sweden, the Swedish Gold Coast, Porto Novo, Saint Barthélemy, and Guadeloupe. The image is adapted from [Wikimedia Commons, Swedish Empire \(1560–1815\) en2.png](#), accessed July 2, 2026.

E. NOBLE LAND AND THE GREAT REDUCTION

This study estimates the effect of the Great Reduction on noble landholding within the Swedish-Finnish core, not across the Swedish Empire as a whole. The manor dataset covers Sweden, Finland, Kexholm, and Ingria, while Table D.1 shows that the empire extended beyond these territories. These omissions do not affect the measurement of landholding within Sweden and Finland, but they matter for interpreting the estimates as evidence of empire-wide noble wealth. This appendix therefore establishes the decline we measure within Sweden and Finland and asks whether the omitted provinces contained comparable Swedish noble landholding. Livonia is the only material gap. It was the sole overseas province in which Swedish nobles built a large landed position, and in fiscal terms it was the single largest component of the Reduction outside the old realm. That position was nonetheless held by 16 families, so the omission affects the measured upper tail of noble landholding rather than the estimates themselves.

Sweden and Finland Table E.1 reports the distribution of land in Sweden proper across cadastral categories from the early sixteenth to the late nineteenth century. The figures are the best available approximations from prior scholarship. They show a sharp rise in the noble share during the seventeenth century, from 23 percent in 1560 to 65 percent in 1654, followed by a decline to 33 percent by 1700, consistent with the timing of the Great Reduction. After 1700, the noble share remained broadly stable, with little evidence of substantial redistribution within the nobility.

Table E.2 shows a similar pattern for Finland. Noble holdings reached 14,323 *mantal*, or 58 percent of assessed land, in 1654, but fell to 1,296 *mantal* by 1700. Across Sweden and Finland, noble landholding fell from 53,955 assessed units in 1654 to 17,050 by 1700, a decline of roughly two-thirds. This comparison is indicative rather than exact: the 1654 figures are *mantal* from Nilsson (1958), whereas the 1700 figures are *hemman* from Heckscher (1935–1936) reported on the reduced assessment (*förmedlat hemman*), which mechanically lowers them.

Baltic Provinces The Baltic provinces require separate treatment because they used a different cadastral system. In Sweden and Finland, land was assessed in *mantal*; in the Baltic provinces, it was assessed in *hakar*. Both were cadastral tax units, but they are not directly comparable. They were defined under different administrative systems and have no stable conversion to one another. Baltic figures, therefore, cannot be aggregated with the

Swedish-Finnish series. They are nevertheless informative because they indicate whether Swedish nobles accumulated substantial landed wealth outside the Swedish-Finnish core.

Estonia did not become a major province for Swedish nobles. In 1620, Swedish-Finnish nobles held only 241 of 3,187 alienated *hakar*, or 7.6 percent, while Baltic-German families held 2,627 *hakar*, or 82.4 percent (Loit, 1975). Later Swedish acquisitions were larger but highly concentrated. Jacob De la Gardie acquired 561 *hakar*, and Åke Tott acquired 151 *hakar*. These were important individual holdings, but they did not alter the province-wide ownership structure. Estonia therefore remained predominantly Baltic German.

Livonia followed a different trajectory. Swedish noble landholding expanded substantially after the conquest of 1629. In 1641, Swedish noble families held 1,728 of 4,343 *hakar*, or about 40 percent of assessed land (von Transehe-Roseneck, 1890). By the 1680s, Isberg (1953) identifies 1,241 of 2,204 active *hakar*, or 56 percent, as connected to Swedish-period alienations or requiring further investigation. Of these, 1,095 *hakar* were directly linked to Swedish royal donations. More than half of Livonia's active land base was therefore identified for review or resumption during the Reduction. This does not imply that every such estate was ultimately resumed by the Crown, but it suggests a reduction of a similar order of magnitude to the decline in noble landholding observed in Sweden and Finland.

The fiscal record reinforces this reading, and its timing is essential: taken in sequence, three overlapping accounts show that Livonia was a large component of the Reduction as a whole rather than a marginal appendage. First, as seen in Table E.3, the revenues reduced through 1687 already place Livonia at 29 percent of total empire-wide reduced revenue, the single largest conquered-territory entry. Second, in the flow of rents actually resumed in 1689–1693, Loit reports 34,543 *daler silvermynt* for Sweden and Finland, or 53 percent of the period total, against 30,086, or 47 percent, for the overseas provinces, of which Livonia contributed 10,444 and Estonia 12,773 (Loit, 1975, Table 16). Livonia's modest share in this window reflects timing rather than scale: the Reduction was largely complete in Sweden and Finland by then, whereas the Livonian process began later and remained politically contested through the 1680s and early 1690s (Isberg, 1953, pp. 28–29, 286–289). Third, the rents still expected after 1693, from estates due to be resumed or compensated, were dominated by the provinces: 120,832 *daler silvermynt*, or 72 percent of the 168,680 total, with Livonia alone accounting for 61,255, or 36 percent, more than Sweden and Finland's 47,848, or 28 percent (Loit, 1975, Table 17). Across the three phases the center of gravity of the Reduction shifted decisively toward the overseas provinces, and Livonia was consistently the largest single component outside the old realm.

These rents measure Livonia's fiscal importance, not Swedish noble wealth: the sources

do not allow us to split reduced rents by ownership category. Since more than half of Livonia's active land base was tied to Swedish-period alienations, much of this revenue plausibly came from estates the Crown had granted to Swedish nobles, but we cannot quantify how much.

Other Provinces The German provinces are unlikely to alter the quantitative picture. Swedish rule in Bremen-Verden, Swedish Pomerania, and Wismar largely preserved existing institutions and did not generate large Swedish noble estate complexes. These provinces are important for understanding the Swedish Empire ([Roberts, 1980](#); [Magnusson, 1985](#)), but are peripheral to this study of Swedish noble landholding and the Great Reduction.

Livonia and the Upper Tail Livonia is the main geographic limitation of the dataset. Its omission does not affect the measurement of noble landholding in Sweden and Finland, but it does mean that the estimates understate the empire-wide reach of Swedish noble wealth. Fiscal weight and estimation impact are nonetheless distinct. By the revenue-based accounting in Table [E.3](#), Livonia was the largest single component of the Reduction outside the old realm, and among the overseas provinces it was the only major territory in which Swedish nobles acquired a large landed position.

By ownership, however, that position was highly concentrated. In 1641, 1,728 of 4,343 *hakar* were held by only 16 Swedish noble families.²³ The five largest families, Oxenstierna, Banér, Horn, De la Gardie, and Wrangel, held 1,181 *hakar*, or 68 percent of Swedish-held Livonian land and 27 percent of Livonia's total assessed land ([von Transehe-Roseneck, 1890](#), p. 46). Although the composition of Swedish noble landholders in Livonia may have shifted later in the century, it had not changed by 1687 ([Svedelius, 1851](#), p. 311), and the available evidence suggests these holdings remained concentrated among a small elite. The omission of Livonia therefore affects the measured upper tail of noble landholding rather than the body of the distribution.

²³The families were Oxenstierna, Banér, Horn, Gyllenhielm, De la Gardie, Wrangel, Thurn, Kruse, Löwenhaupt, Brahe, Cronstierna, Erikson, De la Barre, Flemming, Mannerskiöld, and Axelson.

TABLE E.1: DISTRIBUTION OF LAND IN SWEDEN PROPER, 1520–1885

Year	Cadastral category			
	Noble	Ecclesiastical*	Crown	Freehold
1520	25	25	6	45
1560	23		30	47
1654	65			
1700	33		35	32
1750	33			
1825	33		13	54
1878	32		8	60
1885	33		8	59

Notes: Table reports the percentage distribution of land in Sweden proper, excluding Finland, across the four main cadastral categories from 1520 to 1885. Data for 1520 are from [Myrdal \(1996\)](#); data for 1654 are from [Nilsson \(1958\)](#); data for 1560, 1700, 1750, 1825, and 1878 are from [Gadd \(2020\)](#); and data for 1885 are from [Lindgren \(2021\)](#). *Ecclesiastical land became Crown land after Gustav I's Reduction, 1527–1540s.

TABLE E.2: NOBLE AND TOTAL LAND IN SWEDEN PROPER AND FINLAND, 1527–1772

Year	Sweden proper			Finland		
	Noble	Total	Noble share (%)	Noble	Total	Noble share (%)
1527	13,922			215		
1560	14,175			327		
1652	32,887			10,758		
1654	39,632	60,750	65	14,323	24,539	58
1700	15,754			1,296		
1772	21,701	66,247	33	1,296	13,805	9

Notes: Table reports noble and total landholdings in Sweden proper and Finland. Data for 1654 are from [Nilsson \(1958\)](#); data for 1527, 1560, 1652, 1700, and 1772 are from [Heckscher \(1935–1936\)](#). Heckscher reports whole tax-assessed farm holdings (*hemman*), except in 1700, when noble holdings are reported according to their reduced tax assessment (*förmedlat hemman*). Nilsson reports the cadastral assessment unit (*mantal*).

TABLE E.3: CATEGORIES OF ANNUAL REVENUES REDUCED THROUGH 1687

Category*	Revenue [†]	Share [‡]	Comment
Conquered territories	1,017,378	0.651	Fiefs granted in conquered territories.
Sweden and Finland	272,689	0.174	
Sweden	84,515	0.054	Scania, Halland, Blekinge, and Bohuslän.
Kexholm County, Ingria	188,174	0.120	
Baltic provinces	544,512	0.348	
Estonia	86,428	0.055	
Livonia	458,084	0.293	
Other provinces	200,176	0.128	
Bremen–Verden	200,176	0.128	
Allodial properties	170,620	0.109	Properties granted as allodial donations, free from feudal obligations.
Countships and baronies	128,060	0.082	Large feudal estates established by King Erik XIV of Sweden in 1561.
Former military fiefs	96,508	0.062	Properties originally assigned to support soldiers financially or logistically.
Former royal mansions	82,409	0.053	Residences previously used by the Crown, often accommodating the king during his travels.
Fiefs granted under the Norrköping decree of 1604	12,231	0.008	Fiefs granted after 1604 with restricted inheritance rights.
Other	55,592	0.036	Miscellaneous or unclassified properties.

Notes: Table reports categories of annual revenues reduced under the Great Reduction through 1687. Data are from [Svedelius \(1851, pp. 318–323\)](#). English labels are our translations and aggregations from the source. *Unless otherwise indicated, categories refer to properties in the non-conquered territories of Sweden. “Conquered territories” corresponds to *Erövrade regioner*; “allodial properties” to *Donationer under åtskilliga titlar* and *Abalienerade allodialgods*; “countships and baronies” to *Grefve och Friherreskapsränder*; “former military fiefs” to *Gamla Militiae-ränder*; “former royal mansions” to *Kon. och Ladugårdars tillhörighetsränder*; and “fiefs granted under the Norrköping decree of 1604” to *Norrköpings Besluts gods öfv. 600 daler silvermynt*. “Other” includes *Hemman inom Frihetsmilärne*, *Amiralitetshemman*, *Abalienerade Norrköpings-besluts gods*, *Köp för ofruktbara fordringar*, *Kongs- och Ladugårdsränder*, *Kyrkors*, *hospitalers*, *Länsmans- m. fl. indelta hemman*, *Bergslagsorter*, and *Köp för interessen i koppar-kompagnierne*. [†]Amounts are in *daler silvermynt* and refer to annual revenues, not land area. [‡]Shares are fractions of total annual revenues in the table and may not sum exactly because of rounding.

F. EXAMPLES OF CONFISCATED MANORS

A: JULITA



B: VISINGSBORG



C: EKOLSUND



D: LÄCKÖ



FIGURE F.11: MANORS CONFISCATED DURING THE REDUCTION

Notes: Figure shows contemporary photographs of four manors whose confiscation during the Great Reduction can be verified in our manor database. Panel A shows *Julita*, owned by Baron Alexander Palbitzki and confiscated around 1680; Panel B shows *Visingsborg*, owned by Count Per Brahe and confiscated in 1681; Panel C shows *Ekolsund*, owned by Baron Sten Bielke and confiscated in 1683; and Panel D shows *Läckö*, owned by Count Magnus Gabriel De la Gardie and confiscated in 1680. Images are from Wikimedia Commons.

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