1. PRE-INDUSTRIAL INEQUALITY IN SPAIN: REVIEW OF THE LITERATURE

As in other pre-industrial societies, the main problem when studying inequality in Spain is the absence of documentary sources that incorporate long-term data series on individual income or wealth.\(^1\) To overcome this data limitation, researchers have resorted to tax sources, to indirect data such as the ratio of land rents to wages,\(^2\) and to social tables that group the income-receiving population into occupational categories whose respective income levels can then be inferred.\(^3\) The literature specializing in the study of inequality in the Early Modern Age gives four major explanations: (i) the Kuznets effect, or the association between industrialization and the growth of inequality; (ii) the Williamson effect, which relates a sustained process of growth and economic development to an increasing demand for skills and qualifications (human capital); (iii) changes in the functional distribution of income (i.e., how the contribution of production factors varies with family income); and (iv) the effect of institutions in a broad sense.\(^4\)

\(^{*}\) Acknowledgments. We are grateful to Begoña Álvarez for her comments and suggestions; thanks also to María Jesús Millán, who provided excellent research assistance. This project was supported by a grant from the Ministerio de Economía y Competitividad and FEDER (HAR2016-77794-R).

\(^1\) See E. NICOLINI, F. RAMOS-PALENCIA, Comparing income and wealth inequality in pre-industrial economies: Lessons from 18th-century Spain, in “European Historical Economics Society,” working papers 0095, 2016.

\(^2\) J.G. WILLIAMSON, Land, labor, and globalization in the Third World, 1870-1940, in “Journal of Economic History”, 62, 2002, n. 1, pp. 55-85.

\(^3\) B. MILANOVIC, P.H. LINDERT, J.G. WILLIAMSON, Pre-industrial inequality, in “Economic Journal”, 121, 2011, pp. 255-272.

\(^4\) For excellent summaries of recent empirical research into pre-industrial inequality, see: J. REIS, Deviant behaviour? Inequality in Portugal 1565-1770, in “Clometrica”, 11, 2017, n. 3, pp. 297-319; W. RYCKBOSCH, Economic inequality and growth before the industrial revolution: A case study of the Low Countries (fourteenth-nineteenth centuries), in “European Review of Economic History”, 20, 2016, n. 1, pp. 1-22; and J.L. VAN ZANDEN, Tracing the beginning of the Kuznets curve: Western Europe during the Early Modern Period, in “Economic History Review”, 48, 1995, n. 4, pp. 643-664. Regarding the Kuznets “obsolescence” curve, see P. LINDERT, Three centuries of inequality in Britain and America, in Handbook of Income Distribution, vol. 1, A.B. ATKINSON, F. BOURGUIGNON eds., North Holland 2000 (Elsevier), pp. 167-216; and G. ALFANI, M. DI TULLIO, The Lion’s Share: Inequality and the Rise of the Fiscal State in Pre-industrial Europe, Cambridge 2019 (CUP), pp. 11-12.
Inequality in pre-industrial Spain was not uniform in space or in time, either. Álvarez-Nogal and Prados de la Escosura used the land rents–wages ratio to show that economic inequality in Spain was cyclical, periodically rising and falling in response to epidemics, disease, and war. These authors also claimed that the fluctuations in inequality cannot be explained by the Kuznets hypothesis.5

Santiago-Caballero used the price of wheat to estimate income concentration, in the former Crown of Castile, during the last third of the 18th century in Central Spain (Guadalajara). In his opinion, inequality decreased because the redistribution of communal lands after the Esquilache riot in 1766 allowed many small peasants to produce above the subsistence level and, by extension, to take advantage of trade and high grain prices.6 Nicolini and Ramos-Palencia used annual income data from the Ensenada Cadastre for the Palencia province (Castile) to demonstrate how different production factors affected inequality. For these authors, the chief cause of income inequality was land. Their results are in line with other European income patterns observed in pre-industrial societies, where the distribution of nonhuman wealth is usually the foremost determinant of economic inequality. Although land contributed to more than half (52%) of inequality, labor income also contributed significantly (18.5%).7 This latter contribution is relevant for analyzing the relationship between labor income and human capital: Álvarez and Ramos-Palencia argued that human capital could have contributed to income inequality (and hence to household income) before the 19th-century industrialization in the north and center of Spain (Palencia and Guadalajara provinces). In theory, the wage differences associated with human capital should have been greater in urban than in rural areas. Note also that literacy made a difference in the tertiary sector, as did numerical skills in agriculture. The implication is that reaching the highest level of professional qualification was better paid in the primary and tertiary sectors than in the secondary one, outcomes that were consistent with Castilian manufacturers’ low level of technological development.8 Taking an entirely different approach, García-Montero used anthropometric measures as indicators of biological and nutritional well-being; he documented a significant correlation between height disparity and economic inequality in Central Spain (Toledo province) in the 18th century.9 Espín-Sánchez et al. reported that, in the Mediterranean periphery and also in the former Crown of Castile, the levels of labor income inequality (which always exceeded 0.509 in the mid-18th century) were reduced at the same time as the city of Murcia’s

5 C. ÁLVAREZ-NOGAL, I. PRADOS DE LA ESCOSURA, The decline of Spain (1500-1850): Conjectural estimates, in “European Review of Economic History”, 11, 2007, pp. 319-66; IDEM, The rise and fall of Spain (1270-1850), in “Economic History Review,” 66, 2013, n. 1, pp. 1-37.

6 C. SANTIAGO-CABALLERO, Income inequality in central Spain, 1690-1800, in “Explorations in Economic History”, 48, 2011, n. 1, pp. 83-96.

7 E. NICOLINI, F. RAMOS-PALENCIA, Decomposing income inequality in a backward pre-industrial economy: Old Castile (Spain) in the middle of the eighteenth century, in “Economic History Review”, 69, 2016, n. 3, pp. 747-772.

8 B. ÁLVAREZ, F. RAMOS-PALENCIA, Human capital and earnings in eighteenth-century Castile, in “Explorations in Economic History” 67, 2018, n. 1, pp. 105-133.

9 H. GARCÍA-MONTERO, The nutritional status of manufacturing workers and craftsmen in Central Spain in the eighteenth century, in “Revista de Historia Industrial” 64, 2016, pp. 51-75.
urbanization rate increased during the 18th century. That reduction reflects an advanced process of “de-skilling” in the secondary sector.\(^{10}\)

The same trend was evident also in the Barcelona area during the second half of the 18th century, when increased of inequality diminished – despite economic growth – or were interrupted by the Napoleonic Wars. Brea-Martínez and Pujadas-Mora pointed out that, between 1715 and 1860, inequality among economic sectors (including the secondary sector of textiles) increased owing to a process of “proletarisation”; however, inequality decreased in the tertiary sector and remained fairly constant in the primary sector.\(^{11}\) García-Montero similarly argued that a “super Kuznets curve” could not account for the inequality of wealth in rural Catalonia between 1400 and 1800. According to this author, the growth of inequality proceeded in parallel with per capita GDP growth starting in the mid-17th century; but the trend of inequality in previous periods was unrelated to economic growth.\(^{12}\)

2. DATA: THE ENSENADA CADASTRE, C. 1750

Following the War of Spanish Succession (1701-1714), the Bourbon regime sought to recover the economic ground lost to England, France, and the Netherlands by centralizing its administration and homogenizing its taxes.

In the former Crown of Aragon, the tax system implemented after the Nueva Planta Decrees established a single tax; this tax was known as the single or royal contribution in the Kingdom of Aragon (1714-1715), as the cadastre in Catalonia (1715), the talla in Mallorca (1717), and the equivalente in Valencia (1715-1716). The most revenue was generated via the cadastre applied in Catalonia: the so-called Patiño Cadastre. This new direct tax comprised three parts: the royal cadastre, which taxed real estate property (e.g., houses, land, mills) and any mortgage interest thereon; the personal cadastre, which applied to the wages of craftsmen and day laborers over the age of 14; and the ganancial, which taxed the profits from commerce, industry, banking, and the liberal professions. Yet the absence of reliable statistics and inventories to establish either taxpayers’ income or Catalonia’s property wealth condemned this tax scheme to failure, and in practice it amounted to a fixed levy between 1720 and 1845. In any case, the Patiño Cadastre became the point of reference for future Spanish cadastrs and was the example followed by the Marquess of Ensenada’s much later attempt to enact sweeping fiscal reform in the Crown of Castile.

\(^{10}\) J.A. Espín-Sánchez, S. Gil-Guirado, W.D. Giraldo-Paez, C. Vickers, Labor inequality in pre-industrial Mediterranean Spain: Murcia in the 18th century, in “Explorations in Economic History”, 2019, https://doi.org/10.1016/j.eeh.2019.05.002.

\(^{11}\) G. Brea-Martínez, J.M. Pujadas-Mora, Estimating long-term socioeconomic inequality in southern Europe: The Barcelona area, 1481-1880, in “European Review of Economic History”, 2018, https://doi.org/10.1093/er/hey017; IDEM, Transformación y desigualdad económica en la industrialización en el área de Barcelona, 1715-1860, in “Revista de Historia Económica” 36, 2018, n. 2, pp. 241-273.

\(^{12}\) H. García-Montero, Long-term trends in wealth inequality in Catalonia, 1400-1800: Initial results, in “Dondena Working Paper,” 79, 2015.
Taking advantage of the rivalry between the French and English (e.g., in the
War of Austrian Succession, 1740-1748, and the Seven Years’ War, 1756-1763), the
Marquess of Ensenada – who between 1743 and 1754 served as Secretary of
Finance, Secretary of War and the Navy, and Secretary of the Indies – tried to
increase the efficiency of trade with the American colonies and to increase the
production capacity of Spanish shipyards. He therefore opted to increase tax
revenues through a series of measures that included not only an increase in customs
duties on monopolies (tobacco) but also a reform of the tax system based on
provincial taxes (Rentas Provinciales).13 Direct involvement (i.e., without the aid of
intermediaries) in the collection of revenues generated in the various Spanish
Bourbon monarchy ports, and of many other taxes for which collection
responsibilities had previously been delegated, tripled tax revenues between 1740
and 1770. At the same time, the Marquess tried to simplify the inefficient and
unfair Castilian tax system. The Catastro de Ensenada was designed to replace
provincial taxes and other taxes (the alcablas and the sisas) by a single tax that was
proportional to the taxpayer’s individual income. However, these reforms did not
succeed because the Anglophile sector of the Monarchy (led by José de Carvajal
and Lancaster, Secretary of State) deposed the Marquess of Ensenada. There was,
in fact, widespread opposition to Ensenada’s fiscal reforms from pressure groups
that controlled Spain’s commercial policy with America and the transfer of silver to
Europe (viz., merchants who controlled the colonial trade from Cádiz). In addition,
Castilian lobbies that opposed the “single contribution” tax included privileged
minority groups (the clergy and nobility), urban oligarchies, major landowners, and
farmers and livestock owners from different towns as well as a large number of
tenants, subtenants, and other intermediaries who had benefited from collecting
taxes. So even though most cadastral information had been assembled by 1756, this
fiscal reform was completely abandoned in 1779.14

The information preserved from the Catastro of Marquess de La Ensenada (for
short, Catastro de Ensenada or Ensenada Cadastre) can be grouped into five large
segments, as described next.15

13 The rentas provinciales were applied not only to basic necessities (e.g., meat, wine, vinegar, oil,
soap, tallow candles, and imported consumables) but also to contracts (ranging from the sale of
property and real estate to small daily market sales) and the within-province trade of products. These
taxes fluctuated over time and varied among the different provinces of the Castilian Crown;
moreover, collecting the rentas provinciales was problematic because they were not collected directly by
the State Treasury. See F. COMÍN, B. YUN-CASALILLA, Spain: From Composite Monarchy to Nation-State, 1492-
1914, in The Rise of Fiscal States: A Global History, 1500-1914, F. COMÍN, author, B. YUN-CASALILLA, P.
O’BRIEN eds., Cambridge 2012 (CUP), pp. 243-48.

14 For a summary of the economic and historical context of the Catastro of Ensenada Cadastre’s
reforms, see P. RUIZ TORRES, Reformismo e ilustración, in Historia de España, vol. 5, J. FONTANA, R.
VILLARES eds., Barcelona and Madrid 2008 (Crítica), pp. 280-285. On the foundations, applications,
and development of the Catastro, see C. CAMARERO BULLÓN, Vasallos y pueblos castellanos ante una
 averiguación más allá de lo fiscal: El Catastro de Ensenada, 1749-1756, in El Catastro de Ensenada: Magna
Averiguación Fiscal para Alivio de los Vasallos y Mejor Conocimiento de los Reinos, 1749-1756, I. DURÁN, C.
CAMARERO BULLÓN eds., Madrid 2002, pp. 113-388.

15 The supervision of these tax procedures involved more than 14,000 officials, and the process
required nearly 1,000 judges, 6,000 assistants, and 90,000 experts. The information collected affected
i. General Answers (Respuestas Generales). The information in this segment consists of the responses from each taxed place to 40 questions regarding, inter alia, the number of inhabitants (and sometimes their wages), its type of business, its number of hospitals and convents, and the local council’s income and expenses. Thus, the Respuestas Generales constitutes a general overview of each town’s economic features.

ii. Private Answers (Respuestas Particulares). This documentation owes its name to Antonio Matilla (1947), who established the Private Answers as a counterpart to the General Answers. These responses — which were given separately by lay and religious populations — are essentially individual declarations that are made by household heads and that rely on the following types of documentation.

(a) Family Registers / Books of the Head of Household (Libros de Cabeza de Familia). These books contain personal data: the family head’s full name and profession (and sometimes that of other family members); his age (the spouse’s age and that of the rest of the family are often not given); the number of individuals in the “family economy”, including children (with special attention to male children more than 18 years old), siblings, servants, journeymen, and apprentices; and the title (Mr or Mrs) taken by each person.

(b) Real Estate Books (Libros de Hacienda, a.k.a. Libros de lo Real, Mayores de lo Raíz, de lo Raíz, Maestros, de Bienes). These books record the annual income from rural (land) and urban properties (houses and buildings), mortgage and/or property interest collectible and payable, livestock, entrepreneurial activities, and personal income more generally (i.e., daily wages and/or benefits derived from a profession). It is worth noting that the government’s experts were typically knowledgeable about the place they were tasked with examining and that their analysis was exhaustive; in included the physical dimensions of each plot of land and house in addition to precise wage allocations.

See C. Camarero Bullón, La lucha contra la falsedad de las declaraciones en el Catastro de Ensenada (1750-1756), in “Revista CT/Catastro” 37, 1999, pp. 7-33.

More details are available in A. Matilla, La Única Contribución y el Catastro de la Ensenada, Madrid 1947 (Ministerio de Hacienda).

For instance, for computing the income from land, plots in each town were classified into a small number of different types (1st, 2nd, 3rd, etc.) according to their yield, crop prices and the farming cycle. Then the Mayor, Regidores and supervisors estimated a five-year average yield of each land type and the price at which the output was sold. Income derived from the houses and non-land properties (buildings) was its imputed annual rent, presumably calculated by the Ensenada Cadastre officers. The criteria for measuring income generated by livestock were more complex. In general, farm animals used for domestic purposes and linked to non-market activities were counted in the Ensenada Cadastre but they were generally excluded from the calculation of income flows; regarding the market-oriented livestock, the Ensenada Cadastre usually provides information on the quantity of animals and a value of the income generated by them but without clarifying the underlying calculations. Finally, the legal interest rate for Spanish Censos (perpetual mortgage rents) was 3%. See E. Nicolini, F. Ramos-Palencia, Decomposing income inequality, cit., p. 753; and, A. Matilla, La Única Contribución, cit., pp. 77-86.
In the documentation, the earned and unearned income obtained by “outsiders” (Forasteros) residing in the focal town usually appears after the income from all the local family heads is listed. This means that, to establish with absolute certainty the total annual income obtained by a specific household head, it would be necessary to check for any income derived from the more than 15,000 registered places within the 22 provinces of the former Crown of Castile. Of course, that would be possible only if all the relevant Cadastre data were actually collected — a practical impossibility. One remedy would be to inspect the post-mortem inventories of those who appear in the Ensenada Cadastre to see what portion of their assets were located outside their place of residence. The problem with this approach is that the few inventories remaining from that time are biased toward households with the most assets. Hence it would be better to check the income of household heads located within 10–30 kilometers of where the focal family resided; that income can be obtained from the Libros de Forasteros (Foreigners Books). Although this approach will not yield a figure for total income, it will reveal what percentage of household heads received income from outside their place of residence and also how those households’ income affected inequality.18

(c) Memoriales. This documentation consists of individual declarations made by all family heads and to which, after verification by the experts, the Single Contribution Officers added all the information gathered from the official registers described in sections (a) and (b). In addition to the information from those registers, the Memoriales might include the wages received by other male members of the family unit and by domestic servants. The household head sometimes also detailed the amounts paid for the labor performed by his wife and daughter(s). Once the income declaration was complete, it was signed by the individual being taxed — or by a third party, on his behalf, if he did not know how to write. The information collected in the Memoriales was consequently more extensive than that available elsewhere. However, not all of this information was included in the official registers and there were no Memoriales kept for many registered places.

iii. Overview Maps (Mapas Generales). These maps summarize, over all the places, the information obtained from the documents just described. The overviews (registers) are grouped into categories (letters from D to H), each of which distinguishes between lay and religious contributions. These registers include the following information:

- Letter D: Provincial agricultural incomes.
- Letter E: Income generated, place by place, from (for example) house rentals, censuses, farm produce, mills, bakeries, ovens, shops, butchers, ironworks, mines, ponds, fairs, and markets.
- Letter F: Annual profit, place by place, earned by money changers, wholesale merchants, open-store merchants, surgeons, apothecaries, innkeepers, mule drivers, etc.
- Letter G: A place-by-place count of the number of individuals who received a daily wage in agriculture, the secondary sector, or the services sector.

18 E. NICOLINI, F. RAMOS-PALENCIA, Decomposing income inequality, cit., pp. 769-771.
• Letter H: Livestock.

iv. Census (Vecindario del Catastro). After all the information just described had been collected, a census of people and buildings was undertaken in 1756 followed by a population census (the Vecindario General) in 1759.

v. Major Landlord Register (Libros de los Hacendados Mayores). This register was also prepared after the completion of the General Answers, Private Answers, and Overview Maps. It refers to the largest dezmera households (i.e., those that paid the most tithe or diezmo taxes). This documentation was requested for negotiations, between the Marquess of Ensenada and the Holy See, over signing the New Concordat.19

2.1. Labor income in the Ensenada Cadastre

The labor income collected in the Ensenada Cadastre can be confusing because two separate terms – “personal” and “utility” – are used to describe the income earned by a household head. Personal refers not to the wage received by heads of households but rather to a kind of taxable base for the income from individual labor.20 The personal applied to all male household heads of age 18-60 who received a daily wage working in agriculture, crafts, or services. This wage was an estimate based on the statements of family heads in the Memoriales. To estimate the final personal, officials assumed that household heads worked 120 days in the primary sector and 180 days in the secondary and tertiary sectors; coachmen and servants were assumed to work 250 days each year.21 Note that craftsmen earned different wages depending on whether they were master craftsmen, journeymen, or apprentices. For all practical purposes, personal can be viewed as potential wages. In other words: it is plausible that the daily wage was equal to the market salary, but there is no evidence regarding the number of days actually worked. Moreover, there are many statements in which household heads use the expression “those days when I work”; such words strongly suggest the existence of seasonal unemployment, which is difficult to quantify. We should also mention that, at the time of assigning the personal, not only the nobility and the ecclesiastical sector but also all women were excluded.

The concept of utility applied to the gross wages of professionals and to the gross profit from business operators (e.g., money changers, wholesale merchants, open-store merchants, shopkeepers, officials, lawyers, surgeons, apothecaries, scribes, innkeepers, muleteers, millers, bakers, butchers, smithies). Unlike the case of personal, for utility neither women nor the privileged sectors (the nobility and the Church) were excluded.

19 Camarero Bullón suggested that a more appropriate name for this documentation would be the “largest dezmera houses register” (libro de la casa mayor dezmera). See C. CAMARERO BULLÓN, El libro de mayor hacendado, ¿una denominación equivocada?, in “Estudios Geográficos” 48, 1987, n. 188, pp. 333-58.

20 GRUPO 75, La Economía del Antiguo Régimen. La ‘Renta Nacional’ de la Corona de Castilla, Madrid 1977, p. 22.

21 A. MATILLA, La Única Contribución, cit., pp. 85, 110.
Given the inherent hardship of pre-industrial society, many people and families were more likely to diversify their earnings through “by-employment”. This trend is reflected in many Memoriales that include the remuneration received by male children, relatives (brothers and brothers-in-law), and even wives and daughters. Thus household heads tried to supplement their income in three ways: (i) other employment (e.g. it was common for the sacristan of a small town or village to also be a teacher or organist); (ii) income earned through access to certain place concessions (via serving as a village’s legal obligado: the one responsible for supplying meat, coal, soap, firewood, or wax); and/or (iii) being paid as an employee working on the agricultural properties of a third party – in which case the household head received income from which he had to deduct the rent he paid to the landowner. In other words, income was computed by including a labor factor (wages for agricultural work) and a land factor (estimated income from the land under lease); the lease paid to the owner was seldom recorded.

2.2. Sample selection criteria

We first excluded the provinces of Cuenca, Extremadura, Huelva, Seville and Cádiz (ordered from north to south) because the Private Answers for those provinces were not preserved (see the left-hand side of Graph 1’s upper panel). The city of Madrid was excluded for the same reason; however, Private Answers from mid-18th-century Guadalajara and Toledo – in Madrid province – were preserved. The provinces of Asturias and Murcia were discarded because their Private Answers were incomplete. Thus our first filter required places where all the Family and Real Estate Books had been preserved.

Our second selection criterion accounted for gross domestic product (GDP) per capita and economic activity in the provinces; see the right-hand side of Graph 1’s upper panel. For this reason, different places were selected from the provinces of Guadalajara (high GDP per capita), Palencia (intermediate GDP per capita) and Granada (low GDP per capita). Also, towns in Jaén were selected so that we could study how large estate properties affected inequality. The cities of Granada, Palencia, Guadalajara, Úbeda, Motril, and Sigüenza were included. Granada was selected for being the most densely populated town for which data were available and because its administrative and industrial structure was representative of large Spanish cities in the 18th century. Palencia and Guadalajara were selected because

22 Elaboration based on data from Servicio de Reproducción de Documentos de Archivos Estatales (SRDAE), Madrid.

CATASTRO DE ENSENADA, Section Respuestas Generales: http://pares.mcu.es/Catastro/
CATASTRO DE ENSENADA, Section Respuestas Particulares from provinces of Granada, microfilms no. 0001-0071; Guadalajara, microfilms no. 0001-0154; Jaén, microfilms no. 0001-0058; León, microfilms no. 0001-0326; Madrid, microfilms no. 0001-0031; Palencia, microfilms no. 0001-0170; Santander (former province of Burgos), microfilms from Santillana del Mar; and Toledo, microfilms no. 0001-033.

23 The data from Granada are most useful because, in the middle of the 18th century, it was one of the cities with the greatest number of inhabitants: 54,604 if we multiply the number of households (13,651, according to the Census of Ensenada) by 4. In this respect it trailed only Madrid (31,779
of their textile industry: the former as an example of private textile industry; the latter because it was headquarters of the Royal Manufacturing Factory. Úbeda (an inland city) and Motril (a coastal city) were included because they exemplify Andalusian agro-cities. Sigüenza, the “city of bishops”, was included for being a small inland city near Madrid and the seat of a minor university. Finally, we selected 20 rural centers from the provinces of León, Palencia, Cantabria, Madrid, Guadalajara, Jaén, and Granada (ordered from north to south) to obtain a variety of demographics, agricultural property structure (smallholdings in the north; large landowners in the south), and percentage of employed individuals living in rural areas.

To homogenize the sample, we consider the income only of those household heads who were older than 18 years. Thus our an initial approximation ignored the income of children, male relatives, domestic service, wives, and daughters because not all observations include these data; in other words, no type of income was imputed to them. Also, heirs were considered only if they resided with an identified household head. All calculations were performed while excluding, in each place, the GDP due to the ecclesiastical sector. So when measuring the impact of inequality, we computed the total annual income of household heads. Recall that those incomes amount to the sum of income derived from labor, urban real estate (houses and buildings), land, livestock, and interest from a mortgage or any financial asset.

A methodological problem with this compilation of income was due to the existence of numerous households with zero total income. The underlying question is whether these households really did have no income. We can see from Table 1 that the number of households without any income varied widely depending on the place. In the city of Granada, for example, 22.5% of the sample had no type of income; this figure seems plausible in that it nearly matches the percentage of poor households (21.5%) Although a similar observation can be made for Úbeda (13.9% and 9%, respectively), there were strong disparities in Palencia (16.3% vs. 1.6%) and Motril (19.3% vs. 5.1%). We remark that most households without real estate were located either in a city or in a town of high population density. The greatest number of household heads with zero labor income resided in southern Spain – probably because that region featured both a landowner structure dominated by large agricultural enterprises and the existence of seasonal unemployment. Our discussion of the results therefore reports Gini indexes based on the computation of zeros as well as indexes that exclude all observations of zero income. In short, our final sample covered 26 places that were home to a total of 27,180 households and thus to (an estimated) 108,720 inhabitants.

households, according to the same census), Seville (19,166 households, according to the same census), Valencia (75,733 inhabitants, according to the Census of Aranda, c. 1768), and Barcelona (62,000 inhabitants, c. 1759); Granada’s population was about the same as that of Murcia (13,920 households, according to the Census of Ensenada). With regard to population data in Catalonia, see P. VILAR, Cataluña en la España Moderna, vol. 2, Barcelona 1987 (Crítica), p. 50.
Graph 1. **Territory covered by the Ensenada Cadastre and sample selection**

| Place          | No house-property | No land-property | No labor income | Annual income Poor |
|----------------|-------------------|------------------|-----------------|--------------------|
| Azuqueca       | 35.5              | 57.9             | 21.1            | 7.9                |
| Bustillo       | 26.5              | 29.4             | 17.6            | 2.9                |
| Carabaña       | 34.1              | 34.6             | 20.1            | 0.6                |
| Casar, El      | 30.2              | 44.4             | 21.4            | 3.2                |
| Cevico Navero  | 23.5              | 50.0             | 11.4            | 0.0                |
| Colmenar Viejo | 31.6              | 45.2             | 15.6            | 0.3                |
| Cúllar Baza    | 35.5              | 59.3             | 30.7            | 3.1                |
| Granada        | 82.0              | 97.2             | 32.3            | 22.5               |
| Guadalajara    | 59.5              | 81.9             | 17.0            | 6.3                |
| Hontoria       | 18.8              | 13.0             | 13.0            | 0.0                |
| Marchamalo     | 44.7              | 66.8             | 17.6            | 2.0                |
| Montefrío      | 60.4              | 84.6             | 28.7            | 12.2               |
| Motril         | 74.0              | 95.4             | 30.0            | 19.3               |
| Padul          | 37.6              | 46.9             | 24.8            | 1.2                |
| Palencia       | 94.2              | 96.3             | 18.1            | 16.3               |
| Paredes de Nava| 24.2              | 41.7             | 25.5            | 1.2                |
| Resoba         | 16.1              | 8.1              | 16.1            | 0.0                |
| Santillana del Mar | 24.7       | 42.9             | 31.2            | 0.6                |
| Sigüenza       | 90.0              | 97.0             | 18.3            | 12.4               |
| Torre del Bierzo | 0.0              | 3.1              | 0.0             | 0.0                |
| Torredonjimeno | 49.2              | 73.3             | 27.0            | 12.1               |
| Úbeda          | 64.3              | 69.7             | 30.3            | 13.9               |
| Valberzoso     | 20.0              | 0.0              | 13.3            | 0.0                |
| Villabellaco   | 18.8              | 12.5             | 25.0            | 0.0                |
| Villabermudo   | 27.3              | 15.6             | 18.2            | 2.6                |

Note: Places are ordered alphabetically.

Source: Author calculations based on data from the Ensenada Cadastre’s Respuestas Particulares.

### 3. RESULTS AND DISCUSSION

Table 2 presents the main indicators related to the distribution of income, inequality, and poverty: the per capita annual income of household heads, the Gini index (including and excluding zero-income family heads, as described previously), the Theil index, and income gap measures (percentage of all income earned by each place’s richest 10% and poorest 50% households). The table also reports poverty measures based on the Foster, Greer, and Thorbecke (FGT) index via three parameters, which range from lower to higher intensity:

- $\alpha = 0$, which denotes the percentage of household heads below the poverty line.
- $\alpha = 1$, which denotes the poverty gap.
- $\alpha = 2$, which denotes the severity of poverty.

24 J. Foster, J. Greer, E. Thorbecke, The Foster-Greer-Thorbecke (FGT) poverty measures: 25 years later, in “Journal of Economic Inequality”, 8, 2010, n. 4, pp. 491-524.
### Tab. 1. Percentage of households without income or property

| Place                  | No house-property | No land-property | No labor income | No annual income | Poor |
|------------------------|-------------------|------------------|-----------------|------------------|------|
| Azuqueca               | 35.5              | 57.9             | 21.1            | 7.9              | 2.6  |
| Bustillo               | 26.5              | 29.4             | 17.6            | 2.9              | 0.0  |
| Carabancha             | 34.1              | 34.6             | 20.1            | 0.6              | 6.7  |
| Casar, El              | 30.2              | 44.4             | 21.4            | 3.2              | 4.0  |
| Cebreros Navero        | 23.5              | 50.0             | 11.4            | 0.0              | 0.0  |
| Colmenar Viejo         | 31.6              | 45.2             | 15.6            | 0.3              | 0.3  |
| Cúllar Baza            | 35.5              | 59.3             | 30.7            | 3.1              | 0.3  |
| Granada                | 82.0              | 97.2             | 32.3            | 22.5             | 21.2 |
| Guadalajara            | 59.5              | 81.9             | 17.0            | 6.3              | 0.5  |
| Hontoria               | 18.8              | 13.0             | 13.0            | 0.0              | 0.0  |
| Marchamalo             | 44.7              | 66.8             | 17.6            | 2.0              | 0.0  |
| Montefrío              | 60.4              | 84.6             | 28.7            | 12.2             | 0.5  |
| Motril                 | 74.0              | 95.4             | 30.0            | 19.3             | 5.1  |
| Padul                  | 37.6              | 46.9             | 24.8            | 1.2              | 3.5  |
| Palencia               | 94.2              | 96.3             | 18.1            | 16.3             | 1.6  |
| Paredes de Nava        | 24.2              | 41.7             | 25.5            | 1.2              | 0.7  |
| Resoba                 | 16.1              | 8.1              | 16.1            | 0.0              | 0.0  |
| Santillana del Mar     | 24.7              | 42.9             | 31.2            | 0.6              | 0.0  |
| Sigüenza               | 90.0              | 97.0             | 18.3            | 12.4             | 1.1  |
| Torre del Bierzo       | 0.0               | 3.1              | 0.0             | 0.0              | 0.0  |
| Torredonjimeno         | 49.2              | 73.3             | 27.0            | 12.1             | 0.1  |
| Úbeda                  | 64.3              | 69.7             | 30.3            | 13.9             | 9.0  |
| Valberzoso             | 20.0              | 0.0              | 13.3            | 0.0              | 0.0  |
| Villallavecino         | 18.8              | 12.5             | 25.0            | 0.0              | 0.0  |
| Villabermudo           | 27.3              | 15.6             | 18.2            | 2.6              | 1.3  |
| Villarreal             | 29.1              | 28.5             | 17.9            | 0.3              | 3.2  |

*Note: Places are ordered alphabetically.*

*Source: Author calculations based on data from the Ensenada Cadastre’s Respuestas Particulares.*

### 3. RESULTS AND DISCUSSION

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$^{24}$ J. Foster, J. Greer, E. Thorbecke, *The Foster-Greer-Thorbecke (FGT) poverty measures: 25 years later*, in “Journal of Economic Inequality”, 8, 2010, n. 4, pp. 491-524.
### Tab. 2. Comparative household income inequality in Castile (Spain), c. 1750

| Place             | Province  | Households | Population | Annual income per capita | Gini index (including zeros) | Gini index (excluding zeros) | Theil index | Bottom 50% share | Top 10% share | α = 0 Poverty gap ratio | α = 1 Poverty gap ratio | α = 2 Poverty gap ratio | FGT poverty measures |
|-------------------|-----------|------------|------------|--------------------------|------------------------------|-------------------------------|--------------|-------------------|--------------|-----------------------|-----------------------|-----------------------|----------------------|
| Montefrío         | Granada   | 1,304      | 5,216      | 662.9                    | 0.697                        | 0.655                         | 1.140        | 9.9               | 60.1         | 25.6                  | 21.3                  | 19.0                  |                      |
| Granada           | Granada   | 11,907     | 47,628     | 1,296.2                  | 0.686                        | 0.595                         | 0.815        | 7.9               | 56.0         | 28.5                  | 26.3                  | 25.3                  |                      |
| Úbeda             | Jaén      | 2,253      | 9,012      | 894.1                    | 0.660                        | 0.605                         | 1.034        | 11.3              | 55.8         | 24.6                  | 20.6                  | 18.8                  |                      |
| Cullar Baza       | Granada   | 670        | 2,680      | 813.3                    | 0.618                        | 0.606                         | 0.981        | 13.9              | 52.9         | 23.7                  | 17.2                  | 13.8                  |                      |
| Guadalajara       | Palencia  | 1,299      | 5,196      | 987.0                    | 0.613                        | 0.587                         | 0.821        | 13.1              | 51.5         | 29.5                  | 16.2                  | 11.9                  |                      |
| Paredes de Nava   | Palencia  | 722        | 2,888      | 1,084.8                  | 0.611                        | 0.606                         | 0.827        | 14.1              | 53.2         | 24.2                  | 17.0                  | 13.4                  |                      |
| Palencia          | Palencia  | 258        | 1,032      | 1,243.6                  | 0.608                        | 0.604                         | 0.747        | 13.5              | 49.7         | 17.4                  | 14.3                  | 12.4                  |                      |
| Palencia          | Palencia  | 2,254      | 9,016      | 953.7                    | 0.608                        | 0.531                         | 0.608        | 13.3              | 49.8         | 17.9                  | 17.3                  | 17.0                  |                      |
| Sigüenza          | Guadalajara | 805     | 3,220      | 1,052.3                  | 0.591                        | 0.533                         | 0.610        | 13.5              | 46.3         | 17.5                  | 15.8                  | 15.1                  |                      |
| Carabana          | Madrid    | 179        | 716        | 934.4                    | 0.560                        | 0.557                         | 0.569        | 13.4              | 42.0         | 31.8                  | 14.1                  | 10.1                  |                      |
| Torredonjimeno    | Jaén      | 840        | 3,360      | 633.0                    | 0.552                        | 0.490                         | 0.539        | 16.0              | 42.9         | 25.4                  | 20.6                  | 18.1                  |                      |
| Bustillo          | Palencia  | 34         | 136        | 1,350.2                  | 0.544                        | 0.530                         | 0.540        | 15.0              | 43.3         | 26.5                  | 7.9                   | 4.6                   |                      |
| Azuqueca          | Guadalajara | 76       | 304        | 831.7                    | 0.535                        | 0.496                         | 0.511        | 16.6              | 42.0         | 18.4                  | 14.3                  | 12.3                  |                      |
| Casar, El         | Guadalajara | 252     | 1,008      | 1,294.1                  | 0.529                        | 0.514                         | 0.534        | 17.1              | 42.4         | 26.2                  | 12.8                  | 9.4                   |                      |
| Motril            | Granada   | 2,174      | 8,696      | 483.3                    | 0.510                        | 0.393                         | 0.412        | 17.2              | 38.8         | 28.5                  | 25.7                  | 24.1                  |                      |
| Colmenar          | Madrid    | 975        | 3,900      | 1,668.8                  | 0.497                        | 0.495                         | 0.476        | 18.4              | 39.0         | 12.0                  | 7.7                   | 6.0                   |                      |
| Marchamalo        | Guadalajara | 199     | 796        | 1,095.6                  | 0.495                        | 0.485                         | 0.440        | 16.0              | 34.3         | 31.2                  | 12.5                  | 8.9                   |                      |
| Santillana        | Cantabria | 170        | 680        | 489.8                    | 0.466                        | 0.463                         | 0.410        | 20.5              | 35.6         | 30.0                  | 19.1                  | 13.8                  |                      |
| Villabellaco      | Palencia  | 32         | 128        | 870.2                    | 0.461                        | 0.461                         | 0.361        | 17.3              | 31.2         | 28.1                  | 12.0                  | 8.0                   |                      |
| Villabermudo      | Palencia  | 77         | 308        | 943.6                    | 0.409                        | 0.394                         | 0.270        | 22.3              | 28.9         | 23.4                  | 11.1                  | 8.4                   |                      |
| Villarramiel      | Palencia  | 375        | 1,500      | 1,049.9                  | 0.407                        | 0.406                         | 0.291        | 22.9              | 30.0         | 24.8                  | 9.5                   | 5.5                   |                      |
| Hontoria          | Palencia  | 69         | 276        | 1,069.2                  | 0.358                        | 0.358                         | 0.231        | 25.1              | 26.3         | 15.9                  | 5.5                   | 3.2                   |                      |
| Resoba            | Palencia  | 62         | 248        | 884.3                    | 0.333                        | 0.333                         | 0.181        | 25.9              | 20.8         | 24.2                  | 9.6                   | 6.0                   |                      |
| Cevico Navero     | Palencia  | 132        | 528        | 1,039.5                  | 0.317                        | 0.317                         | 0.199        | 30.5              | 25.1         | 20.5                  | 10.6                  | 7.9                   |                      |
| Valenzoso         | Palencia  | 30         | 120        | 957.2                    | 0.289                        | 0.289                         | 0.131        | 29.1              | 19.1         | 23.3                  | 6.1                   | 2.5                   |                      |
| Torre del Bierzo  | León      | 32         | 128        | 650.9                    | 0.179                        | 0.179                         | 0.064        | 38.1              | 17.1         | 9.4                   | 3.6                   | 2.1                   |                      |

*Note:* Places are ordered by their Gini index (sixth column; calculated while including observations of zero income). Population figures are obtained by multiplying the number of household heads by 4. Population shares are calculated for the above-mentioned locations. Some place names are approximations. The Theil index yields qualitatively similar conclusions. When we use the Gini index below 0.55 had fewer than 250 households, the equivalent of about 1,000 inhabitants. The Theil index yields qualitatively similar conclusions. When we use

The highest Gini coefficients were seen in cities or other population centers with the greatest number of inhabitants. During the 18th century, the former crown

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**Source:** Author calculations based on data from the Ensenada Cadastre’s *Resuestas Particulares.*
of Castile (and, broadly speaking, Spain as a whole) remained a mostly agricultural region; it was scarcely urbanized and had poor transport connections. At the end of that century, only 24% of the Spanish population lived in an urban environment (cities of more than 5,000 inhabitants). Regions with the highest urban concentration were Andalusia (53%), Valencia-Murcia (50%), and the Balearic Islands (43%); those with the lowest urbanization rates were Extremadura (13.5%), Aragón (13.4%), Castile-León (6.6%), and Galicia (2%).

Within our sample, five cities were among locations with the highest Gini indexes: Granada (2nd highest), Úbeda (3rd), Guadalajara (5th), Palencia (8th), and Sigüenza (9th). In these cities, the richest 10% account for at least half of the total income (GDP) earned. The greatest inequality was evident in Montefrío, where the top 10% accumulated 60% of the wealth while the bottom 50% barely accumulated 10%. All areas (except for Motril, Colmenar Viejo, and Villarramiel) with a Gini index below 0.55 had fewer than 250 households, the equivalent of about 1,000 inhabitants. The Theil index yields qualitatively similar conclusions. When we use the Gini index that excludes household heads with zero income, the patterns do not change – although the coefficients are naturally lower.

Regarding the percentage of people below the poverty line, we find that almost one in every four Spaniards was poor. This result is obtained from the FGT index ($\alpha = 0$) when the poverty threshold is set at about 60% of the median of each location’s distribution of household heads’ total income: approximately 324 reales, on average, for the 26 towns considered.26 The severity of poverty (FGT index, $\alpha = 2$) was especially high in Granada (25.3%), Motril (24.1%), and Úbeda (18.8%); these are the same three sites at which the Ensenada Cadastre counted the greatest number of poor people (21.2%, 5.7%, and 9.0%, respectively). In the mid-18th century, Madrid and Seville-Cádiz-Jerez could be viewed as an axis whose endpoints were two islands in a sea of rural deprivation in the former Crown of Castile.27 As described by Herr, there was an imaginary line that ran from Salamanca to Albacete. Above this line lived farmers and day laborers who worked on small and heavily indebted farms. Below the line were large areas of privately owned land on which more than 70% of the work was performed by day laborers who earned low wages and faced high levels of seasonal unemployment.28

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25 D.S. REHER, Town and Country in Pre-industrial Spain. Cuenca 1550-1870, Cambridge 1990 (CUP), pp. 37-43.

26 This result is largely consistent with previous qualitative studies. For the middle of the 18th century, Yun-Casalilla estimated a minimum subsistence income of 300 reales for a family of 3.5 members; Donézar considered the minimum and/or subsistence amount for a farmer and his family to be 500 reales. See B. YUN-CASALILLA, Sobre la Transición al Capitalismo en Castilla, Economía y Sociedad en Tierra de Campos 1500-1814, Junta de Castilla y León 1987, pp. 463-64; and J.M. DONEZAR, Riqueza y Propiedad en la Castilla del Antiguo Régimen. La Provincia de Toledo del Siglo XVIII, Madrid 1996 (Ministerio de Agricultura, Pesca y Alimentación), pp. 338-341.

27 More details are available in P. VILAR, Hidalgos, Amotinados y Guerrilleros, Barcelona 1999 (Crítica), pp. 27-62.

28 R. HERR, España y la Revolución del Siglo XVIII, Madrid 1988, p. 28.
Graph 2. Inequality, income, and poverty in Castile (Spain), c. 1750

Notes: In these graphs, the Gini index is calculated while including observations of zero household head income. Population figures (in logs) are obtained by multiplying the number of household heads by 4; members of the clergy are excluded. The poverty is the percentage of population that is below the poverty line – in other words, the Foster, Greer, and Thorbecke index when \( \alpha = 0 \). When \( \alpha = 2 \), the FGT index measures the severity of poverty (i.e., the poverty gap squared).

In this context, one cannot rule out associations among inequality, poverty, and social conflict. Although there were no true revolutions in 18th-century Spain, there were certainly episodes of major social conflict. Perhaps the most significant event was the Esquilache riot in 1766, which was due primarily to rising prices for basic necessities (e.g., bread, oil, and bacon). Episodes involving assaults and considerable physical violence occurred, among our sample locations, in Palencia (Gini coefficient of 0.608) and Quesada (40 km from Úbeda, for which the Gini coefficient is 0.660). These were hardly the only upheavals that occurred during the 18th century. Among the most documented episodes, for example, were conflicts associated with high food costs in the Granada region of Baza\(^{29} \) (1723) and in the

\(^{29} \) In 1723, a group of farmers and locals in Cúllar-Baza (Gini index = 0.618) took 34 carriages to Madrid for the purpose of “acquiring” 500 fanegas of wheat. See Archivo Histórico Municipal de Cúllar (AHMC), Chapter Book from 1723 and Accounts Book from the deposit of 1712-1733 (file 12, vol. III).
city of Granada (1748). There was also labor unrest throughout the 18th century in the Royal Manufacturing Factory in Guadalajara\(^{30}\) (Gini coefficient = 0.613).

Although the Ensenada Cadastre offers an richly detailed snapshot of the 18th century, more information is needed if we are to understand how economic growth interacts with changes in income inequality and in the reduction of poverty – an interaction that Bourguignon defined (in contemporary terms) as the growth–inequality–poverty triangle.\(^{31}\) Figure 2 sketches the intuitive relationships among inequality, per capita income, and poverty. On the one hand, there is evidently a positive relationship between inequality and per capita income, between inequality and population, and between inequality and poverty. On the other hand, there is (as one would expect) a negative relationship between poverty and per capita income. Thus the correlations among these factors in a pre-industrial society are no different from those in the 21st century.\(^{32}\) Given that the Ensenada Cadastre is an excellent source of data on income levels in both tails of the distribution (unlike most other sources pertaining to pre-industrial economies) this finding opens potentially fruitful avenues for research on poverty in both the rural and urban environments of 18th-century Spain.

4. COMBATING INEQUALITY AND POVERTY IN PRE-INDUSTRIAL SPAIN

During the time of the Habsburgs, most taxes were indirect and were assessed on merchants, artisans, and peasants. As a result, household heads could easily afford to pay those taxes during periods of economic expansion – for example, in the mid-16th century. Yet at the end of the 16th century, the Spanish Habsburg Monarchy introduced the *millones* tax, which was to be paid only by *pecheros* (i.e., traders, artisans, and peasants).\(^{33}\) And until 1575, the *alcabalas* sales tax was set at a higher level than that established by the Crown and the *Cortes* (Parliament).\(^{34}\) Thus the cities of Toledo and Valladolid, for instance, used the *alcabalas* surplus to finance their provision of public granaries and bullfights as well as the organization of fiestas. Citizens were not subject to direct taxation and paid only moderate indirect taxes, such as the *sisas* (from which wine and meat were exempted).\(^{35}\) Tax revenues enabled cities to offer educational options: primary schools, children’s

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\(^{30}\) A. GONZÁLEZ ENCISO, *Estado e Industria en el S.XVIII: La Fábrica de Guadalajara*, Madrid 1980 (Fundación Universitaria Española).

\(^{31}\) F. BOURGUIGNON, *The Globalization of Inequality*, Princeton 2015 (Princeton University Press); M. RAVALLION, *The Economics of Poverty. History, Measurement, and Policy*, Oxford 2016 (Oxford University Press).

\(^{32}\) See https://ourworldindata.org/extreme-poverty#the-link-between-economic-growth-and-poverty.

\(^{33}\) Established in 1590, the *millones* taxed consumption - in particular, wine, vinegar, oil, meat, sugar, chocolate, raisins, fish, paper, and tallow candles.

\(^{34}\) The *alcabalas* was a tax on all sales, including successive sales of the same good; it also taxed exchanges and swaps. Thus all goods that entered or exited any given location were subject to special surveillance, as were the movements of retail merchants and the places where products were stored.

\(^{35}\) Under the *sisas*, the quantities delivered to buyers were fewer than those contractually stipulated. The difference, or excise, was used to pay national taxes or different place expenses.
teachers, and grammar classes all made it much more possible for children living in urban areas to achieve literacy.  

This scenario changed radically starting in 1640, when the Monarchy experienced what was arguably one of the darkest ages in its history. The period 1640-1685 witnessed Portuguese independence, the Catalan revolt, a significant population decline that affected cities and also rural areas, plague epidemics that claimed over 250,000 victims between 1676 and 1684, and strong climatic changes that caused numerous famines and led to widespread subsistence living. For example, Andalusia suffered two years of almost total drought (during 1682-1683) followed by torrential rains and floods (in 1684). These events were devastating: peasants lost their land or cattle, and ruined artisans migrated to the cities – which were increasingly indebted owing to the Spanish Monarchy’s financial needs. A telling indication of these dire straits is the number of children who were abandoned. At the start of the century, fewer than 10% of the children in Valladolid were abandoned; that figure rose to 15% during 1641-1645, to 17% in 1665-1670, and to 22% between 1691 and 1695. In Seville, an average of 258 children were abandoned each year from 1631 to 1640; although there was a decline to fewer than 200 in 1650-1657, the number rose to more than 300 during 1683-1690 and to 425 by 1684. In Madrid, the Inclusa (foundling home) took in more than a thousand newborns annually after 1680. According to Domínguez Ortiz, of the 3,000–5,000 children abandoned each year throughout Spain, three fourths (and often four fifths) of them died before their first birthday; the situation did not improve until the second half of the 19th century.

This paper has analyzed the financial resources of our 26 sample towns (see Table 3) using responses to the following questions from the Ensenada Cadastre:

23. The assets and income the community owned.
25. The expenses the community had to satisfy: justice and aldermen, Corpus Christi parties or others; cobblestones, fountains, servants, for example.
30. Number of hospitals and how were they financed.

Most towns and villages were heavily indebted, which means they had limited capacity to hire teachers, doctors, and surgeons or to maintain hospitals. Of the 26 places we examined, six had deficits and another seven did not submit data – which suggests that they, too, had a heavy debt load. Most expenditures were for the municipal employees, which did not always include teachers and general physician, who worked with the administration (magistrates, the mayor, notary publics, etc.), security (sheriff), or justice (attorney). All the sample places devoted a substantial portion of available funds to the organization of festivities that coincided with religious holidays; these expenses typically consisted of wax for candles, refreshments for ecclesiastical and civil authorities, and even the organization of

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36 B. BENNASSAR, Historia de los Españoles, Siglos VI-XX, vol. I, Barcelona 1989 (Crítica), pp. 449-451.
37 Ibídem.
38 A. DOMÍNGUEZ ORTIZ, España Tres Milenios de Historia, Madrid 2004 (Marcial Pons Historia), pp. 246-47.
39 See Respuestas Generales of the Ensenada Cadastre (nos. 23, 25, 30). Online: http://pares.mcu.es/Catastro/servlets/ServletController?ini=0&accion=0&mapas=0&tipo=0
bullfighting celebrations. Another revenue-consuming category was town infrastructure: cobbled streets, fountains, and the restoration of buildings dependent on the town.

Tab. 3. Council budgets in Castile (Spain): Reconstruction of formalized social spending by place, c. 1750

| (1) Place | (2) No. of households | (3) GDP (excluding ecclesiastical) (reales) | (4) Council: Total income (reales) | (5) Council: Total expenditures (reales) | (6) = (4)−(5) | (7) No. of hospitals | (8) Council: Social spending (percentage of GDP) | (9a) Health and charity | (9b) Education | (9c) Local infrastructure | (9d) Religious festivities and leisure |
|-----------|-----------------------|-------------------------------------------|-----------------------------------|----------------------------------------|-------------|---------------------|----------------------------------------------|-------------------------------|-----------------|------------------------|-------------------------------|
| Montefrío | 1,200                 | 864,478.5                                 | 400.0                             | 5,530.0                                | −5,130.0    | 2                   | 0.07−0.08                                    | 550.0                         | 110.0           | 0.0                     | 910.0                         |
| Granada   | 13,650                | 15,400,000.0                             | N/A                               | N/A                                    | N/A         | 9                   | N/A N/A                                       | N/A N/A                       | N/A N/A         | N/A N/A                |
| Úbeda     | 2,440                 | 2,288,048.0                               | 14,617.0                          | 13,550.0                               | 1,067.0     | 5                   | 0.0                                         | 0.0                           | 0.0              | 2,100.0                | 5,685.0                       |
| Cullar Baza| 700                   | 548,149.8                                 | 250.0                             | 5,852.0                                 | −5,602.0    | 2                   | 0.05                                        | 200.0                         | 100.0           | 3,000.0                | 0.0                          |
| Guadalajara| 1,300                | 1,283,121.0                               | 37,040.0                          | 30,700.0                                | 6,340.0     | 2                   | 0.54−0.63                                    | 7,777.5                       | 2,286.0         | 1,935.5                | 7,143.0                       |
| Paredes de Nava| 700            | 783,244.7                                 | 9,299.0                           | 6,096.0                                 | 3,203.0     | 2                   | 0.08−0.10                                    | 110.0                         | 652.0           | 918.0                  | 300.0                         |
| Padul     | 240                   | 320,838.5                                 | 2,070.0                           | 1,970.0                                 | 100.0       | 0                   | 0.03                                        | 100.0                         | 0.0              | 150.0                  | 326.0                         |
| Palencia  | 2,500                 | 2,154,336.0                               | 85,000.0                          | 10,000.0                                | 75,000.0    | 2                   | 0.0                                         | 0.0                           | 0.0              | 0.0                     | 2,000.0                       |
| Sigüenza  | 600                   | 848,133.0                                 | 5,436.0                           | 16,872.0                                | −11,436.0   | 2                   | 0.84−0.97                                    | 7,150.0                       | 1,100.0         | 4,000.0                | 0.0                          |
| Carabany | 195                   | 170,055.0                                 | N/A                               | 3,500.0                                 | N/A         | 1                   | N/A No                                       | Yes                           | Yes             | 0.0                     | 0.0                          |
| Torredonjimeno| 904            | 532,328.9                                 | 5,896.0                           | 7,073.0                                 | −1,177.0    | 0                   | 0.11−0.14                                    | 440.0                         | 300.0           | 0.0                    | 1,278.0                       |
| Bustillo  | 28                    | 45,905.5                                  | 1,295.0                           | 695.0                                   | 600.0       | 1                   | 0.0                                         | 0.0                           | 0.0              | 70.0                   | 0.0                          |
| Azuqueca  | 69                    | 63,209.5                                  | N/A                               | 2,446.0                                 | N/A         | 0                   | 0.0                                         | 0.0                           | 0.0              | 1,000.0                | 0.0                          |
| Casar, El | 220                   | 326,105.0                                 | 3,246.5                           | 9,167.5                                 | −5,921.0    | 1                   | 0.11−0.13                                    | 432.0                         | 6,392.0         | 30.0                   | 0.0                          |
| Motril    | 2,000                 | 1,050,782.0                               | N/A                               | N/A                                     | N/A         | 1                   | N/A N/A                                      | N/A N/A                       | N/A N/A         | N/A N/A                |
| Colmenar  | 950                   | 1,627,062.0                               | 42,529.5                          | 22,169.0                                | 20,360.5    | 4                   | 0.04−0.05                                    | 780.0                         | 0.0              | 2,336.0                | 750.0                         |
| Marchamalo| 147                   | 218,028.5                                 | 6,188.0                           | 3,107.5                                 | 3,080.5     | 0                   | 0.0                                         | 0.0                           | 0.0              | 750.0                  | 700.0                         |
| Santillana| 148                   | 83,270.5                                  | N/A                               | N/A                                     | N/A         | 3                   | N/A N/A                                      | N/A N/A                       | N/A N/A         | N/A N/A                |
| Villalbaico| 23                   | 27,847.0                                  | 200.0                             | 116.0                                   | 84.0        | 0                   | 0.0                                         | 0.0                           | 0.0              | 0.0                     | 0.0                          |
| Villanerauto| 62                 | 72,658.0                                  | 2,257.5                           | 585.5                                   | 1,672.0     | 1                   | 0.0                                         | 0.0                           | 0.0              | 0.0                     | 0.0                          |
| Villarmar  | 376                   | 395,829.5                                 | N/A                               | 260.0                                   | N/A         | 1                   | 0.0                                         | 0.0                           | 0.0              | 0.0                     | 0.0                          |
| Hontoria  | 63                    | 73,776.0                                  | 500.0                             | 700.0                                   | −200.0      | 0                   | N/A Yes                                      | Yes                           | Yes             | 0.0                     | Yes                          |
| Resoba    | 49                    | 55,710.0                                  | 3,124.0                           | 1,844.0                                 | 1,280.0     | 0                   | 0.07−0.09                                    | 40.0                          | 10.0            | 520.0                  | 300.0                         |
| Cevido Navero| 125            | 137,220.0                                  | 3,368.0                           | 3,286.0                                 | 82.0        | 1                   | 0.11−0.13                                    | 180.0                         | 100.0           | 0.0                    | 0.0                          |
| Valverdeso| 24                    | 28,717.0                                  | 1,502.0                           | 241.5                                   | 1,260.5     | 0                   | 0.0                                         | 0.0                           | 0.0              | 0.0                     | 200.0                         |
| Torre del Bierzo| 30          | 20,827.8                                  | N/A                               | 60.0                                    | N/A         | 0                   | 0.0                                         | 0.0                           | 0.0              | 30.0                   | 0.0                          |

Notes: Places are ordered by their Gini index. The no. of households is from Respuestas Generales. “Social spending” (in column 8) is defined as expenditures devoted to health and charity (col. 9a) and to education (col. 9b). Values given in italics (col. 9a) include expenditures for a general physician. N/A = not available.

Source: Author calculations based on data from the Ensenada Cadastre’s Respuestas Generales, questions 23 (col. 4), 25 (columns 5, 9a, 9b, 9c and, 9d) and 30 (col. 7); see http://pares.mcu.es/Catastro/servlets/ServletController?ini=0&accion=0&mapas=0&tipo=0
The percentage of available funds that might be used for social expenditures (i.e., education, health, and charity) was tentatively calculated from the Ensenada Cadastre’s General Answers data with reference to the respective towns’ total GDP. Towns usually met their expenses using local resources: local taxes collected combined with the income generated by the exploitation and/or periodic leasing of their own property (communal goods as land, pasture, mills, inns, and/or stores). However, it is extremely difficult to obtain an exact figure for each place’s GDP. Although the GDP generated by the civilian population can be approximated by adding the total income of all household heads, the GDP generated by male minors, domestic service, female labor, and foreign property owners is practically impossible to calculate without making a large number of possibly insupportable assumptions. The ecclesiastical contribution to each town’s total GDP is not available, but we do know that contribution’s percentage of each province’s total (ordered from lowest to highest percentage): 16.1% in Guadalajara, 16.2% in León-Asturias, 16.3% in Granada, 18.7% in Burgos-Cantabria, 17.1% in Madrid, 20.4% in Palencia, and 24% in Jaén. 40 If one assumes that these percentages were similar in each place of a given province, then an approximate estimate of the ecclesiastical GDP can be made for each town.

In Table 3 (column 8) we report the minimum – that is, excluding ecclesiastical GDP estimates – and the maximum value – including ecclesiastical GDP estimates – for the weight of social expenditures in our sample of 18th-century pre-industrial Spanish councils (for instance, in Montefrío the figure 0.07-0.08 means that the minimum value is 0.07% and the maximum is 0.08%). Our results establish that the relationship between income and social spending was extremely weak, if not entirely absent, prior to establishment of the modern welfare state. In no case did social spending exceed 1% of GDP, a proportion that is lower than what the available data show for Italy, the Netherlands, and England. 41 The highest values of 0.84-0.97 and 0.54-0.63 were reached, respectively, in Sigüenza (due in no small part to pressure exerted by ecclesiastical groups) and Guadalajara, whose survival depended on the Royal Manufacturing Factory.

Only ten places budgeted for health and charity expenditures. Among those ten, only four reported payments made explicitly for a general physician’s wage: Sigüenza (6,000 reales), Guadalajara (4,400 reales), Torredonjimeno (400 reales), and Montefrío (330 reales); the other six towns (e.g., Paredes de Nava) paid only for surgeons and some midwives. Most hospitals did not have their own resources and, even in the best cases, offered little more than beds. Similar statements can be made with respect to education expenses. Ten places dedicated part of their income to education, although in widely different amounts: Guadalajara budgeted 2,286 reales for two teachers at the Society of Jesus school; Sigüenza (university city) offered 1,100 reales for a teacher; Paredes de Nava dedicated 220 reales, plus salary in

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40 Author calculations based on data in A. Matilla, La Única Contribución, cit., pp. 531-543.
41 B. Van Babel, A. Rijpma, How important were formalized charity and social spending before the rise of the welfare state? A long-run analysis of selected Western European cases, 1400-1850, in “Economic History Review”, 69, 2016, n. 1, p. 180; P.H. Lindert, Poor relief before the welfare state: Britain versus the continent, 1780-1880, in “European Review of Economic History”, 2, 1998, pp. 101-140.
kind (wheat), to a teacher of children and 300 reales to a teacher of girls; Casar, 432
reales in kind; Cevico, 180 reales plus salary in kind for a teacher of children; Montefrío, 110 reales; Cúllar Baza, 100 reales for another teacher; and Resoba, 10
reales for a teacher. So in light of the poverty threshold level, it is not surprising that
the Úbeda Respuestas Particulares refer to a schoolteacher as “poor”. In sum: our
sample communities provided hardly any public education; and access to a quality
private education was reserved for high-income families. Such an environment
undoubtedly hindered social mobility.

5. CONCLUSIONS

Measuring inequality of income in pre-industrial societies is difficult because
there are so few sources of historical data that combine information about
individual incomes and sociodemographic variables. This chapter contributes to
that literature by examining income inequality in the former Crown of Castile. Our
study is based on a sample of more than 27,000 households – the equivalent of
some 109,000 inhabitants – as described in data that was extracted from the
Ensenada Cadastre (the most complete census in Early Modern Europe) and that
covers not only urban but also rural centers in the north, center, and south of the
former Crown of Castile (Spain) during the mid-18th century. Our findings establish
that inequality was greater in urban areas and in places, such as the Andalusian
agro-cities of Úbeda and Motril, with relatively more inhabitants. There was less
income inequality in rural areas, but they were characterized also by lower levels of
per capita income than in the cities. The combination of income inequality and high
poverty rates polarized society and led to conflict and social upheaval during
periods of famine and episodes of inflation or deflation. Finally, we show that the
relationship between income and social spending in pre-industrial Spain was weak
or virtually nonexistent.

Our agenda for research based on the Ensenada Cadastre involves a more
thorough analysis of five aspects in particular: (i) the effect of household
composition on inequality; (ii) inequality when one controls for the household
head’s age; (iii) identifying the various sources of income and their respective
impact on inequality; (iv) the relationship between human capital – as proxied by
individual indicators of basic skills (literacy and numeracy) and occupational skills –
and labor earnings; and (v) gender inequality.