

Inheritance Customs, the European Marriage Pattern and Female Empowerment*

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November 19, 2023

Rough Draft

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Abstract

Through high celibacy rates and late ages at first marriage, the European Marriage Pattern (EMP) limited fertility in Western Europe well before the Industrial Revolution. While the EMP is considered an early determinant of European development, few studies have examined the roots of this institution. In this paper, we show that inheritance customs shaped the EMP and allowed to sustain it over time. We construct a novel atlas of local inheritance customs for pre-industrial France and Belgium and examine individual-level marriage decisions from genealogical records for the 18th and 19th centuries. Our preliminary findings show that inheritance customs affected marriage patterns through two distinct channels: women's autonomy and eased economic constraints to form a household.

JEL classification: D10, J10, K11, N33, O10.

Keywords: *European Marriage Pattern, Celibacy, Customs, Inheritance.*

*We thank the suggestions made by David de la Croix, Claude Diebolt, and Raphael Franck. We thank Èric Roca Fernández for sharing data on beguinages. We also thank seminar participants at VUB, UCLouvain, ULB and participants at the Economic History Society and the European Society Of Historical Demography 2023 annual conferences for their suggestions. Funded by the European Union (ERC, IDED, project number 947654). Views and opinions expressed are however those of the authors only and do not necessarily reflect those of the European Union or the European Research Council. Neither the European Union nor the granting authority can be held responsible for them.

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1 Introduction

West of a line from St. Petersburg to Trieste, the European Marriage Pattern (EMP) reduced pre-industrial fertility and population growth (Hajnal 1965). The EMP was characterized by late marriage, frequent lifetime celibacy, low fertility, and a predominance of nuclear families. Because this pattern coincides with divergent economic growth and Western Europe’s rise to riches, past research has focused on examining the EMP as a causal factor contributing to economic development (Carmichael et al. 2016; De Moor and Van Zanden 2010; Greif 2006; Foreman-Peck 2011; Voigtlander and Voth 2009; Dennison and Ogilvie 2014; Perrin 2021). However, far less attention has been paid to the origins of the EMP and to the institutions that allowed to sustain it over centuries (De Moor and Van Zanden 2010; Voigtländer and Voth 2013; Perrin 2021).¹

In this paper, we highlight a novel institutional factor that shaped the EMP and allowed it to persist over time: inheritance customs. Before the introduction of civil codes, inheritance was regulated by local customs, resulting in substantial variation in inheritance rules within European countries.

For sociologists, there has always existed an “iron chain” between inheritance rules and marriage decisions Lanzinger (2003). The economics literature has suggested two competing channels through which inheritance affected marriage in the context of the EMP. On the one hand, including women in the inheritance could allow women to remain single by choice (henceforth, *empowered celibacy*). On the other hand, marriage was also subject to an income effect, as it typically requires the costly formation of a neolocal household (henceforth, *constraint celibacy*).

Distinguishing between these two channels is important, as their economic implications are fundamentally different: while the first channel predicts a positive association between the EMP and economic development, the second suggests that the EMP would manifest in economically stagnant areas.

We reconcile these two opposing mechanisms by showing that there is a U-shaped relationship between financial independence and celibacy. In areas with few economic opportunities for women, the constraint celibacy channel was stronger. A husband provided economic stability and children provided support in old age. High celibacy rates emerged where inheritance customs excluded women and restrained their financial independence. In areas where single women had access to labor markets, the empowered celibacy channel dominated. High celibacy rates emerged where women could receive an inheritance and thus were more financially independent.

We investigate the relationship between inheritance rules and the EMP in three steps. Our first contribution is to build a novel atlas of inheritance customs in pre-industrial

¹De Moor and Van Zanden (2010) links the origin of the EMP to female empowerment. Voigtländer and Voth (2013) highlight the Black Death and the subsequent rise of the pastoral sector, where unmarried women could be employed as farm servants. Perrin (2021) divides France into clusters based on various local factors related to the EMP.

France and Belgium. To the best of our knowledge, we are the first to provide such a dataset for Belgium. Our work complements and expands [Gay, Gobbi, and Goñi \(2023\)](#) map of inheritance rules in Ancient-Regime France. To construct our new geographical dataset, we first create a political map of the area covered by contemporary Belgium for the 18th century. Next, we assign each judicial subdistrict its corresponding custom using [Gilissen \(1979\)](#). Finally, we classify the inheritance rules in each custom. We distinguish between two broad types of inheritance over non-movable assets: *egalitarian inheritance*—where an equal partition occurs among several heirs, including women; and *inegalitarian inheritance*—where women are excluded and/or one heir is favored over the rest. Our findings suggest that more egalitarian inheritance rules are associated with lower celibacy in areas where women’s financial independence is restricted, and with higher celibacy in areas where women had access to labor markets.

Our second contribution is to link the atlas of customs to individual-level data on marriage outcomes. Our main data source are the family trees uploaded to www.geni.com, a MyHeritage Company. We link individuals to geographic subdistricts by assigning each record in www.geni.com a latitude and longitude. To do so, we use the GeoNames geographical database. This data source provides us with individual-level completed-fertility records for men and women born as early as 1670. In addition, it provides substantial within-country variation in celibacy rates, allowing us to estimate the link between inheritance customs and the EMP, as well as the U-shaped relationship between women’s financial independence and celibacy. That said, given that the quality of amateur genealogies is inconsistent, we use the family reconstitution for France from [Henry and Houdaille \(1979\)](#) as a benchmark to develop several quality control filters.

Our third contribution is to examine how inheritance customs affected celibacy. Our empirical strategy includes both simple regressions with regional fixed effects and cross-border pair analyses. We find that egalitarian inheritance is associated, on average, with reductions in celibacy rates for women in France and Belgium born in the 1670s through the 1750s. This aggregate effect, however, masks substantial heterogeneity in the relationship between inheritance customs and celibacy. We document that two different channels, constraint and empowered celibacy, were prevalent in different areas depending on the degree of women’s financial independence and access to labor markets. To account for heterogeneity in women’s financial independence, we rely on two proxies for female economic empowerment. The first relies on the fact that animal husbandry was a common source of jobs for many women in sixteenth- and eighteenth-century rural Europe ([Kussmaul 1981](#); [Voigtlander and Voth 2009](#)). Specifically, we use the pasture suitability index developed by the Food and Agriculture Organization (FAO). The second uses proximity to beguinages, an institution associated with female labor force participation ([De Moor 2014](#); [Frigo and Roca Fernández](#)). Our findings suggest that egalitarian inheritance is associated with large reductions in celibacy rates for

women in areas with weaker proxies for female labor market opportunities, providing evidence of *constraint celibacy*. In contrast, we document that egalitarian inheritance increases celibacy rates for women in areas with stronger proxies. This is in line with the *empowered celibacy* channel whereby women with outside labor options are able to remain celibate.

Relative to the existing literature, our paper makes several contributions. First, we highlight a novel factor that contributed to the EMP: institutions. In particular, we provide micro-level evidence showing that legal institutions regulating inheritance crucially determined celibacy rates in pre-industrial Europe, and hence, contributed to sustaining the EMP for centuries. In addition, we are the first to provide empirical evidence showing that inheritance customs can explain sub-national variation in the EMP. By showing evidence for both the constraint and empowered celibacy channels, our paper sheds new light on the drivers of family formation and marital decisions. In modern settings, female celibacy is often U-shaped with respect to education or income (Greenwood et al. 2016; Baudin, de la Croix, and Gobbi 2020). We show that similar mechanisms were also at play in the past.

Second, our findings contribute to the ongoing debate over the link between the EMP and economic growth. One theory is that the EMP led to higher levels of female autonomy, which, in turn, increased investments in female human capital and allowed population growth to adjust to economic trends (e.g. De Moor and Van Zanden 2010). Similarly, Voigtländer and Voth (2013) find a positive impact of the EMP on per-capita incomes, sustained over time by the employment of unmarried young women as farm servants in pasture. Opponents argue it was the wider institutional framework, and not the EMP itself, that mattered for female empowerment and economic growth (e.g. Dennison and Ogilvie 2016). Our results show that the EMP is related to empowered celibacy in areas with economic opportunities for women, but that elsewhere the roots of high celibacy lie in economic constraints to form new households. In other words, our findings reconcile the mixed evidence on whether the EMP manifested in economically buoyant or stagnant areas.

Third, we contribute to the literature on the role of culture for economic growth. Because measuring culture is challenging, the number of empirical studies linking culture, demography, and economic growth remain scarce (e.g. Giuliano 2007; Fernandez and Fogli 2009). When codified, inheritance customs are legal institutions, but they are also the product of centuries of local cultural norms. Customary laws are thus a novel way to study the quantitative impact of culture on economic development.

In summary, inheritance customs affect marriage decisions. Mediated by local economic conditions, inheritance regulated marriage patterns and thus mattered for economic development in pre-industrial Western Europe.

The rest of the paper is structured as follows. In Section 2, we describe European Marriage Pattern (EMP), and the link with economic growth. We also provide a brief

historical background on the origins of customs. In Section 3, we describe the data sources used to construct the historical judicial subdistricts for France and Belgium as well as the atlas of inheritance customs. We also describe our demographic data. Section 4 outlines our empirical strategy and results. Section 5 concludes.

2 Background

2.1 The European Marriage Pattern

The Hajnal line, an imaginary line running between Trieste to St. Petersburg divides Europe into two areas characterized by distinctive demographic features: high age of marriage, high percentage of lifetime celibacy, low fertility, and a predominance of nuclear families (Hajnal 1965). This phenomenon, the European Marriage Pattern (EMP), coincided with economic divergence, leading to a debate about the relationship between family patterns and economic development.

A first strand of literature argues that the EMP increased economic development in Europe through various channels: increased female autonomy, greater access of women to labor and capital markets, greater human capital investment, regulating population growth in response to economic trends, or fostering corporative institutions (Carmichael, De Moor, and van Zanden 2011; Carmichael et al. 2015; Carmichael et al. 2016; De Moor and Van Zanden 2010; Foreman-Peck 2011; Van Zanden, De Moor, and Carmichael 2019).

In particular, De Moor and Van Zanden (2010) and Carmichael et al. (2016) argue consensus marriages and neolocality are the key principles that strengthen the position of women under the EMP.²

A second strand of the literature perceives the EMP as a “homeostatic regime” linking population growth to economic conditions (e.g. Horrell, Humphries, and Weisdorf ; Le Bris and Tallec 2022). In areas where neolocality is the norm, couples marry only after saving enough to start a new household. If good economic conditions are prevalent, then couples married earlier (Carmichael et al. 2016). On the other hand, Voigtländer and Voth (2013) argue that the Black Death triggered a shift toward animal husbandry, increasing in female employment opportunities and delaying marriages.

A final strand of the literature argues that the EMP was a consequence, not a cause, of the rise of Western Europe. Empirical studies reveal that marriage behavior was far from homogenous within countries (Dennison and Ogilvie 2014). Some regions had relatively strong versions of the EMP and high levels of female empowerment and yet still lagged in economic development (Palma, Reis, and Rodrigues 2021). These counter examples lead Dennison and Ogilvie (2016) to argue that while female labor force

²Neolocality means that partners can set up an independent household, which provides autonomy from the in-laws. Consensus marriage emerged in the Catholic doctrine in the ninth century, emphasizing the importance of consensual marriage and strengthening the bargaining position of brides.

participation benefited economic growth, the fundamental causes were the institutions governing the labor market, not family systems. Absent a thriving labor market, delayed or egalitarian marriages did not lead to economic growth.

2.2 Inheritance customs

Customs constitute the main, if not the only, origin of non-written laws.³ A custom is “a group of usages of the legal order, which have acquired obligatory force within a given sociopolitical group, through repetition of peaceable and public acts over a relatively long lapse of time” (Gilissen 1979, p. 37). In other words, customs are non-written laws, entrenched by repetitive usage and applied openly. In order to endure, they must not be opposed by the majority of a social group.

Customary law was dominant in Europe between the 10th–12th centuries, with most communities having their own customs serving as local laws. The diversity of peoples co-residing in many territories made it complicated to distinguish between various personal laws (Chénon 1926, p. 128). Meanwhile, the rise of feudalism meant that people would obey the same feudal lord. Thus, the legal system shifted from the principle of personality, where laws were based on an individual’s tribe or ethnic group, to the principle of territoriality, where laws applied to all residents of a particular territory.

Following the feudal era, the equivalent of the present day notion of *state* started manifesting as of the 13th century resulting in the creation of new laws which particularly covered administrative and economic domains. Customs however remained the main origin for these civil codes, which were based on compendiums of local and regional customs. These compendiums were written private documents authored by individuals, normally law practitioners or justice officials, to expose the customary laws of a specific location (Gilissen 1979, p. 252).⁴

Customary law documents did not have an official character before the 15th century in France and 16th century in Belgium, when the respective Kings, Charles VII and Charles V, formally requested the codification of customs. This transformed customs into formal laws that judges were required to apply. The codification of customs was necessary given that they could change over time and they were often complex for judges to apply.

We focus on the early modern era between the 16th and mid-18th century. During this time, the 17 provinces (*XVII Provinces des Pays-Bas*) covered the Low Countries or what is now the Netherlands, Belgium, Luxembourg, and most of the French depart-

³Other sources include general and permanent orders issued by the people in power of a given social group, that relates to behavioral rules, and that are regularly announced by the chief, or the eldest of a given clan. Additionally, judiciary precedents, proverbs and adages are alternative sources for non-written laws (Gilissen 1979).

⁴Some examples are the “*Libri Feudorum*” for the North of Italy; “*De Legibus et Consuetudinibus Regni Angliae*” by Ranulf de Glanville and “*De Legibus et Consuetudinibus Angliae*” by Henry de Bracton for England; “*Summa De Legibus Normaniae*,” “*Conseil à un Ami*,” or “*Le Livre de Justice et de Plet*” for France.

ments of Nord (French Flanders and French Hainaut) and Pas-de-Calais (Artois). On October 7 1531, Charles V ordered for the codification of customs in a 6 months period, and due to local resistance, he had to renew this order in 1532, 1540, and 1546 (Gilissen 1979, p. 250 and 262). About 600 different territorial customs existed at this time (Gilissen 1979, p. 238). The codification and ratification of customs persisted during following period, but the vast majority occurred during the reign of Charles V. This process led to some standardization, with only about 100 various customs surviving by the end of the 18th century (Gilissen 1979, p. 238 and 267). For instance, in 1564 the customs of the County of Namur (Compté de Namur) replaced at least five local customs (Gilissen 1979, p. 238).

3 Data

3.1 Mapping inheritance systems in historical Europe

We construct an atlas of inheritance customs at the local level for pre-industrial Belgium. Our work complements and expands the work of Gay, Gobbi, and Goñi (2023) which solely considers the French context.

Belgium is relevant for two reasons. First, its legal institutions were representative, in a small scale, of the judicial situation of all occidental Europe. Second, it had substantial variation in its written customs.

To construct our database for Belgium, we consider three steps. First, we rely on various historical maps using the Moravian Library’s Moll’s Map Collection⁵ and the 1972 Lambert sub-municipal boundaries to create GIS shapefiles for the provinces, independent counties, and duchies, as well as their component judicial districts: *bailliages*, *comtés*, *châtellenies*, *mairie*, *prévôtés*, *seigneuries*, and other feudal entities.

Second, we assign to each judicial district an existing custom name. To do so, we rely on the historical map of customary boundaries for the North of France and Belgium from (Gilissen 1979).

Lastly, after assigning customs to judicial districts, we classify each customs’ inheritance rules related to non-movable goods. If customs had multiple writing or codification dates, we adopt the most recent version available per custom. We provide a detailed discussion on each of these steps in the following subsections.

3.1.1 Judicial districts in eighteenth-century Belgium and France

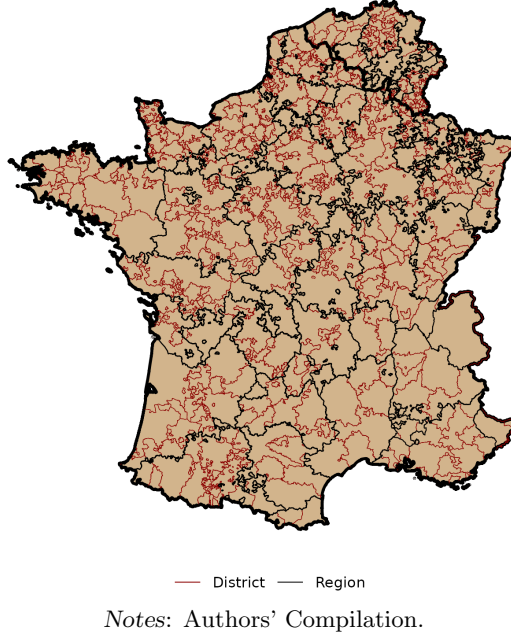
To map the historical judicial regions and subregions, we take historical maps for provinces and independent feudal states that fall into present-day Belgian and French boundaries. Next, we georeference the old maps using the latitude and longitude of cities and QGIS’s thin plate spline algorithm. Then, we overlay sub-commune level Belgian

⁵<https://mapy.mzk.cz/en/>.

boundaries from 1972.⁶ Finally, we manually traced the region and subregion borders using polygons from the Belgian shapefiles.

Figure 1 displays the final map of the historical judicial districts in the eighteenth century within the current boundaries of France and Belgium. France’s districts are taken from Gay, Gobbi, and Goñi (2023).

Figure 1: Historical judicial districts, Belgium and France



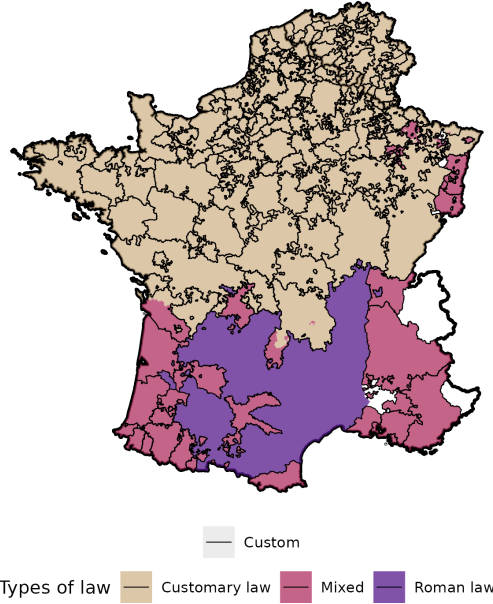
3.1.2 Assigning customs to judicial units

Our list of customs for Belgium is based on several secondary sources (Gilissen 1979, Gilissen 1950, Gilissen 1960, and Gilissen (1970)). We link these customs to our map using lists of locations where they applied and an overlaid historical map from Gilissen (1979). Note that while many cities had independent customs, when more than one custom existed in a given judicial district we use the custom that covers the largest area.

Figure 2 shows the final map of customs applicable in our constructed historical boundaries for judicial districts in Belgium. The blue lines represent customary boundaries and the gray lines represent judicial districts boundaries. Comparing Figures 1 and 2 reveals that while there is a one-to-one correspondence between districts and customs in some of the Belgian provinces (like Flanders), this is not the case in others (like Luxembourg). France’s customary boundaries are taken from Gay, Gobbi, and Goñi (2023).

⁶1972 Lambert sections from the *Atlas de Belgique* database; <https://www.atlas-belgique.be/index.php/fr/ressources/donnees-cartographiques/>

Figure 2: Belgian and French historical customary boundaries



Notes: Authors' Compilation. Each color represents a different custom.

3.1.3 Inheritance customs

After assigning customs to judicial districts, we assign to each custom an inheritance rule. We distinguish between partible inheritance, where each child inherits equally, and impartible inheritance, where one child can be favored over the rest.

This classification follows that of scholars who have studied these laws [Yver \(1966\)](#). Importantly, the classification is based on inheritance of non-movable goods and not of movable goods. According to the custom of Uccle (article 39), everything that is not nailed down is movable.⁷

This also follows Gilissen's categorization of inheritance rules from the "Recueil des Anciennes Coutumes de la Belgique." We construct a database that contains information on the custom name, custom publication date, whether the custom is local or general, whether the custom allows for partible or impartible inheritance partition and whether women were included or excluded from inheritance. Our main reference for written customary laws is [de Richebourg \(1724\)](#).

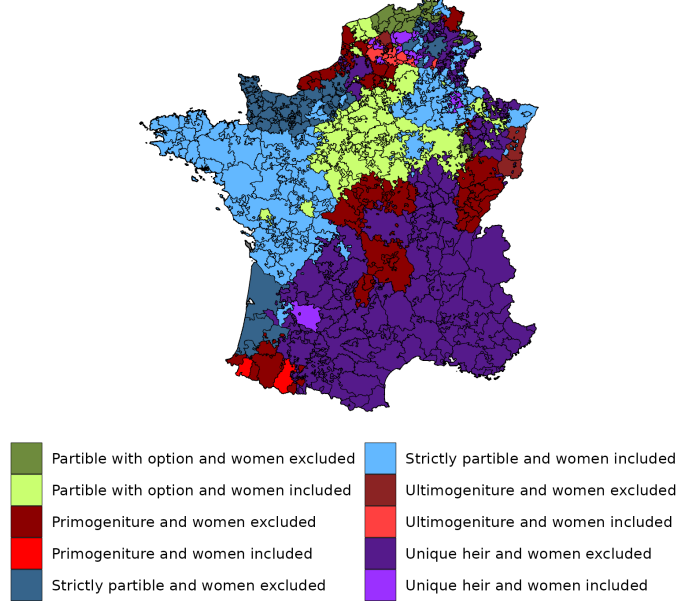
We also confirm the classification of inheritance rules using additional secondary sources. Particularly, we rely on ([Meijers 1929](#)), ([Meijers 1932](#)) and ([Meijers 1936](#)). While our list of customs is more comprehensive, these secondary sources confirm our classification for the subset of customs for Belgium that appear across various sources.

In Figure 3 we plot the distribution of inheritance types for Belgium and France. Figure 4 simplifies the classification scheme into four categories. To the best of our

⁷There are different types of non-movable goods. We abstract from feudal non-movable goods, which follow feudal rules and are in most of the cases transmitted to the firstborn son. We focus on the family house or farm.

knowledge, we are the first to provide a mapping of different inheritance customs for Belgium. Our work complements that of [Gay, Gobbi, and Goñi \(2023\)](#), which does so solely for France.

Figure 3: Map of inheritance customs



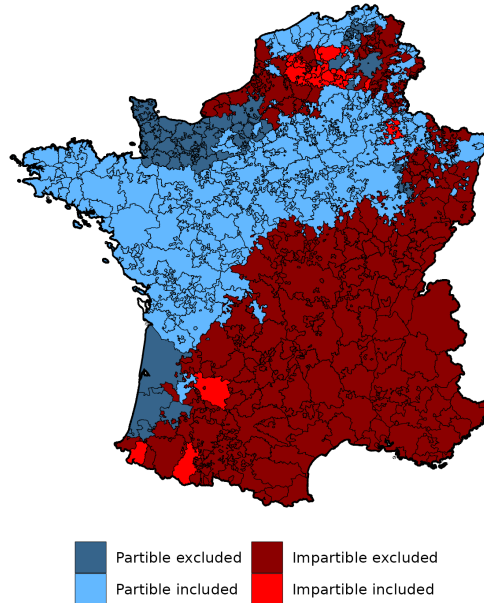
Notes: We later define egalitarian inheritance as both partible inheritance and women included.

3.2 Celibacy

To measure celibacy, we rely on genealogical records from www.geni.com, a MyHeritage Company. To build our sample, we follow a number of steps. First, we rely on various geographical variables to filter and keep any location of birth that includes the term France, Belgium, or an equivalent. As a second step, we do multiple iterations of linking that merge profiles to unions files. We then link individuals to geographic districts by assigning each record in www.geni.com a latitude and longitude using the Photon geocoder <https://photon.komoot.io/>. We drop any observations missing a latitude or longitude, located outside of Belgium or France, or assigned as a place a geographic location at a higher level of aggregation than a city. This yields a sample of genealogical profiles with precise location information.

Data quality controls are necessary given that there are potential biases that arise when using family trees created by amateur genealogists. The most obvious issue is patriline bias, where a genealogist only follows their direct paternal lineage. To address this, we show that all our results are robust to the horizontal lineage restriction (h-sample) developed by [Blanc \(2022\)](#). Specifically, this sample restriction considers only individuals in lineages where at least one ancestor in the preceding four generations had

Figure 4: Map of inheritance customs



Notes: We later define egalitarian inheritance as both partible inheritance and women included.

two or more children.

Another potential issue is false positive linkages. Genealogists may make incorrect linkages when an individual has a common name. When an individual migrates, they may also link to the wrong individual in another parish. To address this issue, we show our results are robust to keeping only individuals with a surname of average or below frequency (rare names) or who dies in the same location (stayers).

In practice, we find little difference in our results using these quality control filters.⁸ We believe this is because our analysis requires precise geolocation of references, which is already a strict quality control filter. In other words, amateur genealogists who are able to provide a precise birthplace are likely to provide quality information in general.

We use a definition of celibacy based on death records: definite celibacy ([Henry and Houdaille 1978](#)). Because celibacy is the absence of marriage, it is important to avoid classifying individuals who would have married if they had not died. Therefore, we restrict the sample to those dying at age forty or older. Celibacy is then defined as absence of any spouses in the family trees.

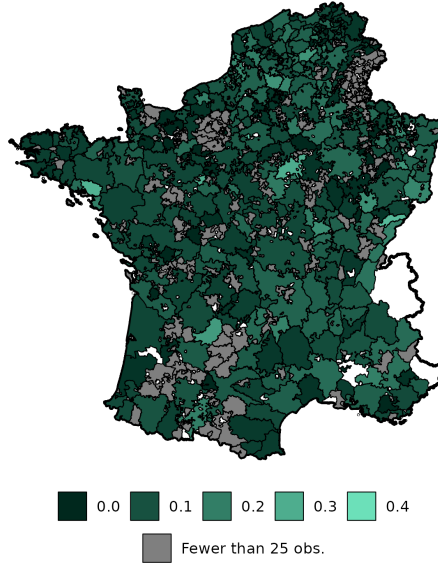
⁸The h-sample does have a higher average celibacy and completed fertility rate, see Table 1

4 Inheritance customs and celibacy

4.1 Sample description

Our main sample of analysis includes women born in France or Belgium between 1670 and 1753. Our sample stops at women who had completed their fertile life (were 40) when the French Revolution wipes out local inheritance customs in 1793 (Gay, Gobbi, and Goñi 2023). The sample hence excludes women born after 1753.

Figure 5: Average celibacy rate by subregion



Notes: Sample restricted to women dying at age 40 or older. Subregions with fewer than 25 observations left blank.

In Figure 5, we plot the average celibacy rate by subregion for our sample of women born in France and Belgium between 1670 and 1753.

We provide summary statistics in Table 1 for men and women in our sample. We also include summary statistics for the samples created by using each of the three quality control filters discussed above.

4.2 Economic opportunities for women

We test whether the constraint-celibacy channel prevailed in areas with few economic opportunities for women and, conversely, whether areas where women had access to labor markets show signs of empowered celibacy. We use two different proxies for access to labor markets.

Our first measure relies on the fact that animal husbandry was a common source of jobs for many women in sixteenth- and eighteenth-century rural Europe (Kussmaul 1981; Voigtlander and Voth 2009). We use the pasture suitability index (PSI) developed

Table 1: Summary Statistics for men and women born 1670–1753.

Variable	Mean	SD	N
Full sample			
Definite celibacy	0.11	0.31	61,143
Age at first marriage	24.70	6.18	60,370
Net fertility	2.88	2.91	68,493
Egalitarian inheritance	0.52	0.50	137,735
Pasture suitability	0.72	0.13	137,697
Near beguinage	0.02	0.15	137,735
Near town	0.09	0.29	137,735
Belgian	0.23	0.42	137,735
H-sample			
Definite celibacy	0.23	0.42	29,404
Age at first marriage	24.69	5.92	29,043
Net fertility	3.87	3.22	25,818
Egalitarian inheritance	0.52	0.50	89,948
Pasture suitability	0.72	0.13	89,931
Near beguinage	0.02	0.14	89,948
Near town	0.09	0.28	89,948
Belgian	0.23	0.42	89,948
Rare name sample			
Definite celibacy	0.12	0.32	33,652
Age at first marriage	24.61	5.86	25,774
Net fertility	2.95	2.94	30,099
Egalitarian inheritance	0.52	0.50	51,207
Pasture suitability	0.72	0.13	51,193
Near beguinage	0.02	0.15	51,207
Near town	0.10	0.29	51,207
Belgian	0.24	0.43	51,207
Stayers sample			
Definite celibacy	0.12	0.32	33,652
Age at first marriage	24.61	5.86	25,774
Net fertility	2.95	2.94	30,099
Egalitarian inheritance	0.52	0.50	51,207
Pasture suitability	0.72	0.13	51,193
Near beguinage	0.02	0.15	51,207
Near town	0.10	0.29	51,207
Belgian	0.24	0.43	51,207

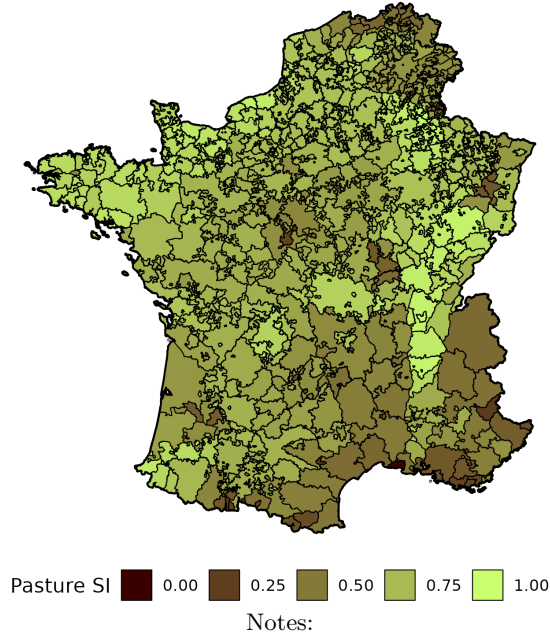
Notes: The samples include women born 1670–1753, who died after 40, and whose Geni records could be precisely geolocated.

by the Food and Agriculture Organization (FAO). This index provides us with local, exogenous, environment-determined conditions that favor the development of the animal husbandry sector, and hence, that enhances women’s access to labor markets.

Specifically, the FAO provides a pasture suitability index for 5 arc-minutes grid cells (approximately 10 km), which ranges from zero (lowest pasture suitability) to one (highest pasture suitability). We then aggregate this measure by judicial district (Figure 6). We define rural areas as those greater than 2km from a town of at least 1,000 people in the year 1650 using the data from [Buringh \(2021\)](#) (Figure 7).

Our second measure is the presence of a beguinage. Specifically, we look at beguinages from [Frigo and Roca Fernández \(\)](#) that were open until at least 1670 (Figure 7). Beguinages were religious communities of single women, but unlike convents they did not require the payment of substantial dowries for admission ([De Moor 2014](#)). Beguines forwent vows of poverty and instead funded themselves through paid labor, often becoming relatively prosperous. We interpret the presence of a beguinage as indicative not only of access to this particular institution, but also of a local labor market with employment opportunities for women.

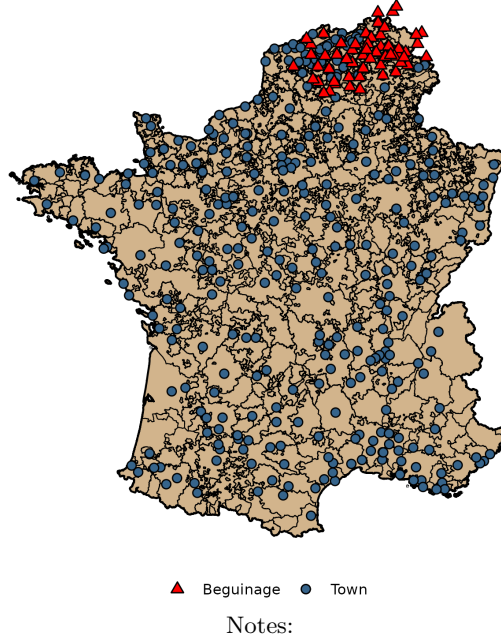
Figure 6: Map of pasture suitability



4.3 Regional fixed effects

We begin by presenting simple OLS estimates describing the relationship between inheritance systems and celibacy. Our specification is based on comparing women born in judicial districts with egalitarian- and non-egalitarian-inheritance, accounting for time-

Figure 7: Map of towns and beguinages



invariant regional factors and general trends in marriage by cohort. Our OLS fixed-effects specification takes the form:

$$Y_{icmr} = \alpha + \beta \text{Egalitarian}_m + \mu_c + \mu_r + \epsilon_{icm} , \quad (1)$$

where Y_{icmr} is an indicator variable equal to one if women i , born in decade c at locality m in region r remained celibate throughout her life.⁹ Egalitarian is an indicator variable equal to one for women born in a judiciary district with egalitarian inheritance. That is, it indicates individuals from areas where inheritance was shared across all offspring, including women. The terms μ_c and μ_r represent birth decade and region fixed effects and account for average differences in celibacy across time and space. The coefficient of interest is β , which captures the association between egalitarian inheritance and celibacy rates.

Table 2 presents estimates of Equation (1) on a pooled sample of women born in France or Belgium between 1670 and 1753. This sample is restricted to women who died after age 40 and whose Geni record could be precisely geolocated. Columns 2–4 restrict the sample additionally by the quality control filters mentioned above: the horizontal sample, the rare surnames sample, and the sample who die in the same location they are born. The estimates suggest that, on average, egalitarian inheritance is associated with reductions in celibacy rates in pre-industrial France and Belgium. Specifically, female

⁹Regions are *Généralité* for France, and provinces, independent counties, and duchies for Belgium. These are aggregate judicial divisions, larger than the judicial districts where inheritance rules were applied (*bailliages*, *comtés*, *châtellenies*, *mairie*, *prévôtés*, *seigneuries*, and other feudal entities).

celibacy was 23 percentage points lower in areas where inheritance was shared across all offspring including women. Given the sample average of 11-percent celibacy, this is substantial. It is consistent with the constraint celibacy channel.

This aggregate effect, however, masks substantial heterogeneity in the relationship between inheritance customs and celibacy. Next, we investigate this heterogeneity by interacting inheritance customs with our two proxies for female access to labor markets.

Formally, we augment the model in Equation (1) using the following specification:

$$Y_{icmr} = \alpha + \beta_1 \text{Egalitarian} + \beta_2 \text{Egalitarian} \times \text{Pasture SI}_m + \delta \text{Pasture SI}_m + \mu_c + \mu_r + \epsilon_{icm} , \quad (2)$$

where Pasture SI is the FAO pasture suitability index in locality m , and:

$$Y_{icmr} = \alpha + \beta_1 \text{Egalitarian} + \beta_2 \text{Egalitarian} \times \text{Beguinage}_m + \delta \text{Beguinage}_{icmr} + \mu_c + \mu_r + \epsilon_{icm} , \quad (3)$$

where Beguinage is an indicator that is one if the individual was born within 2 km of a beguinage that was open until at least 1670.

The coefficients of interest are β_1 and β_2 . According to our theory, we expect $\beta_1 < 0$, reflecting the fact that including women in inheritances in areas where they had relatively few economic opportunities may ease constraints over the formation of neolocal households and hence reduce constraints on celibacy (constraint celibacy channel). In addition, $\beta_2 > 0$ would reflect the fact that including women in inheritances in areas where they had strong access to labor markets allowed them to remain celibate by choice (empowered celibacy).

Table 3 report estimates of Equation (2) on our baseline sample and on our quality control samples, looking only at women born in rural areas. (We define rural as greater than 2 km from a [Buringh \(2021\)](#) city with a population estimate of at least 1,000 in the year 1650). As before, the coefficient for egalitarian inheritance is negative, but its magnitude is substantially larger. However, in an area with perfect pasture suitability (which is scaled from 0 to 1), egalitarian inheritance is associated with a net increase in celibacy.

Table 4 report estimates of Equation (3) on our baseline sample and on our quality control samples. Again, the coefficient for egalitarian inheritance is negative. In an area within 2 km of a beguinage, egalitarian inheritance is associated with a net increase in celibacy.

Together, these findings highlight that constraint celibacy was more prevalent in areas with few economic opportunities for women. In contrast, we document a positive,

significant differential effect of egalitarian inheritance on celibacy in areas that are more suitable for animal husbandry or are close to a beguinage. We interpret this as evidence that inheritance, where women had greater access to labor markets, allowed women to remain single by choice (empowered celibacy).

Table 2: The relationship between celibacy and inheritance, basic results

	All (1)	H-Sample (2)	Rare names (3)	Stayers (4)
Egalitarian	-0.03*** (0.00)	-0.02** (0.01)	-0.02*** (0.01)	-0.03*** (0.01)
N	61,143	29,404	45,797	33,652
Adj. R Squared	0.01	0.01	0.01	0.01
Region FE	X	X	X	X

Note: Sample is women born 1670–1753, who died after 40, and whose Geni records could be precisely geolocated; Robust SE in parentheses; * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3: Inheritance and pasture suitability, fixed effects results

	All (1)	H-Sample (2)	Rare names (3)	Stayers (4)
Egalitarian	-0.09*** (0.02)	-0.14*** (0.04)	-0.10*** (0.02)	-0.10*** (0.02)
Pasture SI	-0.07*** (0.02)	-0.14*** (0.04)	-0.09*** (0.02)	-0.09*** (0.02)
× Pasture SI	0.09*** (0.03)	0.17*** (0.06)	0.11*** (0.03)	0.11*** (0.03)
N	55,459	26,658	41,409	41,409
Adj. R Squared	0.01	0.01	0.01	0.01
Region FE	X	X	X	X

Note: Sample is women born 1670–1753, who died after 40, whose Geni records could be precisely geolocated, and were at least 5km from a [Buringh \(2021\)](#) city of population 1,000+; Robust SE in parentheses; * $p < .05$; ** $p < .01$; *** $p < .001$.

4.4 Cross-border pairs

To address the possibility of omitted variable bias in the results of the previous section, we undertake a second estimation strategy that compares localities in close geographic proximity with different inheritance systems.

We carry out a cross-borders fixed effects analysis, whereby we compare two adjacent judicial districts with differing inheritance customs. Because many subdistricts have exclaves, we further divide them into geographically contiguous subdistricts. We

Table 4: Inheritance and beguinages, fixed effects results

	All (1)	H-Sample (2)	Rare names (3)	Stayers (4)
Egalitarian	-0.03*** (0.00)	-0.02*** (0.01)	-0.02*** (0.01)	-0.03*** (0.01)
within 2 km of beguinage	-0.04*** (0.01)	-0.07*** (0.02)	-0.04*** (0.01)	-0.05*** (0.01)
× within 2 km of beguinage	0.05*** (0.02)	0.12*** (0.03)	0.04** (0.02)	0.08*** (0.02)
N	61,143	29,404	45,797	33,652
Adj. R Squared	0.01	0.01	0.01	0.01
Region FE	X	X	X	X

Note: Sample is women born 1670–1753, who died after 40, whose Geni records could be precisely geolocated; Robust SE in parentheses; * $p < .05$; ** $p < .01$; *** $p < .001$.

then aggregate the individual data to the subdistrict level, and compare pairs (so each subdistrict can show up multiple times in the regression).

Our results are derived from pairs of judicial subdistricts that share a border and have different inheritance systems. Specifically, we report estimates of Equations (2) and (3) estimated on these cross-border pairs instead of individuals, replacing the fixed effects with pair fixed effects. As some districts are more highly represented in the Geni data than others, the regressions are weighted by the number of observations within each subdistrict.

Table 5 and Table 6 reports estimates of our cross-borders fixed effects analysis. The estimates are similar to those in Tables 3 and 4, and we draw the same interpretations. Note that here, we are controlling for all unobservable characteristics that are shared between cross-border pairs. In other words, any omitted variables biasing our results would have to be correlated with the judicial borders.

5 Conclusion

This paper empirically investigates the relationship between inheritance customs and marital decisions. Inheritance customs serve as a reflection of both legal institutions and local cultural norms, making them crucial factors influencing the formation of families. By examining this association, we contribute to the understanding of the drivers behind the European Marriage Pattern and shed light on the interplay between societal norms, economic constraints, and individual choices.

To analyze the impact of inheritance customs on marital decisions, we construct a novel Atlas of inheritance customs in pre-industrial France and Belgium and use large genealogical dataset to link individual-level data on marriage outcomes to the corre-

Table 5: Inheritance and pasture suitability, cross-border pair results

	All (1)	H-Sample (2)	Rare names (3)	Stayers (4)
Egalitarian	-0.07** (0.03)	-0.13*** (0.05)	-0.10*** (0.03)	-0.10*** (0.03)
Pasture SI	-0.06* (0.03)	-0.13*** (0.05)	-0.08** (0.03)	-0.08** (0.03)
× Pasture SI	0.09** (0.04)	0.18** (0.07)	0.14*** (0.04)	0.14*** (0.04)
N	4,288	3,815	4,206	4,206
Adj. R Squared	0.48	0.38	0.38	0.38
Region FE	X	X	X	X

Note: Sample is cross-border subregion pairs weighted by number of individuals. Individual celibacy based on women born 1670–1753, who died after 40, and whose Geni records could be precisely geolocated; pair-clustered SEs in parentheses; *p<.05; **p<.01; ***p<.001.

Table 6: Inheritance and beguinages, cross-border pair results

	All (1)	H-Sample (2)	Rare names (3)	Stayers (4)
Egalitarian	-0.01** (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.02*** (0.01)
within 2 km of beguinage	-0.10*** (0.03)	-0.08 (0.06)	-0.08** (0.03)	-0.11*** (0.03)
× within 2 km of beguinage	0.12** (0.06)	0.16* (0.10)	0.09* (0.05)	0.23*** (0.05)
N	4,316	3,845	4,234	4,020
Adj. R Squared	0.48	0.39	0.38	0.44
Pair FE	X	X	X	X

Note: Sample is cross-border subregion pairs weighted by number of individuals. Individual celibacy based on women born 1670–1753, who died after 40, and whose Geni records could be precisely geolocated; pair-clustered SEs in parentheses; *p<.05; **p<.01; ***p<.001.

sponding inheritance customs.

Our empirical analysis, employing an ordinary-least-squares estimation with regional fixed effects, uncovers intriguing insights into the relationship between inheritance customs and marital decisions. Specifically, we document that the EMP is related to empowered celibacy in areas with economic opportunities for women. In contrast, in regions characterized by economic constraints, the roots of high celibacy can be traced back to the challenges of forming new households.

This paper thus revisits the link between the European Marriage Patterns, female autonomy, and economic growth. Our analysis reveals a U-shaped relationship between financial independence and celibacy, reconciling the opposing mechanisms presented in the existing literature.

References

- Baudin, Thomas, David de la Croix, and Paula E. Gobbi. 2020. "Endogenous Childlessness and Stages of Development." *Journal of the European Economic Association* 18 (1): 83–133.
- Blanc, Guillaume. 2022. "Demographic Change and Development Using Crowdsourced Genealogies."
- Buringh, Eltjo. 2021. "The Population of European Cities from 700 to 2000: Social and Economic History." *Research Data Journal for the Humanities and Social Sciences* 6 (1): 1–18 (September).
- Carmichael, Sarah, Tine De Moor, and Jan Luiten van Zanden. 2011. *The History of the Family Introduction*.
- Carmichael, Sarah G, Alexandra de Pleijt, Jan Luiten Van Zanden, and Tine De Moor. 2016. "The European marriage pattern and its measurement." *The Journal of Economic History* 76 (1): 196–204.
- Carmichael, Sarah Guillard, Jan Luiten van Zanden, et al. 2015. "Towards an ethnographic understanding of the European Marriage Pattern: Global correlates and links with female status." *CGEH Working Paper series*, vol. 67.
- Chénon, Émile. 1926. *Histoire Générale du Droit Français Public et Privé des Origines à 1815*. Volume 1. Recueil Sirey, Paris.
- De Moor, Tine. 2014. "Single, Safe, and Sorry?: Explaining the Early Modern Beguine Movement in the Low Countries." *Journal of Family History* 39 (1): 3–21 (January).
- De Moor, Tine, and Jan Luiten Van Zanden. 2010. "Girl power: the European marriage pattern and labour markets in the North Sea region in the late medieval and early modern period." *The economic history review* 63 (1): 1–33.
- Dennison, Tracy, and Sheilagh Ogilvie. 2014. "Does the European marriage pattern explain economic growth?" *The journal of economic history* 74 (3): 651–693.
- . 2016. "Institutions, demography, and economic growth." *The Journal of Economic History* 76 (1): 205–217.
- de Richebourg, Charles Antoine Bourdot. 1724. *Nouveau coutumier général, ou Corps des coutumes générales et particulières de France, et des provinces connues sous le nom des Gaules...* Volume 3. Chez Michel Brunet.
- Fernandez, Raquel, and Alessandra Fogli. 2009. "Culture: An empirical investigation of beliefs, work, and fertility." *American Economic Journal: Macroeconomics* 1 (1): 146–77.
- Foreman-Peck, James. 2011. "The Western European marriage pattern and economic development." *Explorations in Economic History* 48 (2): 292–309.
- Frigo, Annalisa, and Èric Roca Fernández. "Roots of Gender Equality: The Persistent Effect of Beguinages on Attitudes toward Women." 27 (1): 91–148.
- Gay, Victor, Paula Eugenia Gobbi, and Marc Goñi. 2023. "Revolutionary transition: Inheritance change and fertility decline." Unpublished.
- Gilissen, John. 1950. "Les Phases De La Codification Et De L'Homologation Des Coutumes Dans Les Xvii Provinces Des Pays-Bas." *Tijdschrift voor Rechtsgeschiedenis / Revue d'histoire du droit / The Legal History Review* 18 (2): 239 – 290.

- . 1960. *Introduction historique au droit civil: Les sources jusqu'en 1789, Volume 1*. Presses Universitaires de Bruxelles.
- . 1970. *Introduction bibliographique à l'histoire du droit et à l'ethnologie juridique, C/3, Belgique et Nord de la France*. Éditions de l'Institut de Sociologie.
- . 1979. *Introduction historique au droit: Esquisse d'une histoire universelle du droit, les sources du droit depuis le XIIe siècle, éléments d'histoire du droit privé*. Emile Bruylant.
- Giuliano, Paola. 2007. "Living arrangements in western europe: Does cultural origin matter?" *Journal of the European Economic Association* 5 (5): 927–952.
- Greenwood, Jeremy, Nezih Guner, Georgi Kocharkov, and Cezar Santos. 2016. "Technology and the Changing Family: A Unified Model of Marriage, Divorce, Educational Attainment, and Married Female Labor-Force Participation." *American Economic Journal: Macroeconomics* 8 (1): 1–41.
- Greif, Avner. 2006. "Family structure, institutions, and growth: the origins and implications of western corporations." *American Economic Review* 96 (2): 308–312.
- Hajnal, John. 1965. "European Marriage Patterns in Perspective. In *Population in History: Essays in Historical Demography*, edited by DV Glass and DEC Eversley." London: Edward Arnold.
- Henry, Louis, and Jacques Houdaille. 1978. "Célibat et age au mariage aux XVIIIe et XIXe siècles en France: I. Célibat définitif." *Population (French Edition)* 33 (1): 43 (January).
- . 1979. "Célibat et âge au mariage aux XVIIIe et XIXe siècles en France. II. Âge au premier mariage." *Population (French edition)*, pp. 403–442.
- Horrell, Sara, Jane Humphries, and Jacob Weisdorf. "Malthus's Missing Women and Children: Demography and Wages in Historical Perspective, England 1280-1850." 129:103534.
- Kussmaul, Ann. 1981. *Servants in Husbandry in Early Modern England*. Cambridge University Press.
- Lanzinger, Margareth. 2003. Chapter Toward predominating primogeniture: Changes in inheritance practices in Innichen/San Candido, 1730 to 1930 of *Distinct Inheritances. Property, Family and Community in a Changing Europe*, edited by H. Grandits and P. Heady, 125–144.
- Le Bris, David, and Ronan Tallec. 2022. "The European marriage pattern and the sensitivity of female age at marriage to economic context. Montesquieu-Volvestre, 1660–1789." *Cliometrica*, pp. 1–45.
- Meijers, E.M. 1929. *Het ligurische Erfrecht in de Nederlanden: Het west-brabantsche Erfrech*. Publikaties / Serie 2 no. Bd. 1. H. D. Tjeenk Willink & Zoom.
- . 1932. *Het ligurische erfrecht in de Nederlanden: Het West-Vlaamsche erfrecht*. Het oeligurische Erfrecht in de Nederlanden. H.D. Tjeenk Willink & Zoon N.V.
- . 1936. *Het ligurische erfrecht in de Nederlanden—: Het Oost-Vlaamsche erfrecht*. Het ligurische erfrecht in de Nederlanden—. N/v H. D. Tjeenk Willink & zoon.

- Palma, Nuno Pedro G, Jaime Reis, and Lisbeth Rodrigues. 2021. “Historical gender discrimination does not explain comparative Western European development: evidence from Portugal, 1300-1900.”
- Perrin, Faustine. 2021. “On the Origins of the Demographic Transition: Rethinking the European Marriage Pattern.” *Cliometrica*, September.
- Van Zanden, Jan Luiten, Tine De Moor, and Sarah Carmichael. 2019. *Capital Women: The European Marriage Pattern, Female Empowerment and Economic Development in Western Europe 1300-1800*. Oxford University Press.
- Voigtlander, Nico, and Hans-Joachim Voth. 2009. “Malthusian dynamism and the rise of Europe: make war, not love.” *American Economic Review, Papers & Proceedings* 99 (2): 248–54.
- Voigtländer, Nico, and Hans-Joachim Voth. 2013. “The three horsemen of riches: Plague, war, and urbanization in early modern Europe.” *Review of Economic Studies* 80 (2): 774–811.
- Yver, Jean. 1966. *Égalité entre héritiers et exclusion des enfants dotés. Essai de géographie coutumière*. Edited by Paris Sirey.