European
Historical
Economics
Society

EHES Working Paper | No. 287 | November 2025

State Capacity and Subjective Well-Being in Early Modern Spain

Carlos Álvarez-Nogal
Universidad Carlos III de Madrid

Leandro Prados de la Escosura[1]
Universidad Carlos III de Madrid

https://www.ehes.org/

EHES Working Paper | No. 287 | November 2025

State Capacity and Subjective Well-Being in Early Modern Spain

Carlos Álvarez-Nogal
Universidad Carlos III de Madrid

Leandro Prados de la Escosura[1]
Universidad Carlos III de Madrid

Abstract

In early modern Spain, state capacity has been regarded as weak in the historical literature. In this paper, we assess the Spanish Monarchy's ability to implement its policies through an output measure rather than an input—specifically, the distribution of the Bull of the Crusade. Furthermore, we explore how shifts in state capacity influenced subjective well-being. In a religious society like early modern Spain, spiritual satisfaction functions as a measure of subjective well-being. It was achieved by reducing the perceived time spent in Purgatory after death to atone for sins committed during life, which could be done by purchasing indulgences. Consuming the Bull of the Crusade, an affordable form of almsgiving, granted a plenary indulgence and, therefore, eliminated the need for penance in the afterlife for all sins committed prior to its purchase. Obtaining the bull reduced death anxiety and increased life satisfaction. Our measure of subjective well-being—the logarithmic ratio of bulls sold to the population, both normalised—indicates whether spiritual satisfaction was attained. Subjective well-being declined in the late 1570s and 1580s during years of severe financial crisis, in the 1640s during the Catalan Revolt, and collapsed during Spain's War of Succession (1701-14) and its aftermath. Reductions in state capacity coincided with decreases in spiritual satisfaction, while demand for bulls remained relatively stable over time. Declines in state capacity appear to be the primary factor behind these decreases in spiritual satisfaction and, consequently, lower subjective well-being.

JEL Codes: E70, H27, I31, N33, Z12
Keywords: State Capacity, Subjective Well-Being, Spiritual Satisfaction, Early Modern Spain, Bulls

[1] Corresponding Author: Leandro Prados-de-la-Escosura (prados@clio.uc3m.es)
We thank participants in seminars at Maastricht and Bristol universities and the World Economic History Congress, Lund, 2025. We especially appreciate Edmund Cannon, Davide Coluccia, Leandro de Magalhaes, Michalis Moatsos, and Blanca Sánchez-Alonso for their comments and suggestions.

Notice
The material presented in the EHES Working Paper Series is property of the author(s) and should be quoted as such. The views expressed in this Paper are those of the author(s) and do not necessarily represent the views of the EHES or its members.

1. Introduction

State capacity in early modern Spain has been regarded as weak. State capacity pertains to a government's ability to implement policies that meet its objectives. It is usually assessed through inputs such as fiscal capacity (government revenue as a percentage of GDP). Research frequently examines the link between state capacity and economic development. However, this paper evaluates state capacity using an output measure instead of inputs, and investigates the relationship between state capacity and subjective well-being in early modern Spain. Specifically, it considers how reductions in state capacity impacted subjective well-being during the economic downturn from the late sixteenth to mid-seventeenth century, as well as the partial recovery that persisted into the eighteenth century.

In a religious society like early modern Spain, spiritual satisfaction serves as a measure of subjective well-being. For example, spiritual satisfaction was attained by reducing the perceived time spent in Purgatory after death to atone for sins committed during life, which could be achieved through the purchase of indulgences.

Consuming the Bull of the Crusade, an affordable and personal form of almsgiving for individuals aged 12 and above—for whom almsgiving was recommended—granted a plenary indulgence, eliminating the need for penance in the afterlife for all sins committed before its purchase. As a result, acquiring the bull lowered death anxiety and boosted life satisfaction.

Between 1574 and the early nineteenth century, the Bull of the Crusade, granted by the Roman Catholic Church and distributed annually by the Monarchy across Spain, was sold successfully to about two-thirds of the population. This tested the Monarchy's political authority and administrative capacity to enforce a uniform system of grace dissemination and revenue collection throughout its territory— a crucial aspect of state capacity. Furthermore, the successful distribution of printed bulls across the various regions and kingdoms that make up today's Spain demonstrated the efficiency of implementing a state policy.

The proposed indicator of subjective well-being—the logarithmic ratio of bulls sold to the population, both normalised, that is, expressed relative to its average over 1574-1799—shows whether spiritual satisfaction was achieved, with a ratio above zero indicating satisfaction and below zero reflecting dissatisfaction.

Our measure of subjective well-being declined in the late 1570s and 1580s during years of severe financial crisis, as well as in the 1640s, coinciding with the Catalan Revolt and the early stages of the Portuguese War of Restoration, before recovering thereafter. It then collapsed during Spain's Succession War (1701-14) and its aftermath, only to recover from the mid-eighteenth century onwards.

When analysing the potential factors behind declines in spiritual satisfaction: the supply of bulls—measured by the number of bulls printed relative to the population aged 12 and above, which reflects how successful the distribution of the bull of the Crusade was and thus indicates bureaucratic or state capacity—and the demand for bulls—indicated by the ratio of bulls sold to bulls printed—it appears that episodes of declining state capacity coincided with decreases in spiritual satisfaction, while the demand for bulls remained relatively more stable over time, although it fell alongside state capacity. We suggest that reductions in state capacity were the primary cause of these episodes of decline in spiritual satisfaction and, consequently, in subjective well-being.

The paper is organised as follows: Section 2 introduces the source, the bull of the Crusade, and describes its main features. Section 3 discusses state capacity in early modern Spain and proposes the distribution of the bull as a way of testing it. Section 4 focuses on subjective well-being and suggests analysing it through spiritual satisfaction. In early modern Spain, acquiring the bull of the Crusade annually provided spiritual satisfaction; therefore, failure to do so indicates a decline in subjective well-being. We identify periods in early modern Spain characterised by declining sales of bulls, which negatively impacted spiritual satisfaction. Section 5 investigates the factors behind episodes of diminishing spiritual satisfaction and examines how the supply of bulls, reflecting state capacity, and the demand for bulls contribute to reductions in spiritual satisfaction. Section 6 concludes.

2. The Bull of the Crusade

The Bull of the Crusade was a grace granted by the Pope to the subjects of the King of Spain. In the Roman Catholic faith, unlike sin, which is forgiven through confession, guilt must be paid for either by making a sacrifice in life or by being purified after death in

Purgatory. The indulgence removes that guilt. That is, it reduces the time spent in Purgatory if you have died, or eliminates the need for penance if you are still alive.[1]

The most important and widely circulated bull was the one for *vivos* (the living), directed at the entire population, excluding children, the very poor (pobres de solemnidad), and the Moorish (moriscos), which will be the focus of our investigation.

It is worth emphasising that the Bull of Crusade, personal and non-transferable (as it had the buyer's name written on the back), was accessible to everyone, regardless of their social and economic status, unlike many other favours granted by the Crown. By purchasing the bull of *vivos*, a person received a plenary indulgence that forgave all penance for sins committed, whether in life or the afterlife (Purgatory). However, since an individual could sin again afterwards, the need for indulgences always persisted, encouraging individuals to acquire them annually. As a result of consuming the bull, the fear of death decreased, enhancing subjective well-being (Cohen et al., 2005).

The origin of the Papal Bull dates back to the Middle Ages, during the Crusades (hence its name), but it was in the 1570s, amid the conflict between Christian Europe and the Ottoman Empire, that it gained the key features that made it a vital revenue source for the Spanish Monarchy (See Appendix A). Subjected to Papal renewal every six years and distributed annually by the Hispanic Monarchy in its territories from 1574 until the early nineteenth century, the Bull of the Crusade was sold to the population over the age of 12, which constituted about two-thirds of the population (see next section). The bull was an inexpensive, fixed-price (in silver) almsgiving, equivalent to a day's work for an unskilled labourer in New Castile in 1574 (Hamilton, 1934: 398).

A distinctive feature of the bull is its extensive temporal and geographical reach. The bull was sold for over two centuries, nearly continuously, under the same rules—something rare in Early Modern Spain. This was certainly not the case with taxes. Its second advantage is its geographical scope. Unlike other revenues of the Hispanic Monarchy, those of ecclesiastical origin were collected across the entire territory, regardless of the borders of its different kingdoms or their specific institutions and privileges. Hence, the bull helps us gain a consistent perspective that cannot be achieved through other sources, particularly fiscal ones, due to the institutional diversity present until nearly the mid-eighteenth century.

[1] In addition, the papal bull offered a series of material privileges related to those religious beliefs.

Unlike favours granted by kings and other powerful figures in the early modern era, the Bull of the Crusade was accessible to the entire population, regardless of social status, place of residence, or socioeconomic condition. For centuries, the monarchs of Spain — often superficially described as absolute rulers — governed a collection of territories within the Iberian Peninsula and across Europe, while respecting the diverse political and economic institutions, traditions, and privileges of their subjects, which Elliott (1992) termed a 'composite monarchy'. This multiplicity of jurisdictions hindered the unification of taxation and its extension to the whole population, as some social groups were exempt from fiscal obligations.

In such a highly compartmentalised society, the Crusade bull stood out as radically egalitarian: it conferred significant spiritual privileges, along with some material benefits, upon all who acquired it, without distinguishing between elites and commoners. This universality rendered the Crusade bull one of the Crown's most reliable sources of revenue, precisely because it was not a tax but voluntary alms. It represented a form of payment freely offered, making this income remarkably stable over time. Few other sources of royal revenue could claim to provide such profound personal satisfaction to contributors. Unlike taxes, in which the king's gain was the subject's loss, the Crusade bull yielded benefits for all involved — including the intermediaries charged with collecting the alms.

The advantages of the bull extended to the faithful, but above all to the Crown. In 1571, printing a Crusade bull on a single sheet of paper cost 1.5 Maravedís, while obtaining the indulgences associated with its purchase required a payment of 68 Maravedís (2 Reales). Of this amount, 11 were retained by the treasurer to cover distribution and collection expenses, while the king received 57 Maravedís. In other words, from the moment it left the press, that modest sheet of paper increased its value by a factor of 38. Few enterprises in the sixteenth century offered such extraordinary profitability.[2]

Although the origin and raison d'être of the Crusade bull were strictly religious — as indulgences granted exclusively by the Catholic Church — once authorised, the entire management of its printing, distribution, and collection of alms was entrusted exclusively to

[2] The success of the Crusade bull as one of the monarchy's most reliable sources of revenue depended on the adoption of the printing press. The sale of bulls required their reproduction on paper and their physical delivery to each member of the faithful who purchased them. Only through such means could distribution be systematised and each buyer individually charged.

the monarchy. The relationship between the Church and the Spanish Crown was one of cooperation, though not without tension (Fernández Albaladejo, 1986). Their alliance did not preclude recurrent conflicts in economic, jurisdictional, and political matters (Carpintero Aguado, 1989: 549).

From the early sixteenth century, the papacy granted the Spanish monarchs rights over portions of ecclesiastical property and revenues within the Iberian Peninsula. In 1523, they were appointed Perpetual Masters of the Military Orders, acquiring control over their assets and tithes. Over time, the Crusade was joined by the *Subsidio* and the *Excusado* — concessions drawn from Church tax revenues in Spain — which together came to be known as the *Tres Gracias* (Three Graces). The funds raised had predetermined uses that the Crown could not alter (Domínguez Ortiz, 1960: 230). Initially, at the close of the Middle Ages, the bull financed campaigns against non-Christians in the Iberian Peninsula, as well as the construction of churches and hospitals, the redemption of captives, and the maintenance and expansion of presidios and fortresses (Ulloa, 1977: 473). During the sixteenth century, first the Crusade and later the *Subsidio* funded the royal galleys defending the Mediterranean from Turkish and Berber threats. Subsequently, the *Excusado* was allocated to defend the Catholic faith in Flanders against Protestantism, a mission it eventually shared with the Crusade Bull and *Subsidio* as the war in the Low Countries dragged on.

The revenues of the Crusade continued to grow. Around 1550, the Crown received approximately 400,000 ducats (one ducat was equivalent to 375 Maravedís or 11 silver Reales) over a three-year period from this source, rising to 650,000 ducats annually by the century's end (Artola, 1982: 79). Contemporary reports—even if somewhat exaggerated—circulated, portraying the Crusade as one of the monarchy's most secure sources of revenue (Goñi, 1958: 508). By the early decades of the seventeenth century, collections approached 800,000 silver ducats annually, just before the introduction of payments in *vellón* (copper currency) (Domínguez Ortiz, 1960: 230).[3] These figures are consistent with estimates from 1623, which placed annual revenues from the Crusade at 770,133 ducats.[4] Together, the *Tres Gracias* generated approximately 1,450,000 ducats in the seventeenth century, approximately 14 per cent of the total royal revenue budget.

[3] From this figure, 44,000 ducats had to be deducted for salaries, expenses of the Crusade Council, and alms given to Rome to contribute to the construction of St. Peter's Basilica.
[4] AGS, CJH, 592-24-1(2). Relación adjunta, 24/4/1623.

3. State Capacity in Early Modern Spain: Selling the Bull of the Crusade

State capacity refers to the ability to implement policy measures to achieve objectives (Dincecco, 2017; Ogilvie, 2023). It is often assessed through one of its key components, fiscal capacity. Fiscal capacity signifies the state's ability to extract resources, specifically to generate revenue (Besley and Persson, 2011). From a historical perspective, Henriques et al. (2025) justify using fiscal capacity to measure state capacity because, besides resource extraction, it also demonstrates the ability to implement public policies. Fiscal capacity is usually measured by the ratio of state revenue to GDP, as 'the wealth of a country (GDP) and access to that wealth by the state (taxation) are major components of a state's ability to develop' (Enríquez and Centeno, 2012).[5]

However, as Ogilvie (2023) stresses, this is a limited measure that focuses on the central government's revenues while neglecting other sources of income (both monetary and in kind). Moreover, government expenditure offers a more accurate indicator, particularly in cases of states with additional revenue sources beyond taxes, reflecting the state's potential capacity.

Moreover, considering centralisation as the only measure of a state's capacity in early modern Europe (Dincecco and Katz, 2014) overlooks the challenges faced by rulers. Centralisation can indeed improve government efficiency by reducing costs and enabling faster information flow for decision-making, but it was not always practically feasible. In such cases, the most effective way to strengthen state power often involves governance systems based on fragmentation and decentralisation, as shown by the public debt in the Crown of Castile (Álvarez-Nogal and Chamley, 2014).

Furthermore, in societies where power was held by a small elite—such as under the Ancien Régime—fiscal capacity did not necessarily equate to a greater ability of the state to provide services to its citizens. The alignment between the interests of the state and those of its population is more common in modern societies, where institutional arrangements—such as constitutions, legal codes, and the separation of powers—serve to mediate the relationship between the state and its citizens.

[5] However, it has been suggested that government expenditure as a share of GDP provides a more comprehensive metric (Ogilvie, 2023).

In the early modern era, the main concern was not only the amount of resources available but also the institutional structures that allowed their effective utilisation. A more accurate way to evaluate state capacity is by analysing output rather than input measures.

The idea that early modern Spain failed to establish a centralised state is prevalent in the historical literature (Johnson and Koyama, 2017: 5-6), although the Monarchy's revenues were, in fact, larger and grew more than those of Western European countries during the sixteenth and early seventeenth centuries, and it was only later that Spain's fiscal capacity declined (Comín and Yun-Casalilla, 2012). Nevertheless, limited knowledge exists about the development of state capacity in terms of output, rather than inputs, during the early modern period. For example, the successful distribution of the bulls of the Crusade in early modern Spain serves as a key indicator of bureaucratic capability. It tests the Monarchy's political authority and administrative skills in maintaining a consistent collection system across its territory. Moreover, the smooth distribution of bulls across various regions and kingdoms of present-day Spain indicates the effectiveness of implementing a state policy. These regions varied not only politically but also geographically. The Crusade bulls were distributed in both easily accessible areas (large cities and flat regions) and more mountainous regions, including archipelagos. However, this measure does not reveal the extent to which state capacity increased in early modern Spain or how it performed relative to others. Still, it allows us to identify episodes where state capacity failed over more than two centuries.

An examination of how the distribution of the Crusade Bull was organised allows us to assess the administrative functioning of the Royal Treasury and, consequently, the bureaucratic capacity of the state in early modern Spain. As alms whose collection was transferred by the Church to the Hispanic Monarchy, they were always managed separately and independently from the rest of the royal revenues. The chosen procedure involved entrusting the distribution to external and private agents, usually bankers, who had to cover the initial costs of printing and distributing the bulls and then transfer the proceeds to the royal treasury after deducting their commission (about 10 per cent of the total collected). Including all other management costs, the distribution of the bulls accounted for between one-fifth and one-quarter of the total proceeds.[6]

[6] General Archive of Simancas (AGS), AGS CMC 2E, 903. AGS, CRU, 454.

These private agents, usually bankers, were appointed as Treasurer General of the Crusade.[7] Their relationship with the Monarchy was formalised through a contract called an Asiento de Cruzada, which was valid for the duration of the papal concession and could be renewed if they met the necessary conditions. The Treasurer General resided in Madrid and reported to the Crusade Council but had the authority to appoint treasurers for each diocese. Although the Monarchy established the sale procedure, the Treasurer General was responsible for implementing it and received yearly instructions to follow closely. The Monarchy required constant updates on sales performance and the submission of annual reports throughout the contract's duration. At the end of his term, he submitted a final report detailing the number of bulls sold in each diocese. The organisation of the sale and regulation of the bulls improved during the first two-thirds of the sixteenth century, establishing a definitive format from 1571 onwards, and remained largely unchanged until the mid-nineteenth century.

The Royal Treasury outsourced management but maintained oversight authority. The Contaduría Mayor de Cuentas, the institution responsible for auditing those overseeing the Monarchy`s funds, carefully scrutinised the quality of management and handling of the collected money. Royal officials compared the information provided by the Treasurer General firstly against his contract and then against the reports of the Crusade accountants. The results of this accounting review were subsequently sent to the Councils of Crusade and Finance.

A comprehensive system was established to prevent fraud in the sale of indulgences. Preparing reports in triplicate, along with registers, facilitated oversight of sales and the collection of alms.[8] The frequent involvement of notaries to supervise and certify the acts highlights the Crown's interest in overseeing every detail of the process. The organisation of the sale and regulation of the bulls improved during the first two-thirds of the sixteenth

[7] Copies of these contracts are kept in the General Archive of Simancas, AGS, CRU, 436, 437, 438, 446, 448, 454, 456, 458, 459, 461, 462, 463, 464, 465, 466, 478, 486, 489 and 521.

[8] Every year, the accountants of the Royal Treasury verify the number of bulls sold in each territory during the previous year. They cross-check the information provided by the general treasurer with data from the printers and receipts from the private treasurers responsible for collecting and distributing them. Each printed copy is tracked to ensure that if it hasn't been sold, the bull has been destroyed. In compiling the data from the documentation, we have confirmed in many cases that the reports match those managed by all the bodies involved in the administration.

century, establishing a definitive form from 1571 onwards, and remained largely unchanged until the mid-nineteenth century.

Although the Crusade Bull was not a tax but voluntary alms, this did not prevent the Royal Treasury from organising the sale of bulls to reach the entire population and maximise its revenue. Furthermore, social pressure from local authorities and residents was utilised to ensure everyone purchased their annual bull (Fernández Chaves, 2009; Ojeda Nieto, 2000). The moderate price and minimal resistance to purchase explain the success of the bulls from a collection perspective. These factors undoubtedly influenced demand. However, the bull would not have been sold in such significant quantities without also considering the supply side—namely, the monarchy's capacity to print, distribute, and collect its value across a sparsely populated territory, characterised by complex geography (Spain being among the most mountainous countries in Europe), while simultaneously exercising control over fraud and ensuring the adequate circulation of documents.

Apart from occasional conflicts, the Crusade Bull consistently drew widespread and strong demand among the population, as shown by extensive sales within local communities (Mejía Asensio, 2002). Revenue from selling bulls was considerably more stable than the overall income of the Hispanic Monarchy (Álvarez-Nogal and Prados de la Escosura, 2025: 5).

4. Assessing Subjective Well-Being Using the Bull of the Crusade

Subjective well-being results from assessing one's overall life situation and quality of life (Cohen and Johnson, 2017; Diener, 1984), with its main aspects being emotional well-being and life evaluation (Kahneman and Deaton, 2010: 16489).[9]

Currently, many countries evaluate the subjective well-being of their citizens through official surveys that ask about life satisfaction, recent emotional experiences, and, in some cases, a sense of purpose. However, a significant challenge arises when analysing these variables in historical contexts where surveys are not available. Such studies require tools

[9] It encompasses both cognitive and affective dimensions (Luhmann, 2017; Diener et al., 2018). The cognitive component involves judgments about the attainment of personally significant values and goals over the life course, whereas the affective component concerns the balance between positive and negative emotions (Luhmann et al., 2012b).

that can measure life satisfaction as it was understood within the beliefs and values of past societies.

A substantial body of research has identified positive correlations between spirituality—including spiritual or religious practices—and higher levels of subjective well-being (Yaden et al., 2022). Spirituality, understood as a sense of connection to meaning, purpose, or transcendence, often enhances subjective well-being by fostering positive emotions, promoting resilience, and strengthening social bonds.[10] Spirituality and religion are positively linked to subjective well-being. Furthermore, religiosity influences well-being through spirituality (Sharma and Singh, 2018: 126). The social support provided by the public practice of religion connects religiosity to happiness (Cohen, 2002: 288). Research shows a positive relationship between the social aspect of religiosity and life satisfaction across countries (Domínguez and López-Noval, 2020: 1184). More specifically, life satisfaction has been found to be negatively correlated with death anxiety and positively with belief in the afterlife (Cohen et al., 2005: 13). Overall, the evidence suggests a generally positive, though moderate, relationship between spirituality or religiosity and subjective well-being, largely depending on the level of religiosity within a society (Pérez and Rohde, 2022).

In a deeply religious society like early modern Spain, which had 'a narrow theological framework bounded by sin and grace, punishment and reward' (Elliot, 1977: 47), spiritual fulfilment acts as an indicator of subjective well-being. Specifically, spiritual fulfilment was enhanced when individuals had access to the Crusade bull and could benefit from the indulgences and material privileges it conferred.

Considering the Bull's affordable price, we can infer that nearly the entire population aged 12 and above followed the Catholic Church's recommendation and bought the Crusade's bull in 'normal' times, so the number of bulls sold generally reflected the population trend. Therefore, a discrepancy between the number of bulls sold and potential recipients offers insights into individuals' spiritual fulfilment.

[10] Spirituality provides a framework for understanding life's difficulties and challenges. Additionally, individual or collective engagement in religious practices often occurs within social networks that offer support and promote a sense of belonging, thereby enhancing social cohesion. However, religion and spirituality do not always promote well-being. When linked to strict rules or dogmatic norms, they can cause internal conflicts and psychological stress.

One might wonder whether individuals adopted the bull mainly because of their strongly held religious beliefs or due to social pressure. However, it can be argued that religious beliefs and social pressure are not necessarily in conflict in a society like early modern Spain, where the population closely adhered to the teachings and duties of the Roman Catholic Church. Furthermore, religious dissent was rare, as the Jewish and Moorish minorities had been expelled (the Jewish in 1492 and the Moorish in 1609), and the Inquisition and the Counter-Reformation left little room for deviations from Catholic orthodoxy.

Moreover, the connection between buying a bull and spiritual well-being can be questioned because people might have obtained indulgences during difficult times, in an attempt to compensate for declining material circumstances. This would make the purchase of bulls more indicative of reduced subjective well-being rather than an enhancement.

This reasoning is based on two assumptions: that the level of spirituality—the ultimate motivation for purchasing indulgences—would be inversely related to material conditions; and that the bull was intended to provide relief to the population during times of material hardship.

However, as we show below, periods of economic and social distress and turmoil correlate with decreases in the number of bulls sold. Demand for indulgences remained steady, indicating that the population valued spirituality as an end in itself, regardless of material conditions. In fact, the benefits conferred by the bull neither increased nor decreased depending on economic circumstances. Furthermore, the availability of bulls depends entirely on the monarchy's capacity to produce and distribute them.

To evaluate the level of subjective well-being, as indicated by spiritual satisfaction, we need to compare the number of bulls sold with the population aged 12 and above. Therefore, for each territory of the kingdoms of Castile, Aragon, and Navarre, each year between 1574 and 1799, we have compiled the individual number of bulls sold for each bishopric. Summing the bulls sold in each territory provides the total for each kingdom and, subsequently, for Spain as a whole (See Appendix B on the construction of the bull series).

Regarding the relevant population, those aged 12 and above, although total population estimates exist (Prados de la Escosura et al., 2024), population series by age cohorts are absent. Nonetheless, Reher (1991) provides yearly figures for individuals aged 15 to 50 in the New Castile population from 1580 onwards, which, on average, accounted for

65.1 per cent (standard deviation, 0.03) of the total population between 1580 and 1799. Additionally, late eighteenth-century population censuses also offer national estimates for those aged 15 and above. The proportion of the population aged 15 and above fluctuated within a narrow range, from 64.4 to 67.2 per cent, with an average of 65.9 per cent, based on the censuses of 1768, 1787, and 1797. These highly consistent ratios support the view that, in pre-industrial societies, the population's age structure remained relatively stable. We have used the unweighted mean of the two averages, 0.655.

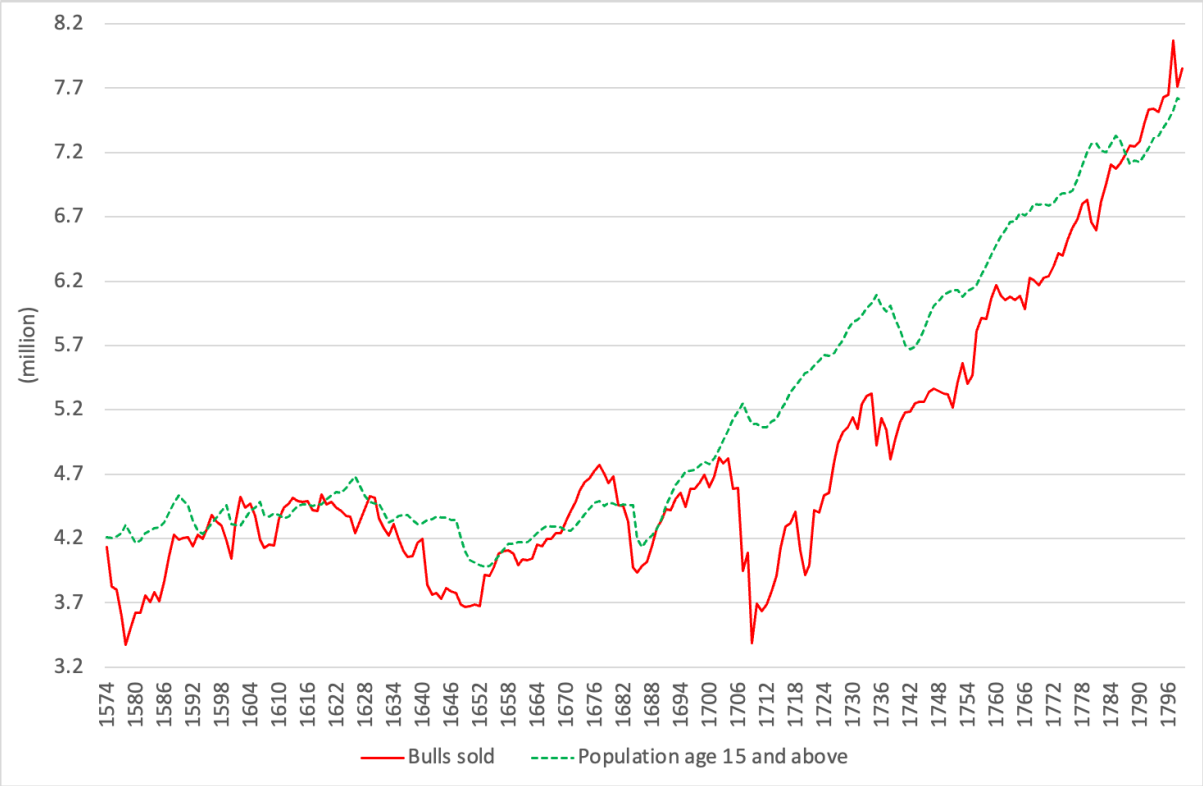

Figure 1. Total Bulls Sold and Population Age 15 and above, 1574-1799
Source: See the text

Figure 1 compares the number of bulls sold with our estimates of the population aged 15 and above (that is, 0.655 x total population) from 1574 to 1799, showing that they are similar and confirming compliance with the Church's recommendation to purchase bulls. It can be observed that they follow similar trends but also display notable discrepancies in the short and medium term, with periods where bull fluctuations are more pronounced.

Our proposed indicator of subjective well-being, however, does not rely on the ratio between the number of bulls sold and our estimates of the population aged 15 and above. Instead, it normalises both the number of bulls and the total population figures, expressing

them relative to their averages over 1574-1799 to reduce potential bias from estimating the population level. Therefore, subjective well-being is measured as the logarithmic ratio of normalised bulls sold to the normalised population. A ratio above zero signifies spiritual satisfaction, while a value below zero (−0.05, allowing for measurement errors) indicates dissatisfaction.

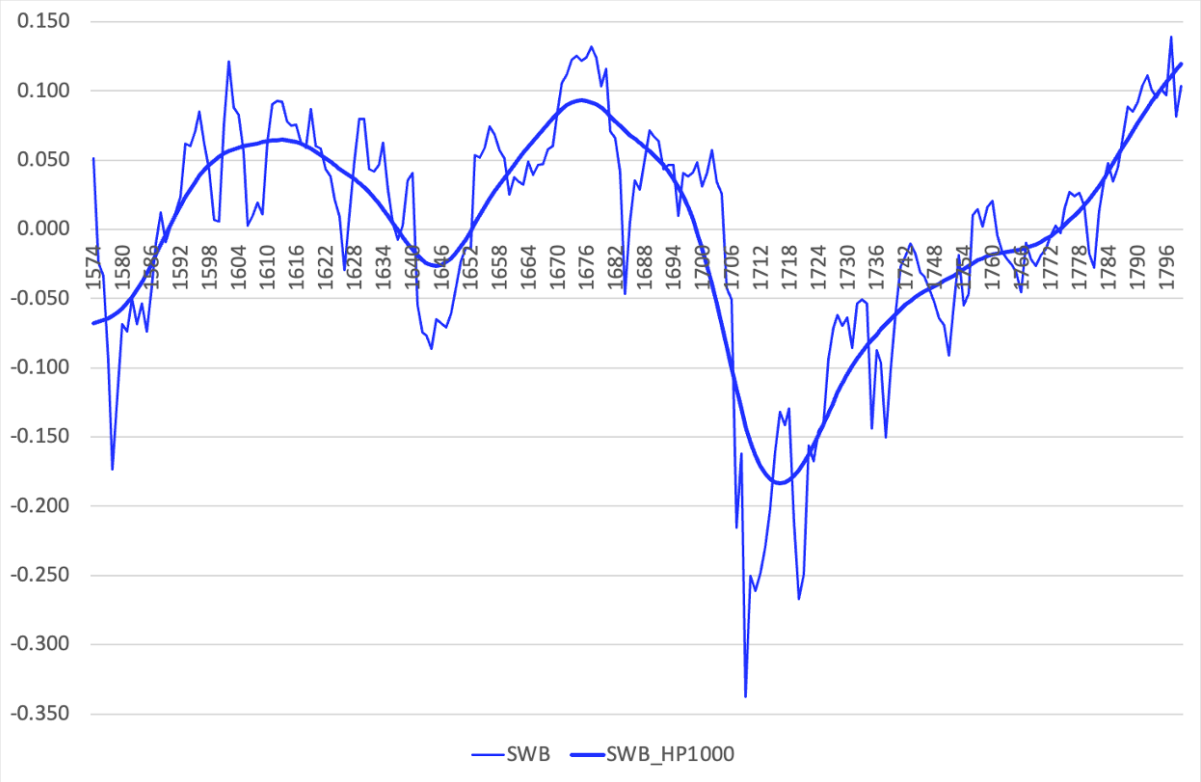

Figure 2. Subjective Well-Being*, 1574-1799: Actual Values and Hodrick-Prescott Trend
* Ratio Total Bulls Sold to Population (normalized, logs)
Source: See the text.

The evolution of subjective well-being is illustrated in Figure 2. Subjective well-being declined in the late 1570s and 1580s, then recovered and remained steady from the early 1590s to the early 1630s. It collapsed in the 1640s, recovered in the late 1650s, and stayed positive until the 1670s. The contraction in the early 1680s was followed by a period of stability until 1700. The early seventeenth century saw a severe and prolonged contraction, and despite a gradual and limited recovery, negative values persisted until 1750, while positive values appeared in the late 18th century. What was the context in which the main contractions in subjective well-being took place? Its decline from 1575 to 1586 coincided with the effects of the financial crisis triggered by King Philip II's attempt to secure a higher fiscal contribution from the cities and, at the same time, better conditions for short-term

loans from international bankers. Before starting complex negotiations, the king ordered the suspension of all payments to international bankers, freezing credit markets in the Kingdom of Castile (Álvarez Nogal and Chamley, 2016). As a result, commercial networks were broken, causing lasting and severe economic and social consequences. The next notable drop in subjective well-being coincided with the Catalan Revolt (1640-59), which was both a domestic conflict within Catalonia and a confrontation involving Catalonia, France, and the Spanish Monarchy, as well as with the Portuguese War of Restoration (1640-1668). However, it was during the War of Spanish Succession (1701-14) and its aftermath that the main and more enduring decline in subjective well-being took place.

Furthermore, monetary disturbances generally align with periods of decreased subjective well-being. For example, major market upheavals caused by tax inflation, which reduced much of the silver in circulation since 1600—particularly in 1626—and were connected to changes in monetary policy.

Lastly, closer examination reveals that episodes of declining subjective well-being also coincided with periods of high mortality in 1606, 1647-1650, 1684, 1707-11, and 1730.[11] However, the fact that subjective well-being only decreased during some famine-related mortality periods supports the idea that the number of bulls sold and the population moved together during these times.

Therefore, it can be concluded that major financial crises and wars on Spanish soil coincided with the main declines in subjective well-being.

5. The Supply and Demand of Bulls: State Capacity and Purchasing Power.

The fact that the number of bulls sold decreased during periods of economic hardship, political turmoil, warfare, and pandemics on Spanish soil reflects the interaction between demand and supply. This raises the question of how much of the reduction in bulls sold was due to declines in people's purchasing power and/or a decrease in the efficiency of the distribution network—that is, in state capacity.

[11] The years 1591-95, 1599-1600, 1605-07, 1615-16, 1630-31, 1647-52, 1659-62, and 1684 represent the main outbreaks of famine mortality (Pérez Moreda, 2017: 54).

Figure 3 illustrates, using natural logarithms, the ratio of bulls printed to the population aged 15 and above, and the ratio of bulls sold to bulls printed.[12] These serve as approximate measures of supply and demand for bulls. The comparison is limited to 1574-1739, the period for which data on printed bulls is available.

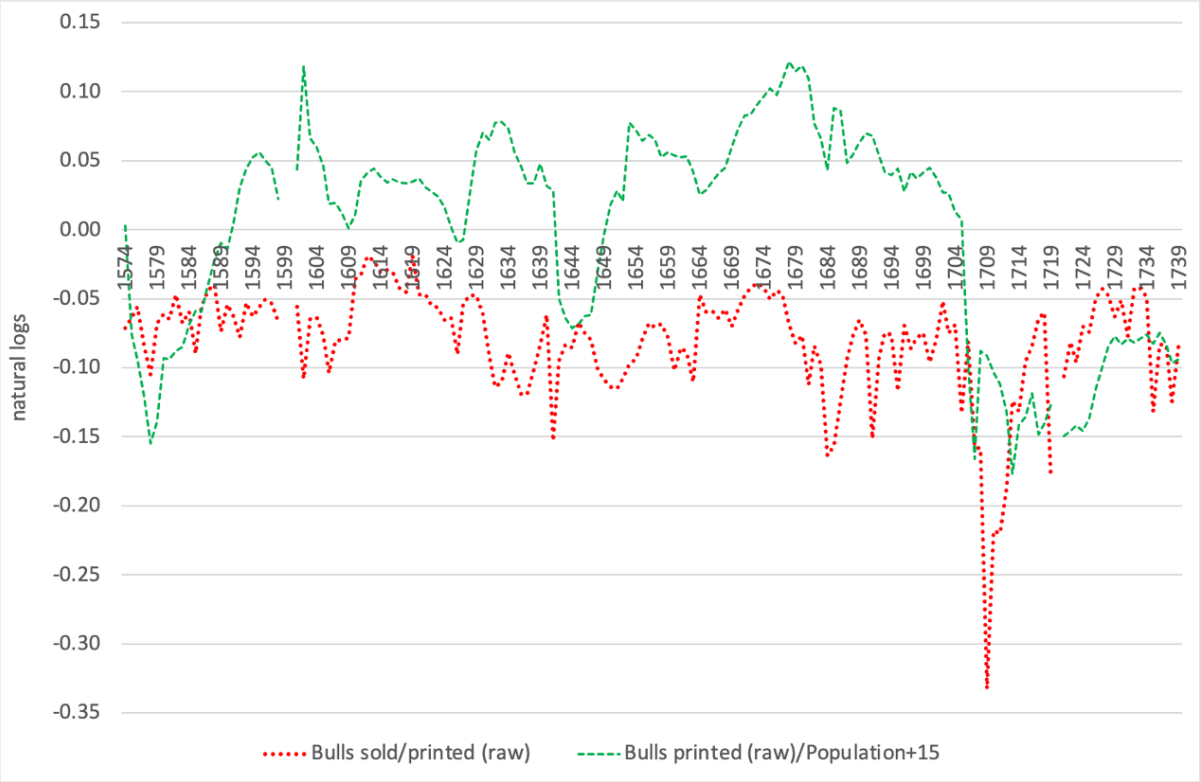

Figure 3. Disentangling Bulls Supply* and Demand**, 1574-1739.
*Bulls printed/Population 15 years and above (logs); **Bulls sold/Bulls printed (logs)
Source: See the text.

It can be observed that supply remains above zero most of the time because the Monarchy printed bulls in excess of the relevant population. When the log ratio of the bulls printed to the population aged 15 and above is above zero, it indicates the Monarchy was achieving its goal and, therefore, demonstrating bureaucratic capacity. Conversely, when the log ratio drops below zero, it means the Monarchy was unable to provide enough bulls for the relevant population, and thus, state capacity is failing. The stages of declining state capacity appear in the late 1570s and 1580s, the 1640s, and the early seventeenth century.

[12] Lack of data on population aged 12 and above for whom the bull of the Crusade was recommended by the Church forced us to use population 15 years and older. See Section 4.

The last two periods coincide with military conflict on Spanish soil and internal unrest, while the first aligns with a significant financial crisis during Philip II's reign.

If we now examine the log ratio of bulls sold to printed, we get a rough measure of how demand for bulls responds to supply. Similarly, as with the log ratio of bulls printed to the population aged 15 and above, there is a consistent bias in the ratio, namely that it is always below zero because more bulls are printed than potential buyers. However, negative deviations above, say, -0.10 (to account for this bias), indicate decreases in demand for bulls. Therefore, we observe periods of declining demand in the 1600s (notably in 1602 and 1606), in the mid-seventeenth century, from the 1630s to the 1660s, in the 1680s, during the years of the War of Succession (1701-14) and its aftermath, and again in the late 1730s. It can be inferred that, in episodes of demand contraction, not only war on Spanish soil mattered, as in the 1640s-1650s and the 1700s-1710s, but also bouts of mortality (1605-07, 1647-52, 1659-62, and 1684), as well as monetary and financial disturbances.

The contrast between these indicators of supply and demand reveals that demand tends to be more stable over time than supply, except during the War of Succession.

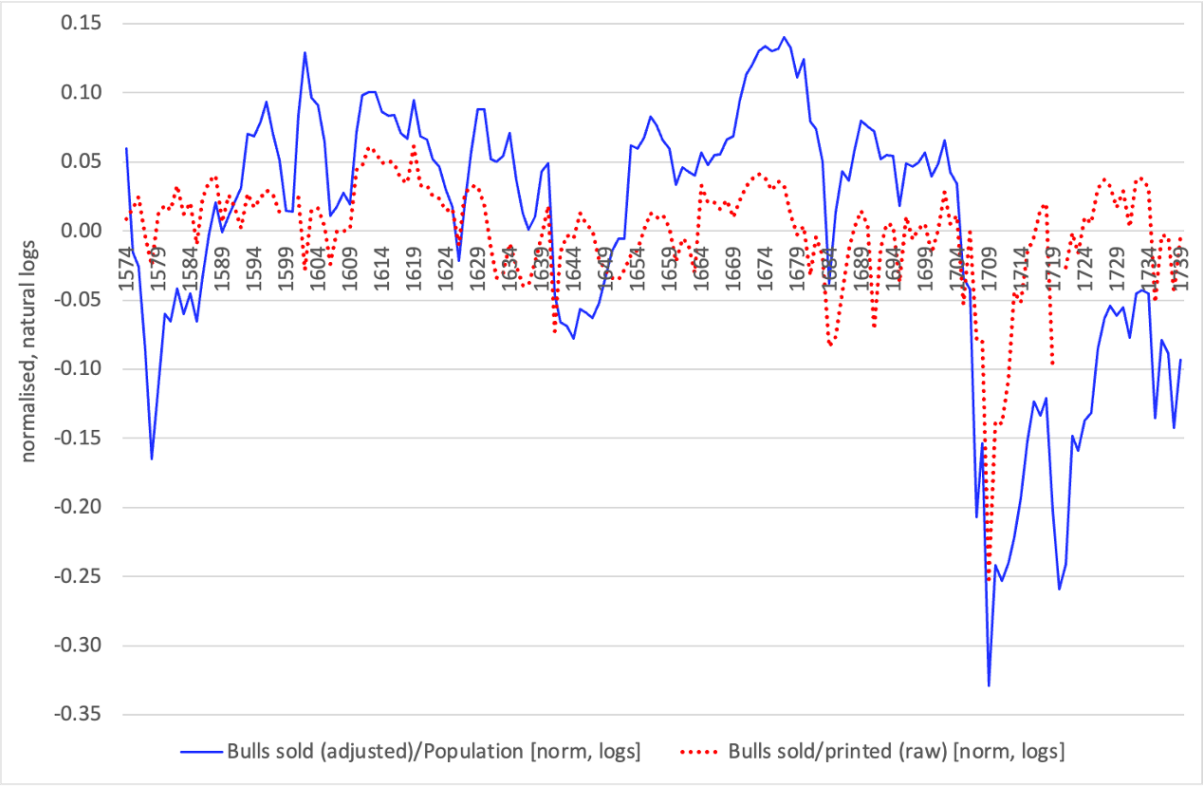

Figure 4. Subjective Well-Being and Demand for Bulls**, 1574-1739
* Ratio Total Bulls Sold to Population **Bulls sold/Bulls printed (both normalised, logs)
Source: See the text.

A comparison between our measures of bull demand—the (log, normalised) ratio of bulls sold to bulls printed—and subjective well-being shows they tend to move together, except during war episodes on Spanish soil, such as the Catalan Revolt, the War of Succession, and the late 1570s-1580s financial crisis, when subjective well-being experienced a significant decline (Figure 4). These decline phases of subjective well-being align with decreases in the supply of bulls. It may be proposed, then, that although both demand and supply changes influence the behaviour of subjective well-being, its most significant episodes of decline seem linked to declining bureaucratic or state capacity.

A key feature of the demand for bulls that explains its relative long-term stability is its low sensitivity to changes in its relative price (specifically, the fixed bull price in silver adjusted for the consumer price index) (Figure 5) and real average income (Figure 6).[13]

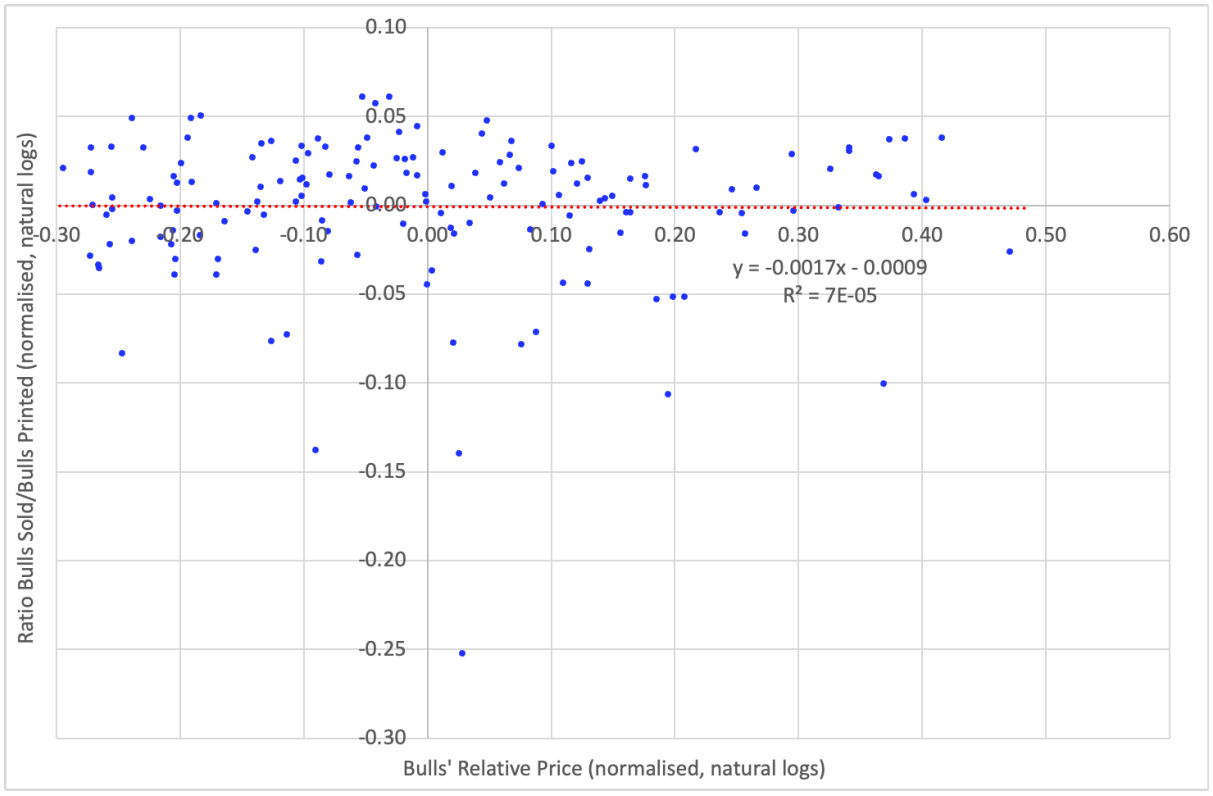

Figure 5. Demand for Bulls* and Bull's Relative Price, 1574-1739
*Bulls sold/Bulls printed. Both normalised, in logs
Source: See the text and Prados de la Escosura et al. (2024)

[13] Or, alternatively, real wages (Figure A2).

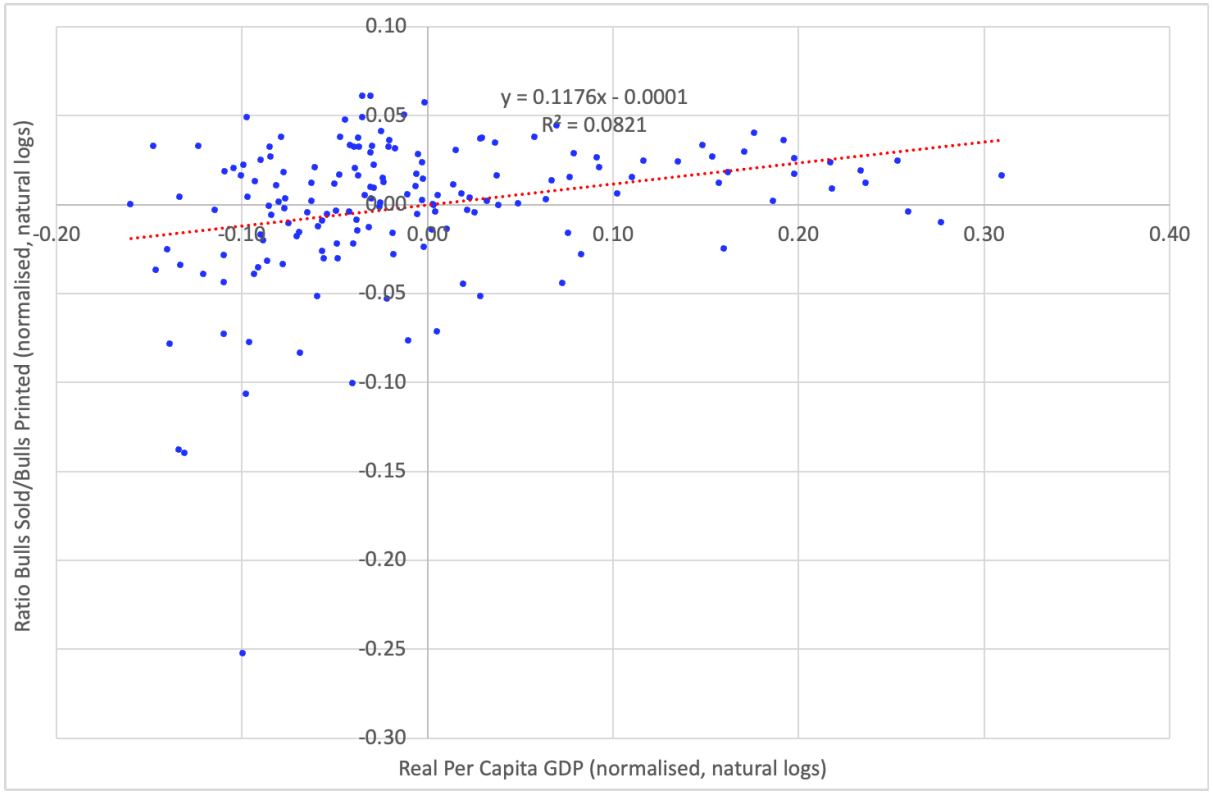

Figure 6. Demand for Bulls* and Real Per Capita Income, 1574-1739
*Bulls sold/Bulls printed. Both normalised, in logs
Source: See the text and Prados de la Escosura et al. (2024)

6. Concluding Remarks

The bull of the Crusade, a universal almsgiving for every individual, regardless of social status, across all kingdoms of the Hispanic Monarchy, was one of the few revenue sources for the Royal Treasury with consistent data available throughout Early Modern Spain. Being able to distribute the bull provides a test for the view that early modern Spain failed to develop a centralised state. Our research shows that the Monarchy demonstrated bureaucratic capacity over time, except during military conflicts on Spanish soil and during periods of severe financial crises.

Declines in state capacity had far from negligible effects on subjective well-being. In fact, failing to distribute the bull meant that a significant portion of Spaniards could not access it, and because the bull granted plenary indulgences that forgave all penance for sins committed in life, it heightened death anxiety and negatively affected spiritual satisfaction. Episodes of declining demand for bulls, caused by reductions in purchasing power, also had a negative impact on subjective well-being, though less decisively.

Archival Sources

Archivo Diocesano de Toledo (ADT)

Santa Cruzada XVIII

Caja 1, 20, 33, 35, 47, 48, 49, 116, 117, 130, 137, 151, 155, 156, 162, 169, 170, 179, 185, 188, 193, 201, 202, 208, 418, 424, 433, 437, 464, 468, 473, 476, 486, 565, 566, 647, 648, 703, 706, 726, 799, 813, 869, 924, 928, 929, 979, 987, 993, 994, 995, 1005, 1036, 1040, 1053, 1094, 1104, 1146, 1188, 1194

Libro 369, 994, 1102

Archivo General de Simancas (AGS)

Consejo de Cruzada (CRU)

Legajos 415, 417, 418, 420, 421, 424, 425, 427, 428, 432, 433, 434, 435, 436, 437, 438, 440, 446, 454, 456, 458, 459, 460, 461, 462, 463, 464, 465, 466, 468, 470, 472, 473, 474, 475, 476, 477, 478, 479, 480, 484, 485, 486, 487, 489, 490, 493, 494, 504, 521.

Contaduría Mayor de Cuentas 2ª época (CMC 2E)

Legajos 903, 906, 911.

Contaduría Mayor de Cuentas 3ª época (CMC 3E)

Legajos 14, 120, 899, 1045.

Tribunal Mayor de Cuentas (TMC)

Legajos 155, 157, 163, 165, 166, 167, 169, 175, 178, 183.

Archivo Histórico Nacional (AHN)

Consejos

Legajos 6365, 6376, 6378, 6380, 6382, 6383, 6384, 6385, 6386, 6387, 6388, 6389, 6390, 6391, 6391, 6392, 6393, 6394, 6395, 6396, 6397, 6398, 6399, 6400, 7470, 7476.

References

Álvarez-Nogal and Chamley (2014), 'Debt Policy under Constraints: Philip II, the Cortes and Genoese Bankers', *Economic History Review* 67(1): 192-213.

Álvarez Nogal, C., and Ch. Chamley (2016), "Philip II against the Cortes and the Credit Freeze of 1575-1577", *Revista de Historia Económica/Journal of Iberian and Latin American Economic History* 34(3): 351-382.

Álvarez Nogal, C., and L. Prados de la Escosura (2025), "Subjective Well-Being and Inequality in Spain's Decline", *Cliometrica* 19: 1-27.

Artola, M. (1982), *La Hacienda del Antiguo Régimen*, Madrid: Alianza Universidad.

Besley, T. and T. Persson (2011), *Pillars of Prosperity*: *The Political Economics of Development Clusters*, Princeton: Princeton University Press.

Carande, R. (1965), *Carlos V y sus banqueros*, Barcelona: Sociedad de Estudios y Publicaciones.

Carpintero Aguado, L (1989), "Iglesia y Corte castellana en el siglo XVI. Contribución y tributos", *Hispania Sacra* 41(84): 547-567.

Cohen, A.B. (2002), "The importance of Spirituality in Well-Being for Jews and Christians", *Journal of Happiness Studies* 3: 287-310.

Cohen, A.B. and K.A. Johnson (2017), "The Relation between Religion and Well-Being", *Applied Research in Quality of Life* 12: 533-547.

Cohen, A.B., J.D. Pierce Jr., J. Chambers, R. Meade, B.J. Gorvine, and H.G. Koenig (2005), "Intrinsic and Extrinsic Religiosity, Belief in the Afterlife, Death Anxiety, and Life Satisfaction in Young Catholics and Protestants", *Journal of Research in Personality* 39: 307–324.

Comín Comín, F. and B. Yun-Casalilla (2012), "From Composite Monarchy to Nation-State, 1492-1914: An Exceptional Case?", in B. Yun-Casalilla and P.K. O'Brien, with F. Comín Comín (eds.), *The Rise of Fiscal States. A Global History, 1500-1914*, Cambridge: Cambridge University Press, pp. 233-266.

Diener, E. (1984). "Subjective well-being". *Psychological Bulletin* 95: 542–575.

Diener, E., Oishi, S., and Tay, L. (2018). "Advances in subjective well-being research", *National Human Behavior* 2: 253–260.

Dincecco, M. (2017), *State Capacity and Economic Development*, Cambridge: Cambridge Elements, Cambridge University Press.

Domínguez, R. and B. López-Noval (2021), "Religiosity and Life Satisfaction across Countries: New Insights from the Self-determination Theory", *Journal of Happiness Studies* 22: 1165–1188.

Domínguez Ortiz, A. (1960), *Política y Hacienda de Felipe IV*, Madrid. Editorial de Derecho Financiero.

Elliott, J. H. (1977), "Self-perception and Decline in Early Seventeenth-century Spain", *Past and Present* 74(1): 41-61.

Elliott, J. H. (1992), "A Europe of Composite Monarchies", *Past and Present* 137(1): 48-71.

Enríquez, E. and M. Centeno (2012), "State Capacity: Utilization, Durability, and the Role of Wealth vs. History", *International and Multidisciplinary Journal of Social Sciences* 1(2): 130-162.

Fernández, L. (1992), *La real imprenta del Monasterio de Nuestra Señora de Prado*, *1481-1835*, Valladolid: Junta de Castilla y León.

Fernández Albaladejo, P. (1986), "État et église dans la genèse de l'État moderne", in J.-Ph. Genet, and B. Vincent (eds.), *Actes du colloque organisé par le Centre National de la*

Recherche Scientifique et la Casa de Velázquez, Madrid; *Casa de Velázquez*, pp. 209-216.
Fernández Chaves, M.F. (2009), "La Villa de Lebrija a finales del reinado de Felipe III. El padrón de Bula de Santa Cruzada de 1620", *Revista de Humanidades* 16: 59-90.
Fernández Llamazares, J. (1859), *Historia de la Bula de la Santa Cruzada*, Madrid: Imprenta de Eusebio Aguado.
Goñi Gaztambide, J. (1958), *Historia de la bula de la Santa Cruzada*, Vitoria: Montepío Diocesano.
Hamilton, E.J. (1934), *American Treasure and the Price Revolution in Spain, 1501–1650*, Cambridge MA: Harvard University Press
Henriques, A., K. Karaman, and N. Palma (2025), State Capacity and Executive Constraints in Early Modern Europe, CEPR Discussion Paper 20132
Johnson, N.D. and M. Koyama (2017), "States and Economic Growth: Capacity and Constraints", Explorations in Economic History, 64, 1–20.
Kahneman, D., and A. Deaton (2010), "High Income Improves Evaluation of Life but not Emotional Well-being", *Proceedings of the National Academy of Sciences* 107: 16489–16493.
Luhmann, M. (2017). "The development of subjective well-being" in J. Specht (ed.), *Personality development across the life span*, San Diego, CA: Elsevier Academic Press), pp. 197–218.
Luhmann, M., Hofmann, W., Eid, M., and Lucas, R. E. (2012b), "Subjective well-being and adaptation to life events: a meta-analysis", *J. Pers. Soc. Psychol.* 102, 592–615. doi: 10.1037/a0025948.
OECD (2011), *Guidelines on Measuring Subjective Well-Being*, Paris: OECD.
Ogilvie, S. (2023), "State Capacity and Economic Growth: Cautionary Tales from History", *National Institute Economic Review* 262: 28-50 doi:10.1017/nie.2022.42
Ojeda Nieto, J. (2000), "La población de Castilla y León en el siglo XVII: un intento de aproximación demográfica a través de la bula de la Santa Cruzada", *Studia Historica. Historia moderna* 22: 109-144.
Mejía Asensio, A. (2002), "La bula de la Santa Cruzada de 1618. Aproximación a la estructura socioeconómica de la ciudad de Guadalajara a principios del siglo XVII. In Iglesia y religiosidad en España. Historia y Archivos", Actas de las V jornadas de Castilla-La Mancha sobre investigación en archivos, Guadalajara: Anabad-Castilla la Mancha, pp. 73-109.
Pérez, S. and D.Rohde (2022), "The Relationship Between Religious/Spiritual Beliefs and Subjective Well-Being: A Case-Based Comparative Cross-National Study." *Journal of Religion and Health* 61: 4585–4607.
Pérez Moreda, V. (2017), "Spain", in G. Alfani and C. Ó Gráda (eds.), *Famine in European History*, Cambridge: Cambridge University Press, pp. 48-72
Prados de la Escosura, L., C. Álvarez Nogal, and C. Santiago-Caballero (2024), "Growth Recurring in a Preindustrial Economy", in L. Prados de la Escosura, *A Millennial View of Spain's Development*. *Essays in Economic History*, Cham: Springer, pp. 27-90
Reher, D.S. (1991), "Dinámicas demográficas en Castilla la Nueva, 1550-1900: un ensayo de reconstrucción", in J. Nadal (ed.), *La evolución demográfica bajo los Austrias*, Alicante: Instituto de Cultura Juan Gil-Albert, pp. 17-75.

Gomez Vozmediano, M.F. and E. Serrano Rodríguez (2013). “Imprenta, dinero y fe: la impression de bulas en el convento dominico de San Pedro Mártir de Toledo (1483-1600)”, *Tiempos Modernos* 27(2): 1-65

Sharma, S. and K. Singh (2019), “Religion and Well-Being: the Mediating Role of Positive Virtues”, *Journal of Religion and Health* 58: 119-131.

Ulloa, M, (1977), *La Hacienda Real de Castilla en el reinado de Felipe II*, Madrid: Fundación Universitaria Española.

Yaden, D.B., Batz-Barbarich, C.L., Ng, V. *et al*. (2022). “A Meta-Analysis of Religion/Spirituality and Life Satisfaction”. *Journal of Happiness Studies* 23: 4147–4163.

Appendix A. Printing and Distributing the Bull of the Crusade

The success of the Crusade bull as one of the monarchy's most reliable sources of revenue depended on the adoption of the printing press. Without this technology, the sale of indulgences would have been impossible. The sale of bulls required their reproduction on paper and their physical delivery to each member of the faithful who purchased them. Only through such means could distribution be systematised and each buyer individually charged.

Gutenberg's invention was an extraordinary tool, capable of reproducing a text thousands of times with speed, accuracy, and uniformity. Thanks to it, the production of indulgences was greatly accelerated and reduced in cost, since manual copying would have been prohibitively slow and expensive. This efficiency enabled the supply of all territories within a reasonable period of time.

Yet this very efficiency soon brought with it the threat of counterfeiting. It became essential for the Crown to preserve its monopoly on printing and to prevent illicit competition. To this end, printing was placed under strict supervision and surveillance. Production was centralised in two large printing houses, and every stage of the process was regulated, from the handling of blank paper to the distribution of the finished bulls. Offenders faced severe penalties, the most extreme being those imposed by the Crusade itself: major excommunication, a fine of 500 ducats, and removal from office.[14]

In the fifteenth century, bulls were produced in episcopal printing houses; however, during the sixteenth century it was decided to concentrate this work in two major establishments: the Monastery of Santa María de Prado in Valladolid (Fernández, 1992), on the banks of the Pisuerga river, which supplied bulls to the bishoprics north of the Tajo river; and the Monastery of San Pedro Mártir in Toledo (Gómez Vozmediano and Serrano Rodríguez, 2013), which provided for those to the south[15]. Each institution handled a roughly equal share of the annual output. From these centers, the printed bulls were distributed throughout the Iberian Peninsula, including the Canary and Balearic Islands. In addition to indulgences, the presses also produced a wide range of administrative documents essential

[14] I1572n. 32.

[15] Initially, the bulls destined for the Americas were printed in Valladolid, but the task was later transferred to the Monastery of San Jerónimo de Buenavista Extramuros in Seville. This decision avoided the need for long transport overland to the port and reduced the risk that the bulls might fail to reach the fleets in time for departure. Benito, p. 184. AGS, CRU, 521. Comisión, 23/12/1583.

for managing the preaching campaigns, including summaries, instructions, powers of attorney, dispatches, and contracts (Fernández Llamazares, 1859: 155 y 163; Goñi, 1958: 503).

At the beginning of the sixteenth century, Spain had numerous workshops devoted to printing. Why, then, did the Crown entrust the production of bulls to monasteries? The decision was not related to the technical nature of the work but rather to the need for tighter control and oversight, as well as to provide a steady source of income for these religious institutions. All printed bulls were subject to audit by the Royal Treasury, a responsibility delegated to the friars of the designated monasteries. Their duties included safeguarding the bulls, distributing them to the private treasurers once printed, and collecting and destroying the surplus at the end of each year. The monasteries charged rent for the rooms occupied by the presses and for the time their friars dedicated to storing, caring for, and overseeing the entire process.

The friars themselves did not print the indulgences. Their mission was to ensure their safekeeping and to guarantee compliance with the Crown's printing regulations. The actual printing was subcontracted to professionals (private entrepreneurs) who, as we shall see later, carried out the work inside monastic precincts. Their distinctive situation lay in having only one client: the Commissioner General of the Crusade.

The king always appointed the printers. They bore full responsibility for hiring and paying their employees, as well as for procuring the necessary materials and tools. This included paper, although the Crown fixed its price. Bulls had to be printed on the highest quality paper, preferably that manufactured in Genoa; if unavailable, another of equal whiteness, brand, and quality could be used.

The organisation of printing followed the ordinances laid down by the Commissioner General, under threat of fines and even excommunication for noncompliance. The press received a series of regulations and instructions originally imposed by Prince Philip in 1554, later revised in August 1571.[16] Each year, on the day printing commenced, the notaries of the Crusade read these ordinances aloud to the employees of the two presses.

[16] It recasts the ordinances of 1554 and several rules added in 1566. Not only do they set out the rules, but they also describe the printing press itself. They were updated in 1584 and 1617 (Gómez Vozmediano and Serrano Rodríguez, 2013: 32-40).

The rector or prior of each monastery appointed two monks of the highest reputation, whose selection required approval by the Deputy Commissioner General. These friars were charged with guarding the press and recording all papers that entered the monastery. Their registers could never be removed from the printing rooms. Simultaneously, the notary of the Crusade maintained his own inventory of paper stocks and tracked all deliveries to the printers and their assistants. Thus, the monks' work was subject to supervision by the notary, just as the friars cross-checked the notary's records.

The press itself was housed in a room locked with two keys, one held by each monk. One of them slept beside the press, and both were responsible for its daily opening and closing. The doors and windows of the rooms were to be securely fastened to prevent any unauthorized removal of paper. Workers were searched upon entering and leaving, required to change clothes in the lobby before gaining access, and forbidden from wearing cloaks or carrying swords. No one could enter the press without the monks' authorization—not even those bringing food for the workers, which had to be left in the lobby. All printing-related work, including the casting of letters, was to be carried out strictly within the monastery.

Ventilation was required to dry the sheets, but windows had to be barred so narrowly that not even a hand could pass through (Gómez Vozmediano and Serrano Rodríguez, 2013: 28). Inside the press, a chest secured with two keys held the matrices and type, while another chest contained the seals, the monks' registers, and the original papal bulls. As with the room itself, the keys were divided between different custodians[17].

Printing of the bulls had to begin months before the preaching in order to prevent shortages. In some cases, preparation began far in advance. For example, for the campaign that commenced in Advent 1649, the bulls were already being printed in March for delivery in April. The Crusade Council approved the text once the original Latin bull from Rome had been translated. The Crown preferred to have it rendered into the vernacular languages of the Iberian Peninsula so that the faithful might fully appreciate the multitude of graces they were acquiring—thus stimulating demand. Reading the papal bull was an essential act for the authorities, and efforts were made to make it accessible. Most bulls were printed in Spanish, though some also appeared in Catalan and Valencian[18].

[17] AGS, CRU, 521. Ordenanzas de la imprenta, 7/6/1654.
[18] AGS CRU 447. Papeles de 1533. Serrano, 2013, p. 25.

The monasteries sent the Council four copies of each type of initial proof for review before the Commissioner General granted final approval. The work then proceeded at a frantic pace for several weeks until the planned volume was completed. Each bull was required to state the exact day, month, and year of its printing. Once production was finished, the printers were obliged to preserve the plates in case additional copies were needed after distribution had begun[19]. The private treasurer of each district was responsible for ensuring an adequate supply of bulls to meet demand. Should he fall short, he was held personally liable for the financial loss, as he was also if the bull was not preached in any of the places assigned to him[20]. It was always preferable to have a surplus rather than a shortage.

After printing was completed, the friars had to record the number of bulls delivered to each treasurer, the defective or torn copies, and the amount of unused paper, verifying whether this matched the original allocation. This information was entered into a certificate presented to the deputy commissioner. The notary of that court collected the same information independently[21].

Once packaged by district, the bulls had to be collected either by the private treasurers in person or through their appointed agents. Since the general treasurer of the Crusade was ultimately responsible for distribution, each year he issued powers of attorney authorizing the private treasurers to collect the bulls on his behalf[22]. Yet such documents alone were insufficient. Between 1555 and 1715, in addition to the general treasurer's authorization, private treasurers also had to request a dispatch from the Crusade accountants instructing the press to deliver a specified number of bulls of each type[23]. The presses, which operated under the Commissioner General, were bound exclusively to his orders.

The delivery of the bulls always took place in the presence of the prior of the monastery. The two friars and the notary were also required to attend, each recording the

[19] AGS, CRU, 466. Ejemplos de bulas de 1650. 19/4/1649.
[20] AGS, CMC 3E, 13. Asiento, 31/7/1637, n. 11.
[21] AGS, CRU, 521. Ordenanzas de la imprenta, 7/6/1654.
[22] Juan Bautista y Jacome de Negro, tesoreros de la Cruzada en Cataluña y condados de Rosellón y Cerdaña, recibieron de su tesorero general, Julio César Scazuola, un poder otorgándoles facultad para que en su nombre sacasen del monasterio del Prado de Valladolid todas las bulas para su predicación. AHPNM 1901, f. 3572. Poder, 12/01/1628.
[23] AGS, CRU, 427. Solicitud, 25/10/1714

transaction in his books. The treasurer then signed for the delivery, with the number and type of bulls as well as the date duly noted. Payment was required before the bulls could be taken.

If some bulls were torn, damp, or otherwise damaged and could not be sold, the treasurers had to return them, or what remained of them, to the same press from which they had been issued. They were replaced with new ones upon payment of the corresponding fees, and new certificates were issued. The damaged bulls were then destroyed in the presence of officials appointed by the Commissioner General, and this act of destruction was recorded publicly[24]. The only exceptions were bulls lost in shipwrecks or destroyed by fire, when recovery was impossible; in such cases, the treasurer had to provide a sworn statement detailing the circumstances. At the end of the preaching campaign, the remaining bulls were collected in the presence of the two friars, the notary, and the prosecutor. Once their authenticity had been verified, their numbers were recorded, and a certificate was issued to the treasurer[25]. The Crown was determined to maintain precise control of every bull, tracking each from its printing to its ultimate disposition, thereby minimizing opportunities for fraud.

It was strictly forbidden to reuse surplus bulls from one campaign in the next. Each annual preaching required freshly printed copies. Although in the earliest records, the general treasurer was not obliged to return unsold bulls, this later became a standard procedure. The accounting department repeatedly debated whether this was the most practical approach, given the considerable expense and risks of transporting bulls across mountains and poor roads by mule—risks that included theft, damage, and simple loss (Carande, 1965: II, 443). Despite these drawbacks, the danger of surplus bulls circulating fraudulently was deemed greater. If not destroyed, they might remain in circulation for years, exploited by unscrupulous individuals to defraud the population and the Royal Treasury alike. For this reason, the Crown insisted that surplus bulls be returned, counted, and destroyed, with their elimination duly certified and the cost reimbursed to the treasurer. This process was known as the “consumption” of bulls. After 1571, contracts with the general treasurers required that all unsold or damaged bulls be returned to the same

[24] AGS, CMC 3E, 13. Asiento, 31/07/1637, n.15.
[25] AGS, CRU, 521. Ordenanzas de la imprenta, 7/6/1654.

monasteries from which they had been issued. Because treasurers could recover the printing costs of surplus copies, they ensured their return and maintained detailed records[26]. The same applied to bulls destroyed in transit or damaged accidentally. With proper certification, treasurers were reimbursed upon presenting their accounts.

As at the time of issuance, so too at the time of return, the presence of the prior, two witnesses, and the treasurer's agent was required. The prior and the notary of the press then issued a certificate, recording the date and the name of the person who delivered the bulls. These records were subsequently cross-checked against the accounts submitted by the treasurers, ensuring that no more bulls had been sold than initially authorized[27]. Thanks to this documentation, the Royal Treasury possessed exact figures for each district, enabling precise calculations for future printings.

The number of returned bulls was consistently small, underscoring the organizational efficiency of the Crusade. Records from the Toledo press show that in 1592 the surplus represented less than 0.5% of those printed, and in 1593 only 1.05% (Gómez Vozmediano and Serrano Rodríguez, 2013: 13).

Transfers of bulls between territories were forbidden unless specifically authorized by the Council. The 1577 instructions explicitly mentioned this possibility but required treasurers to keep their surplus for return rather than give it to another treasurer. Violators faced fines of 100 ducats[28]. The intent was to preserve the territorial order of distribution, since exchanges between districts generated confusion.

Transporting bulls back to the presses was costly, and in cases involving only small quantities, exemptions could be granted. For instance, in 1624, María Sanz de Caxiguera, treasurer of the villages of Toledo, had 24 surplus bulls. To avoid the expense of sending them to Valladolid, she was permitted to deliver them in Madrid to Juan de Talavera, clerk of the Council, where they were torn and burned in his presence, and the appropriate certificate issued[29]. The practice of returning bulls to the presses endured for more than three centuries, until 1802, when to reduce transportation costs, it was decreed that surplus bulls be burned within the dioceses themselves.

[26] Juan Fernández de Espinosa, las bulas que devuelve se le hace cargo del dinero por ellas. Se le pagan 3 blancas por las bulas de vivos y 1,5 blancas por las de difuntos. AGS, CRU, 455. Finiquito asiento, 1576.
[27] Comprobado para Cataluña en 1578 y 1579. AGS, CRU, 452. Asiento, 17/12/1577.
[28] I1577n.15.
[29] AGS, CRU, 463. Cuentas, 1624.

Appendix B. Constructing Homogeneous Bulls Series

The annual records of bulls from 1574 onwards relate to religious provinces and do not always match the definition of civil administrative provinces. Our initial step was to produce consistent series for administrative regions to enable comparison with available population estimates. We checked whether the annual series were complete and, on occasion, identified gaps in the data. The number of missing observations was small, and we filled these by extrapolating from neighbouring provinces with similar series behaviour.

Occasionally, data for a religious province appears under another's name because they shared the same administrator (local treasurer). For example, in Andalusia, bulls for Cadiz (1596-1657) and Jaen (1574-1577) are included within Seville and Cordoba's series, respectively. In Cartagena (Murcia), the number of bulls includes those sold in Orihuela (Valencia) from 1619-1682; therefore, we deducted those bulls from Murcia and added them to Valencia.

In some regions, bulls' records started later. For example, for the Balearic Islands and Navarre, they are only available from 1590 and 1603, respectively. However, in the case of the Balearic Islands, the bulls for 1574-1577 and 1579-1589 were included within those for Valencia. To obtain yearly series for the Balearic Islands from 1574-1589, we first calculated the ratio of Balearic bulls to the total bulls for Valencia plus the Balearic Islands in 1578 and 1590. We then applied this ratio to the number of Valencia bulls from 1543-1577 to estimate the number of bulls sold in the Balearic Islands during these years. Next, we interpolated the ratios for 1578 and 1590 linearly and multiplied these ratios by the number of Valencia bulls to estimate the bulls for the Balearic Islands from 1579-1589. Finally, we adjusted the Valencia bulls by subtracting the Balearic bulls from the total.

We observed that, in the religious provincial distribution, Calahorra was included within Aragon but, from an administrative perspective, it belonged partly to Navarre and partly to Old Castile (specifically, to present-day Rioja). Consequently, we proceeded to distribute Calahorra's bulls between Navarre and Old Castile. Regarding Navarre, once its series began in 1603, Calahorra's bulls decreased proportionally to Navarre's. We then estimated the average ratio of Navarre bulls to the total bulls for Navarre and Calahorra from 1603-1622, and multiplied this ratio to the number of Calahorra bulls to derive the count for Navarre from 1574-1602. The remaining bulls were assigned to Old Castile.

For the Canary Islands, the series began in 1574, stopped after five years, resumed in 1590, and was discontinued again from 1632 to 1637. We needed to fill the missing years, making some assumptions. We found that the number of bulls sold in 1577 and 1590 was the same, as was the case in 1631 and 1638. Therefore, we used figures from 1577 and 1631 as estimates for the periods 1578-1589 and 1632-1637, respectively. Since the number of bulls in 1691 and 1710 was very similar, we took their arithmetic average for 1692-1700.

Missing data for bulls sold was found for Asturias and Galicia from 1740-1751; Aragon, Catalonia, and Navarre from 1744-1745; Old Castile from 1740-1742 and 1746-1751; and the Canaries from 1791-1793. To estimate these gaps, we assumed that the average number of bulls sold in 1737/39 and 1752/54 represented 1740-1751 in Asturias and Galicia; that the averages in 1743 and 1746 applied to 1764-65 for Aragon, Catalonia, and Navarre; and, for Old Castile, we used the averages of 1737/39 and 1743/45 for 1740-1742, and 1743/45 and 1752/54 for 1746-1751. For the Canaries, we took the average of 1790 and 1794 as representative of 1791/93. Data for 1799 was missing for Asturias; we estimated this assuming Asturias had the same proportion of bulls relative to the Kingdom of Castile as in 1798.

This resulted in a series of bulls for the Crown of Aragon—covering Aragon, Balearic Islands, Catalonia, and Valencia—and for the Crown of Castile, which includes Andalusia, Asturias, Canary Islands, Extremadura, Galicia, Murcia, Old Castile (now Castilla-La Mancha and Madrid), and New Castile (now Castilla-La Mancha and Madrid)—plus the Kingdom of Navarre. Including these increased the total bulls for Spain.

Figure A1 displays the total number of bulls sold in Spain, both with and without adjustments for missing data, and the difference is minor, except during the 1740s and early 1750s.

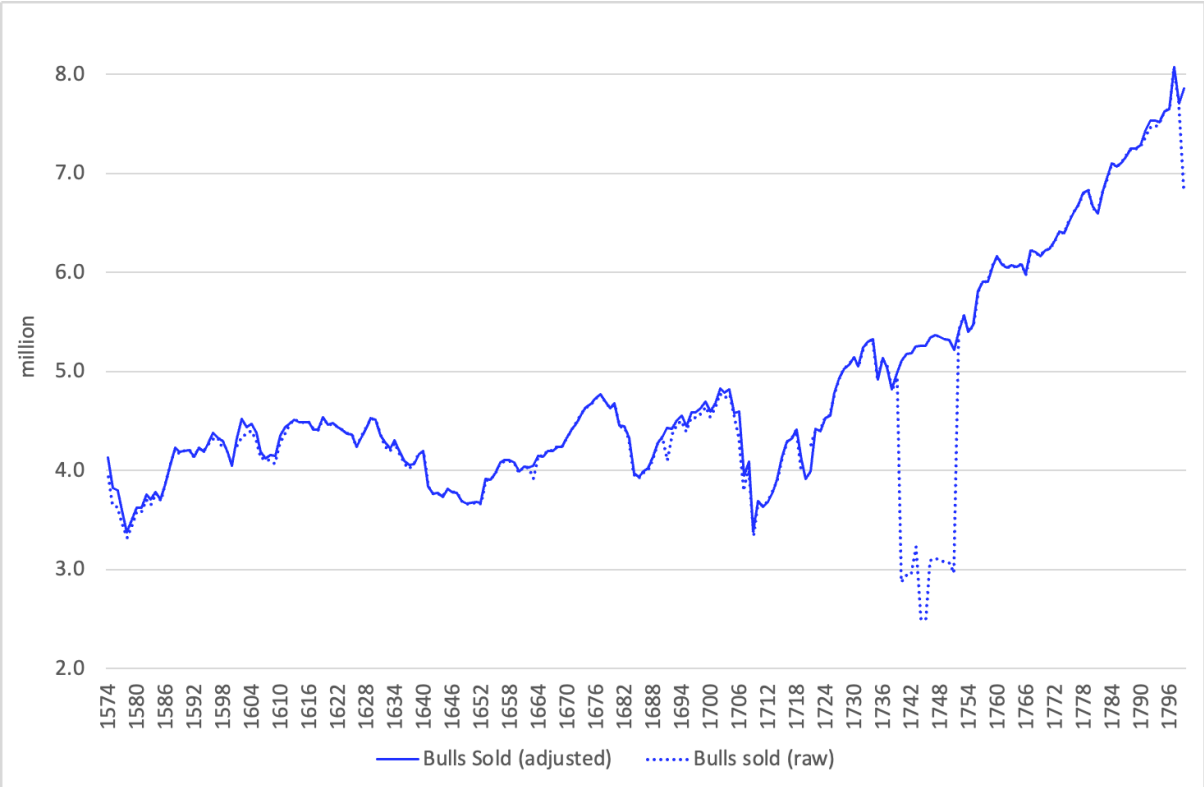

Figure A1. Total Bulls Sold: Adjusted and Raw Data, 1574-1799
Source: See the text.

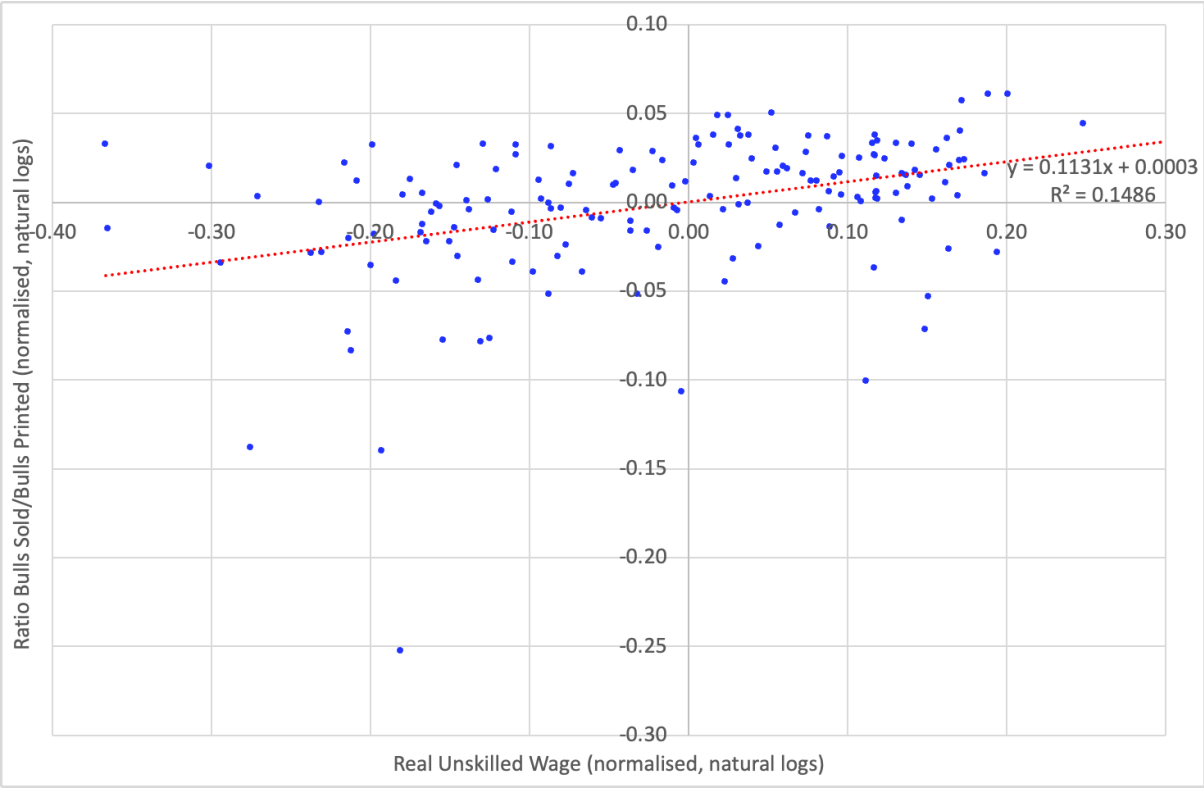

Figure A2. Demand for Bulls* and Real Wage, 1574-1739
*Bulls sold/Bulls printed. Both normalised, in logs
Source: See the text and Prados de la Escosura et al. (2024)

European
Historical
Economics
Society

EHES Working Paper Series

Recent EHES Working Papers

EHES 286 Build Better Health: Evidence from Ireland on Housing Quality and Mortality
Alan de Bromhead, Ronan C. Lyons, Johann Ohler

EHES 285 Hereditarian Fallacies? Inheritance of Social Status in England, 1600-2022
Gregory Clark

EHES 284 How Long do Wealth Shocks Persist? Less than three generations in England, 1700-2025
Gregory Clark, Neil Cummins

EHES 283 Has oil richness been a force for income equality in Venzuela over the long term?
Pablo Astorga

EHES 282 Female labor force participation in historical census microdata
Jørgen Modalsli

EHES 281 Colonial Governance and Resource Allocation in the British West Indies (1838–1938)
Luisito Bertinelli, Fabio Gatti, Eric Strobl

EHES 280 Why railways fail: Colonial railways and economic development in Habsburg Bosnia-Herzegovina
Magnus Neubert, Stefan Nikolić

EHES 279 Text Analysis Methods for Historical Letters, The case of Michelangelo Buonarrotti
Fabio Gatti, Joel Huesler

EHES 278 The Rákóczi family's estate wine production, wine trade, and wine prices at the end of the 17th century
Attila Ulrich

All papers may be downloaded free of charge from: https://www.ehes.org/

The European Historical Economics Society is concerned with advancing education in European economic history through study of European economies and economic history. The society is registered with the Charity Commissioners of England and Wales number: 1052680.