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Long-term Trends in Wealth Inequality in Catalonia, 1400-1800: Initial Results

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Introduction

Comparative research into economic inequality in early modern Europe is now less-virgin territory than Jan Luiten van Zanden claimed it was almost two decades ago (van Zanden, 1995: 643). Preindustrial inequality, even with different perspectives, methodologies, and data sources, has been increasingly present in the academic arena during the last few years[1]. The topic, in addition to its apparent interest, is related to some of the most important debates concerning pre-industrial Europe, such as those derived from the "revolt of the early modernists"—i.e., the existence of consistent "pre-modern economic growth", the early modern roots of the Kuznets curve, the origins and the features of an "industrious revolution", and the dynamics and economic implications of the skill premium.

However, despite the appeal in van Zanden's seminal work for studying wealth together with income inequality from a long-term view, this dimension has been largely forgotten until recently[2]. Yet, there are a number of reasons why it is important to remember it. First, this oversight concerns more than just one of the most important variables to measure economic inequality. This is probably the only variable that can be measured regularly from the late medieval age to the beginning of modern economic growth (van Zanden, 1995; Alfani, 2010a; 2015; Lindert, 2000). As suggested by van Zanden (1995: 644) and confirmed by the ongoing research conducted by the EINITE project[3], the relative abundance of data is a first important reason to focus on wealth rather than income.

Second, trends in wealth inequality, important in and of themselves, are a good proxy for trends in income inequality. As noted by Alfani (2010a: 514; 2015), in preindustrial societies—in which most of the product was agrarian—the property and/or use of land was a crucial aspect of defining how the total product was generated and distributed. Therefore, it is highly implausible

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[1] See, e.g., Alfani (2010a; 2010b; 2013; 2015), Alfani and Barbot (2009), Blondé and Hanus (2009), Hanus (2013), Hoffman *et al.* (2002), Johnson (2001), Lindert (2000), McCants (2007), Milanovic *et al.* (2011), Morrison and Snyder (2000), and Santiago-Caballero (2011).

[2] Despite a certain tradition of studies, mainly local in nature or only for a particular date, focused on measuring wealth inequality (see, e.g., Soltow, 1979, 1980, 1981 and 1985; Soltow and van Zanden, 1998 and van Zanden, 1995) only in the last few years has the topic has returned to academic debates. See Alfani (2010a; 2010b; 2015), Alfani and Ammannati (2014), Alfani and Barbot (2009), Alfani and Di Tullio (2015), Ryckbosch (2014), Canbakal and Kiliztekin (2013), and Santiago-Caballero and Fernández (2013).

[3] The EINITE project aims to clarify the dynamics of economic inequality in Europe from the late Middle Ages until the beginning of the Industrial Revolution (www.dondena.unibocconi.it/EINITE).

that income and wealth could move on different trajectories in the medium and long term. In this respect, in the only case in which this relationship has been tested until now (a dataset for interior Spain), Nicolini and Ramos (2011) found a strong linear relationship between them, with wealth being an accurate predictor of income. At the same time, information on inequality income for a whole society is very scarce and scattered, so it is not strange that quite frequently the analysis of income inequality rests on indirect information taken from social tables or on proxies, such as the rental values of dwellings (e.g., van Zanden, 1995; Williamson, 1985), which are not exempt from biases[4].

Third, wealth inequality is usually a more comprehensive and realistic measure of economic inequality than the alternatives measures, frequently created under the constraints—or despite a lack—of historical data. In this regard, for instance, the ratio between land rent and unskilled wages, a proxy for the capital/labor relationship, could be problematic in territories with a high percentage of small farmers and, consequently, a small number of wage earners. On the other hand, the Williamson inequality index (1999; 2002), i.e., the ratio between nominal output per head and the nominal unskilled wage rate, for the early-modern period, has to be based on the rough "educated guesses"[5] estimated for the GDPs, which are available only for some benchmarks and countries, and with different degrees of confidence. Similar arguments can be claimed with respect to more sophisticated tools such as the *inequality possibility frontier* or the *inequality extraction ratio* proposed by Milanovic *et al.* (2011). In short, wealth inequality is usually more comprehensive in social terms and needs fewer assumptions than the alternatives measure.

Finally, wealth distribution has again attracted increasing attention among modern economists in recent years (e.g., Atkinson *et al.*, 2011; Davies *et al.*, 2010; Jones and Romer, 2010; Obstfeld, 2012; Piketty, 2011 and 2014; Piketty and Saez, 2013; Piketty and Zucman, 2013; Zucman, 2013). These works placed wealth at the core of macroeconomic questions such as the relationship between economic growth and inequality, the sources of economic growth in the long run, the interaction between economic growth and population dynamics, private capital accumulation, public debt and taxation dynamics, and patterns in net foreign asset positions

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[4] As van Zanden recognizes (1995: 653-654), rental values of houses might underestimate income inequality since people with higher incomes probably spent a progressively smaller part of their budgets on rents and frequently occupied more than one house during the year. For instance, according to this source, in the Early-Modern Netherlands the share of top incomes, as measured by the 1% with the highest rental values, remained virtually stagnant. See also a criticism on this indicator in Reis *et al.* (2012: 8-10). With regard to the potential bias and constraints in social tables, see also Reis *et al.* (2012: 5-6).
[5] Not to mention the fact that wage rates are usually based merely on data for urban bricklayers in a preindustrial world where the agricultural sector accounts for the biggest part of the GDP.

(Piketty and Zucman, 2014: 1). These questions are being analyzed now over unusually long periods of time, from the 18th century onwards, and therefore they can be linked, at least to a certain extent, with historical debates.

This list of reasons should be a good incentive to collect more empirical evidence from all over the globe. But at the same time, it should not hide the potential constraints that can be found in the tax returns on which wealth inequality measures are usually based. There are basically two of those constraints. The first one is the absence, in certain sources, of social groups exempt from direct taxes, such as the poorest people (the bottom of the distribution) and the clergy and the aristocracy (part of the top of the distribution). The second constraint is the time-consuming task of locating and collecting a huge amount of data, frequently scattered in many different local archives.

In this paper I introduce the case study of Catalonia between 1400 and 1800. Apart from both its importance as one of the first Spanish and European cases to be studied consistently in the long run, as well as the quality of sources utilized (see Section 2), Catalonia is an interesting case for at least two other reasons. First, it was the first region to industrialize in Spain and the only one that can be considered *a priori* seriously from the point of view of a significant "pre-industrial growth"—"an alternative transition to capitalism" (Marfany, 2012)—during the 18th century. Second, the demographic regime showed, in Catalonia, early signs of modernization connected to economic change. In this vein, the Catalonian demographic modernization beginning in the 18th century has been characterized as "exceptional" and "premature" by Spanish standards (Muñoz Pradas, 1997: 509).

The paper is structured as follows. After this introduction, the second section provides a detailed description of the sources and methodology used in the work. The third section is devoted to presenting and analyzing the main results, checking them against the context of the main "stylized facts" found in the literature on the topic. The fourth section concludes by summarizing the main findings.

Sources and methodology

Following a system that was probably imported from Northern and Central Italy[6] and/or Southern France (Turull Rubinat, 2009: 372), from the 14th century until the early 18th century[7] Catalonian local councils regularly evaluated and registered the wealth in the community and its territory that was owned by inhabitants, institutions, or foreigners. This was a long-lasting tradition that endured until the introduction of the Bourbonic Cadastre, after the War of Spanish Succession (1701-1714). In these property registers, called in Catalan *llibres d'estimes*, *manifests*, or *vàlues* (hereinafter *estimes*), the real estate property and, in some communities, the movable property, was evaluated. Usually, there is long-term consistency in each community about what kind of property had to be evaluated. Books of *estimes* were used as a property register or wealth cadastre, i.e., as a basis from which to distribute the fiscal burden of local and Crown direct taxes and rates (such as the *talla* or the *questia)*[8], which were usually paid in proportion to wealth (*per sou e per lliure* or *per solidum et per libram*). Moreover, the *estimes* could also be used for other administrative and political purposes[9].

In spite of its potential interest for the study of different aspects of the late-medieval and early-modern economic history, Catalonian rich *estimes*, paradoxically, have barely attracted attention from economic historians[10] until now. A very different perspective, however, arises from studies by law and political historians. In the last two decades, a growing literature[11] has been dealing with aspects such as different facets of fiscal history, the birth and the evolution of local councils at their first stages, and occasionally, social and urban stratification. This literature is very useful for understanding the historical context in which these sources were created, their meaning, their evolution, and their potential advantages and constraints for the purposes of this work.

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[6] In fact, the most usual name for the source "estimes" is very close to the Italian "estimi".

[7] The most ancient register conserved is for Cervera in 1340. Unfortunately, as with most of the rare documents found for the 14th century, it is not complete and has not been preserved well.

[8] As reflected in the books of the *talla* (*llibres de la talla*) where the payments, usually proportional, were recorded, based on the previous evaluation recorded in the *estimes*. In the case of Cervera, the data used in this article for the years 1699, 1750, and 1799 come from *quistia-talla* books based on proportional payments.

[9] According to Turull Rubinat (2009: 407-408) *estimes* were not only used for fiscal purposes, they were also used like a population and social census in order to consider an individual's "citizenship"; military duties depend on the social category and the right—and how—to participate in local politics.

[10] To the best of my knowledge only Vilalta Escobar (1990).

[11] See an overview in Turull Rubinat (2009).

Who was included in the *estimes*? The *estimes* were hearth-by-hearth (*foc per foc*) evaluations of property. Therefore, every head of family, widow, or orphan owning a legacy was included. The inclusion of clergy properties was controversial and frequently subject to judicial verdicts in the beginning, but according to Turull Rubinat (2009: 389), from the 15th century onwards their properties were included. In fact, an in-depth examination of our sources reveals the regular presence throughout of religious institutions and clergymen. More controversial is the presence of the wealth of the nobility. Turull Rubinat (2009: 390) argues that nobles were generally exempted, but sometimes their properties were evaluated—although only regarding the real estate they had bought from commoners. Empirically, in the *estimes* we used we did find a certain number of nobles. Consequently, as a working hypothesis, I will presume that all the properties that the nobility acquired from commoners are included in my sources. Institutions began to be fully included in the 14th century; therefore, they were always evaluated in our data. More problematic, and quite usual in this sort of source, could be the absence of the poorest, the bottom of the wealth distribution. In this respect, every owner with any quantity of wealth located in a certain community was included in the source[12], as evidenced by the fact that, both in the real estate and in the movable properties, there are people assessed with tiny quantities of wealth. In no case do the *estimes* mention the existence of a minimum exempted. Moreover, the trend and the number of households included matches fairly well with the number of households recorded in the population censuses available for the 16th and 17th centuries (see Tables 1 and 2). To sum up, the source offers a high degree of social comprehensiveness, similar to other similar sources found across Europe, or even more widely.

What kinds of properties were included? The real estate property (*siti*) included every urban and rural property, including houses, mills, warehouses, barns, ovens, wine cellars, other places devoted to storage and preservation of agrarian products (oil, cereals, honey…), workshops, and all kinds of lands in the countryside. Money in cash, agrarian stock, livestock, tools, slaves, jewels, clothes, and furniture were included in the movable goods (*moble*) category. The net financial estate—credits minus debts—that usually comprised public debt assets, such as *censals* and *violaris*, was sometimes included in the *siti* and sometimes as a third category[13]. Unlike the *siti*, which always received close attention, where the *moble* are concerned the trend over time was to reduce the items recorded to those able to generate economic returns, leaving others exempt.

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[12] This does not mean that every owner was actually taxed.
[13] In those cases, e.g., Manresa in 1408/11, I have computed them jointly with real estate properties.

Thus, according to their main features, Catalonian *estimes* compare favorably with similar sources studied across Europe. Specifically with respect to the Italian ones—where some of the best and most ancient examples are available (Alfani, 2010a; 2015)—they are similar to the most detailed and comprehensive ones, such as the famous Florentine Catasto of 1427, which have been studied by many scholars.

How was a book of *estimes* made? A new book of *estimes* having been ordered by local authorities[14], a commission was appointed to supervise, under oath, wealth evaluation and recording. On this commission, members of the local councils, "wise" and "good" men, representatives of the different social classes, and sometimes Crown officials were usually represented. To prevent evasion, either by omission or by under-evaluation, the commission turned to notarized documents, collating different evaluations and testimony statements. The process had a good deal of publicity and every citizen or foreigner[15] was welcome to propose amendments to the estimations. Finally, trying to hide a particular property was usually punished with the possible loss of that property.

Two important clarifications concerning the data collection must be made: first, "big" cities, such as Tarragona and, above all, Barcelona, abandoned local direct taxation as early as the 14th century. Thus, the available evidence *a priori* must be limited to medium and small communities. On the other side, small communities usually preserved their historical funds to a lesser degree than the big ones. Hence, finally, the sample of available communities is basically constrained to towns that, for Catalonian historical standards, were medium-sized and, in some cases, to some small villages under their jurisdiction. Moreover, only a handful of communities have preserved these sources with a time span large and regular enough to capture the movement of economic inequality in the short and long term[16].

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[14] The frequency with which *estimes* were made was irregular, even although from the 15th century onwards local norms tended to establish the duty to make new books every three, five, or seven years (Turull Rubinat, 2009: 384). In addition to the local customs and circumstances a very different issue is the number of them preserved and those that have arrived in the present day in good condition.

[15] It is necessary to stress that every property located in the local boundaries was subject to taxation, including those owned by foreigners (*terratinents or forasters*).

[16] A very different picture arises with respect to the Bourbonic Cadaster in the 18th century, in which much more information is conserved.

In this work I will use, as Map 1 and Table 1 show, data for the seven communities on which it is possible to work at the moment[17]. Some of them—Reus, Manresa, and Cervera—can be considered urban or semi-urban. Even though they were below the usual limit to be considered urban (5,000 inhabitants) until the 18th century, at the same time, in the context of a scarcely urbanized region as Catalonia was until then, they had significant importance as centers or capitals of different sub-regions. Reus, even though not formally a city until the 19th century, was the capital of the *Baix Camp* area, and after a sequence of war, economic decline, and plague during the first half of the 17th century it became the second most populated city in Catalonia in the 18th century, thanks to an economic boom in the textile sector, wine and liquor production, and trade. Manresa, which was juridically a city since the 13th century, was the capital of the Bages region, located in interior Catalonia. After a golden age in the decades before the Black Death, it recovered its importance only in the 18th century, when it became one of the most important industrial textile centers on the eve of the Catalonian industrial revolution. Finally, Cervera was the capital of the *Segarra* region, in interior Catalonia. It became a city formally only in 1702 and had a university from 1740. Tarrega, a medium-sized town close to Cervera, as well as Almoster, Castellvell, and Vergos, deserve different consideration: They were villages placed under the jurisdiction of Reus, in the two first cases, and of Cervera in the last.

Table 1. Population[18] in the communities included in the database (years with censuses)

	1497	**1515**	**1553**	**1717**	**1787**
Almoster	48	72	96	286	524
Castellvell	56	72	136	298	444
Cervera and Vergos*	1932	2108	2112	2325	4808
Manresa	1220	1260	1412	5669	8421
Reus	1416	1816	2180	2056	14514
Tarrega	1140	1292	1240	1413	3909

* The censuses reported the population of Cervera and Vergos together

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[17] The town of Valls and its villages, located at the province of Tarragona not far from Reus, might be the next—and very probably the last with consistent series available—communities to be incorporated to the database.
[18] For 1497, 1515, and 1553 the population was calculated multiplying the number of fires (*focs*) times four.

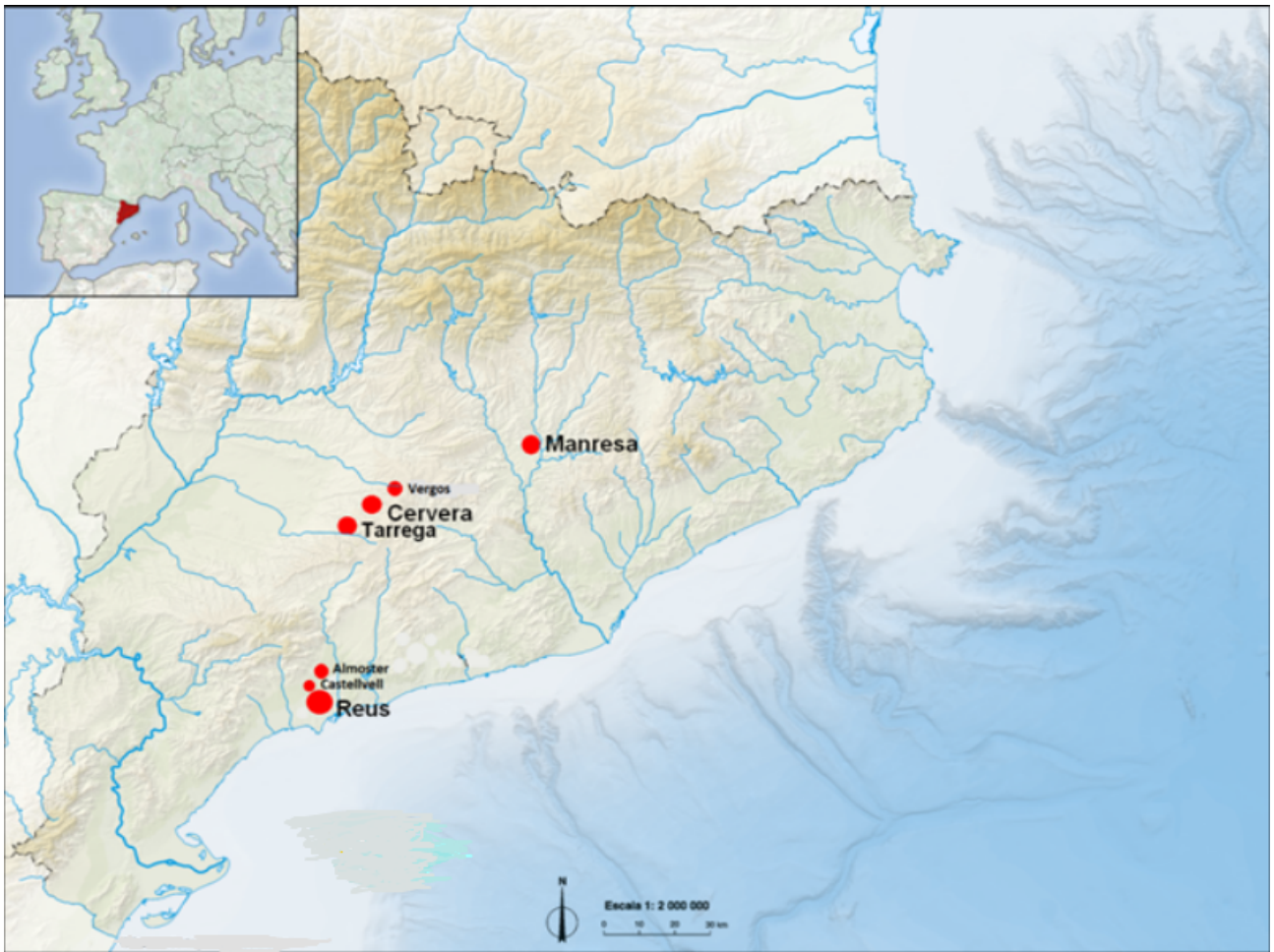# Map 1. Location of the communities included in the database

Table 2. Main features of the database (number of households evaluated, benchmarks, and actual years with *estimes*)

Benchmark	1400		1450		1500		1550		1600		1650		1700		1750		1800		
	Year	N	Year	N	Year	N	Year	N	Year	N	Year	N	Year	N	Year	N	Year	N	TOTAL N*
Almoster	---	---	1445	11	1520	14	1541	21	---	---	---	---	---	---	---	---	---	---	46
Castellvell	---	---	1445	11	1520	23	1541	20	---	---	---	---	---	---	---	---	---	---	53
Cervera	1412**	122	---	---	1504	850	1547	1043	1601	832	1654	730	1699	734	1750	982	1799	1300	6593
Manresa	1408/11	733	---	---	---	---	---	---	---	---	---	---	---	---	1763	1751	---	---	2584
Reus	---	---	1445	353	1520	517	1541	595	---	---	1664	580	1700	956	---	---	---	---	3000
Tàrrega	---	---	---	---	1501/06	473	---	---	---	---	---	---	1704	497	---	---	---	---	970
Vergos	---	---	---	---	1504	55	1547	42	1601	16	1654	39	1699	22	1750	36	1799	43	253

* Total number of observations N=13,501. Note that in order to compare the size of the estimated population to the actual population as reported in Table 1, the number of households should be multiplied by 4.

**Only for the quarter of *Plaça*.

Results

The aim of this section is to present the main findings of this research and to contrast them with the hypotheses that emerge from the literature devoted to the study of economic inequality in Europe from the late Middle Ages to the 19th century: Namely that there was a general pattern of very pronounced economic inequality—"gross inequality" (Mc Cants, 2007: 20-21)—by present-day standards, a general trend that would link the existence of "pre-modern economic growth" with increasing inequality, thus shaping a long left side of a "super Kuznets curve"; the existence of a paradigm that connects urban, more populated, and wealthier communities to greater inequality and vice versa; and the importance of the trends followed by the share owned by the top wealthy as a close indicator of global economic inequality trends (van Zanden, 1995; Alfani, 2010a and 2015; Alfani and Ammanati, 2014; Reis *et al.*, 2012). A second part of this section will be devoted to analyzing the causes behind the patterns of wealth inequality found in Catalonia, taking into account the classical explanations, such as those pointed out by van Zanden's seminal work and some alternatives like those proposed by Alfani for Northern Italy, which are based on the population dynamics and, specifically, on the role played by severe pandemics.

As Figures 1 and 2 show, Catalonian data adjust fairly well to the "gross inequality" pattern and figures found in other European territories, since the main series—villages apart—were placed continuously in the range of 0.5 to 0.7 as far as the Gini index is concerned. There is no obvious evidence, however, of a long left side of a "super Kuznets curve", i.e., an increasing inequality during the early-modern period, spanning centuries. It depends on the period we take into consideration. Quite the opposite, if we focus on the period between 1450 and 1700[19]—and even more clearly from 1500—the more representative series, such as the Cervera, Reus, or Tárrega ones, show a virtual stagnation in the cases of Reus and Tárrega, or even a slight decline in the cases of Cervera and Manresa. Nevertheless, if we consider the data for Cervera in 1400, which in this case is based only on the quarter of *Plaça*[20], the picture would be more in line with that hypothesis. An even greater degree of agreement can be seen if we expand our consideration to 1800 with some data from the Bourbon Cadaster[21], since in this case, as the case of Cervera is

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[19] The *estimes* span only to the 1700 benchmark.
[20] In the *estimes*, Cervera was usually divided in four quarters: Capcorral, Framenors, Montserè, and Plaça. Only the last one is conserved for 1412.
[21] Data for Cervera in 1750 and 1799 come from payments—proportional to wealth—for the Questia (a royal tax), which presumably were based on the evaluations of *estimes* not conserved. Data for Manresa in 1750 come from the Bourbon Cadaster, specifically from the *Cadastre al per menor*, which includes only real estate properties and incomes

concerned, a kind of "super Kuznets curve" could be traced. Finally, Figures 1 and 2 display, with the Gini and Theil indices as well, the usual gradient found across Europe, with urban and more populated communities showing greater economic inequality (see population in different census years in Table 1). The small villages of Almoster and Castellvell had a persistently lower degree of wealth inequality than the corresponding town of reference, Reus.

Figure 1. Long-term trends in wealth inequality in Catalonia, 1400-1800 (Gini index)
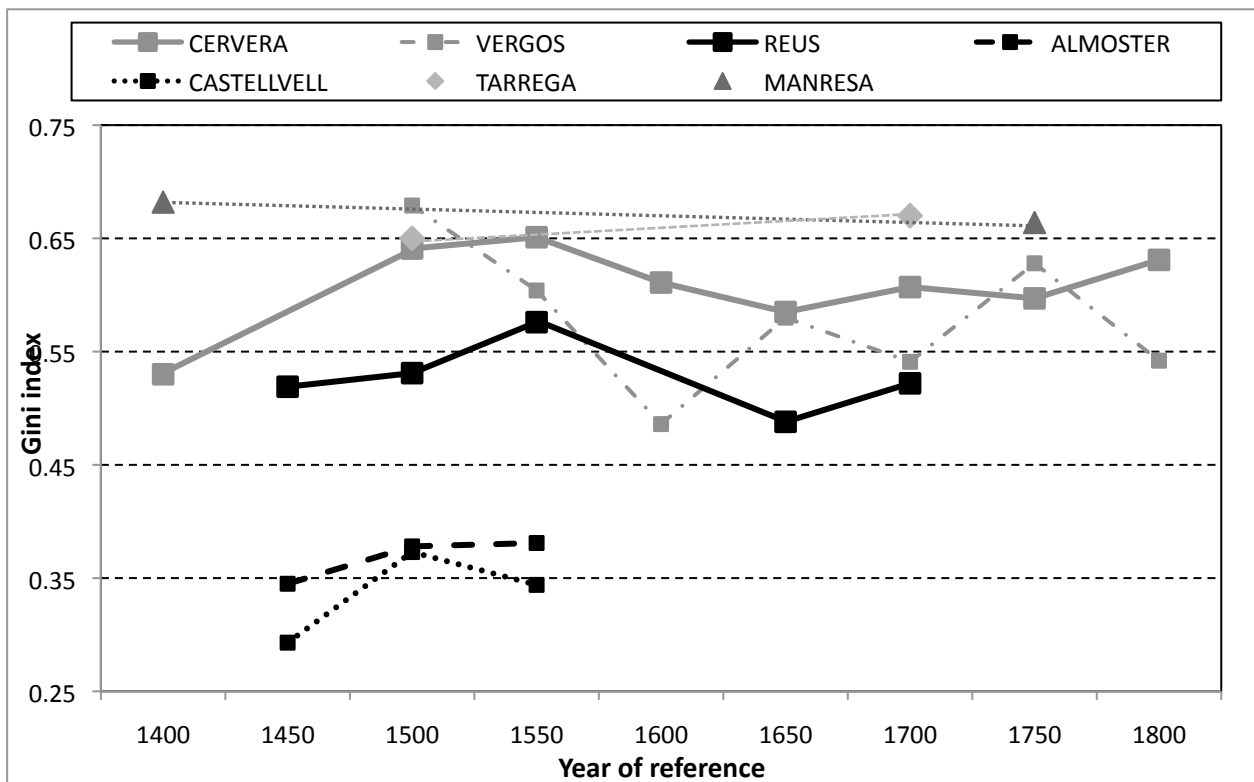
Figure 2. Long-term trends in wealth inequality in Catalonia 1400-1800 (Theil index)
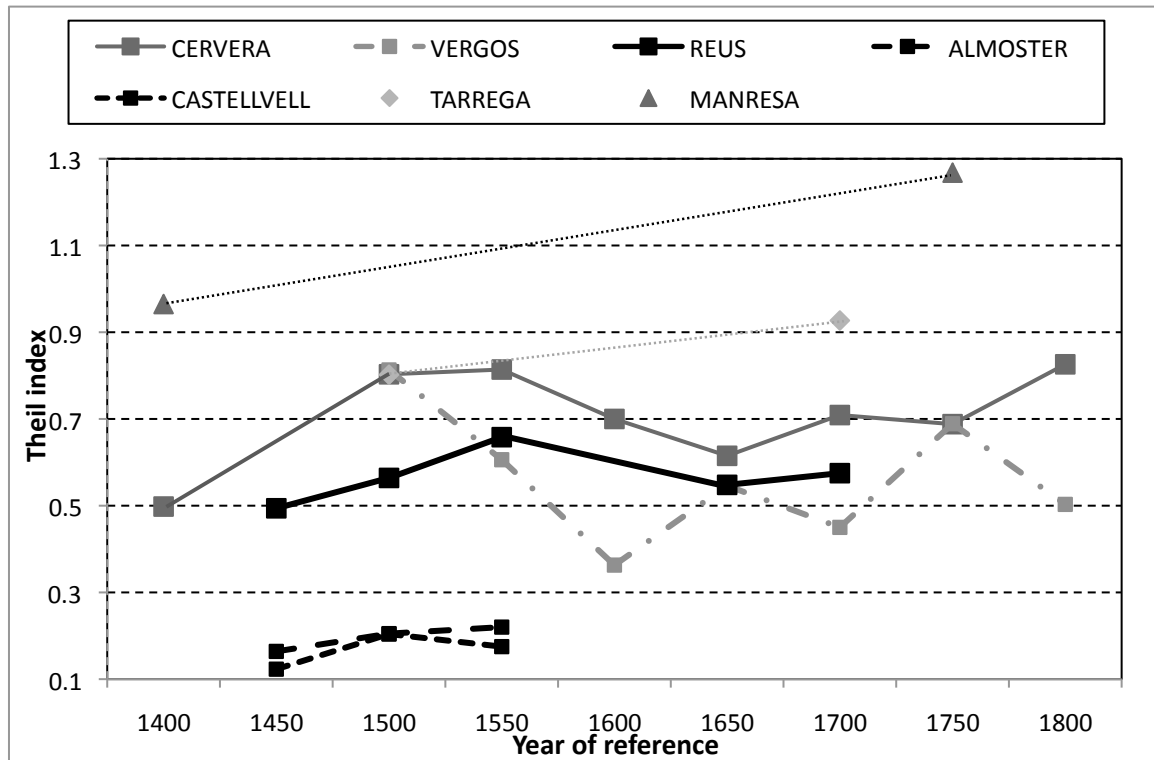

If the first and third hypotheses, related to general "gross" inequality and to the existence of a strong relationship connecting urban, more populated and wealthier communities to greater inequality, are widely recognized now as almost universal patterns for preindustrial economies throughout the globe, it is not the same for the second—a general trend linking "pre-modern economic growth" with increasing inequality. In this regard, in the last years some work has begun that criticizes van Zanden's seminal hypothesis with two main arguments. First, on the grounds of significant empirical evidence collected for central and northern Italy[22], Alfani (e.g., 2010a, 2010b, 2015) and Alfani and Ammanati (2014) have argued that although the pattern toward growing inequality during the early modern era could be quite uniform across Europe, it is compatible with economic stagnation or decline and consequently the causes behind it could be very different, at least in some territories, than those pointed out by van Zanden (1995). Population dynamics and the development of the European "fiscal state" have both been mentioned as factors capable of generating inequality growth even in the absence of economic growth (Alfani 2010a, 2015; Alfani and Ammanati, 2014). On the other hand, Reis *et al.* (2012: 39-42), based on Portuguese evidence of income inequality between 1550 and 1770, have questioned the very notion of a "super

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[22] See also the classical study by Le Roy Ladurie for the Languedoc (1966).

Kuznets curve" as a dispensable concept, due to its likely lack of meaning for the vast majority of the European territories, where there was not a positive outcome in terms of long-term *per capita* economic growth during the Early Modern period. According to Reis, "the most plausible scenario for the less-dynamic economies of the Early Modern era such as Portugal was a long term decline in inequality and a concurrent lessening of its social polarization" (Reis *et al.*, 2012: 3). Reis *et al.* have also stressed the absence of more comprehensive explanations for trends in inequality, taking into account non-economic factors—especially institutional, social, and political factors.

Finally, as the fourth "stylized fact" is concerned, it is commonplace in recent literature (e.g., Atkinson *et al.*, 2011; Alvaredo *et al.*, 2013) that economic inequality trends are determined in the long run by the share of income or wealth owned by the top 1%, 5%, or 10%, a fact that has also been confirmed recently for some areas of Europe in the late Medieval and Early Modern period, like the Italian regions of Piedmont (Alfani, 2015) or Tuscany (Alfani and Ammannati, 2014). Was it true in the case of Catalonia? As Figure 3 shows, local patterns were almost identical to those showed in Figures 1 and 2. That is, Catalonia was no exception to the above-mentioned "law": Inequality trends followed very closely those of the total wealth owned by the richest people.

Figure 3. Share of wealth owned by the top richest 1% and 5%
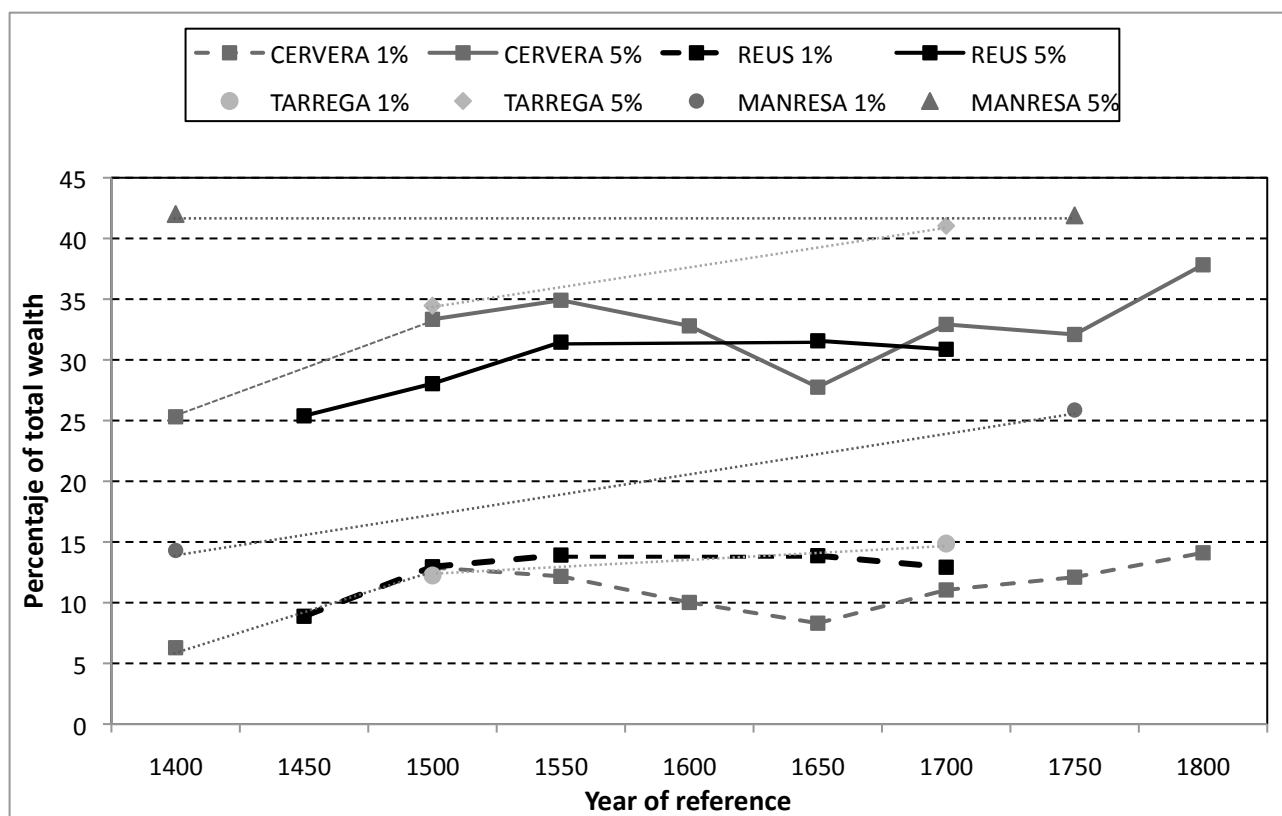
What factors were operating behind the trends and cycles unearthed in the Catalonian series of wealth inequality? Where can the case of Catalonia be placed in such a contentious context? A first approach to the main trends followed in the long run by the Catalonian economy is found in the "educated guesses" estimated yearly for the Catalonian real GDPpc between 1550 and 1800 by Duran and Feliu (2008). According to these authors, after a strong increase in the economic product in the period between 1550 and 1580, from the last years of the 16th century to a certain point in the middle of the 17th century a dark age for the Catalonian—and Spanish as a whole—economy took place. Finally, from the second half of the 17th century a positive, although initially slow, path of economic growth began. This positive trend accelerated in the 18th century after the end of the War of Spanish Succession (1701-1714). Alvarez-Nogal and Prados de la Escosura (2007: 353) observe quite similar patterns for the long-term dynamics of the Catalonian economy in some benchmarks between 1530 and 1787. The special features are stagnation—not decline—during the 17th century and, above all, faster economic growth during the second half of the 18th century.

Specifically, it has been generally stressed that it was from the last third of the 17th century and, above all, during the 18th century—after the end of the War of Spanish Succession in 1714—that the Catalonian economy began to diverge positively, both in terms of economic growth and structural change, from the rest of the Spanish economy, beginning a process of "pre-modern economic growth" and establishing the foundation for the first Spanish industrialization process. Therefore, if we are looking for consistent "pre-modern economic growth", in the Catalonian case we have to look at the 18th century, not before.

In comparison with the evolution of the real GDPpc "educated guesses", wealth inequality shows a long-term pattern of greater inequality in the early-modern era, at least from 1530 or 1550 to 1800. However, in both cases this result is basically due to what happened in 18th century. Beyond the big picture, from 1550 to 1600 data for Cervera show a strong fall in the Gini and Theil indices and, at the same time, real GDPpc seems to grow—therefore, an apparent divergence between economic growth and wealth inequality. Nevertheless, we have to consider that real GDPpc figures are actually values for the average between 1550 and 1560 and for 1591, not exactly for 1550 and 1600, and taking into account the yearly trends between 1550 and 1600, in fact, they should show only a slight, if any, increase in GDPpc[23]. Still, the decrease in wealth inequality is significant and cannot be overlooked. More coherent is the pattern found between 1600 and 1650 and between 1650 and 1700. In these two periods economic decline, and then growth, were accompanied, respectively, by a fall and a rise in wealth inequality according to the figures for Cervera and, in the second case, for Reus. The path towards a take-off for "pre-modern economic growth" seems to be clear as well in the 18th century. To sum up, except maybe for the second half of the 16th century[24], in early-modern Catalonia economic growth seems to be linked to greater wealth inequality, and economic decline to less wealth inequality.

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[23] In fact, Alvarez Nogal and Prados (2007: 353) show a slight decline between 1550 and 1591.
[24] The slight decline of inequality between 1700 and 1750 detected in Cervera could be coherent with a similar fall in the GDPpc displayed in Alvarez-Nogal and Prados' figures (2007: 353).

Figure 4. The evolution of real GDPpc and wealth inequality in Catalonia, 1550-1800

(real GDPpc 100 = 1586-1595)
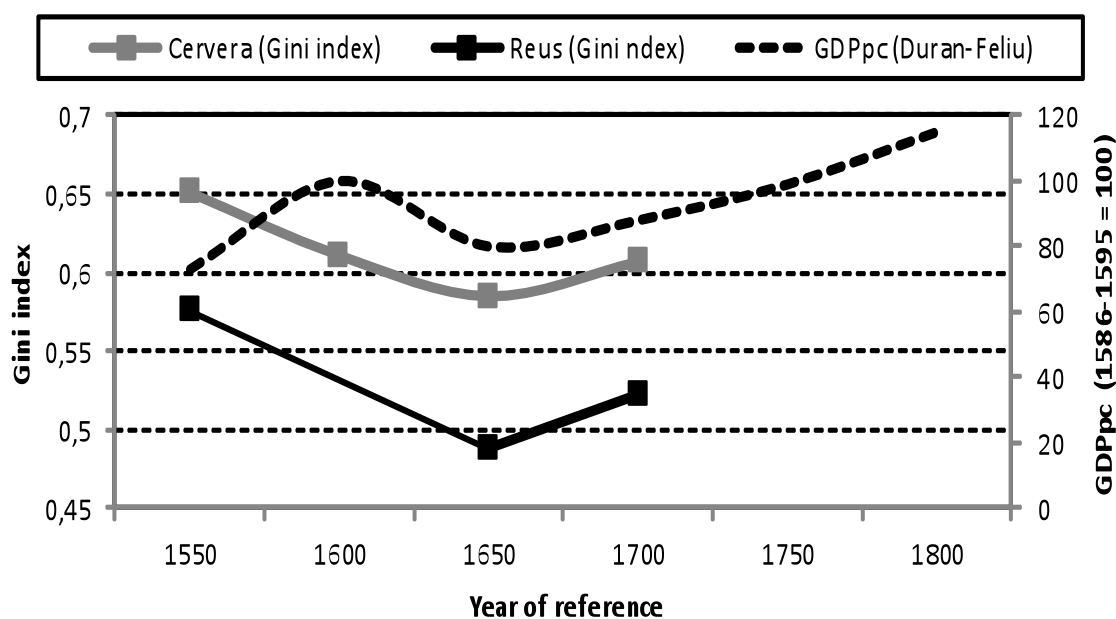
Source: Duran and Feliu (2008).

What can be said of the Catalonian viewpoint in contrast to other Spanish cases? Estimates recently calculated for income and wealth inequality (Gini indices) in some communities in the province of Madrid by Fernandez and Santiago-Caballero (2013) show three different periods: a pattern towards a strong increase in inequality during the 16th century and the first years of the 17th century; a stagnation and a slight drop during the first decades of the 17th century; and finally, a long phase of increasing inequality, interrupted occasionally during the 1730s and 1740s, from the mid-seventeenth century to about 1780. This profile coincides basically with the one displayed in Figures 1 and 2 for Catalonian communities, but with two main differences. The first is that data for Cervera during the second half of the 16th century, which show a reduction in inequality, exhibit a noteworthy divergence. The second is that increasing inequality during the 18th century seems to be sharper in the case of Catalonia, in line with the above-noted path of consistent "pre-modern economic growth" followed by the Catalonian economy during the 18th century.

Conclusions

This paper presents a first attempt at measuring the trends followed by wealth inequality in Catalonia in the long run, ca. 1400-1800. Even limited by the relatively scarce number of communities with consistent and regular data and still preliminary in its form, this is a significant contribution in its own right, since Catalonia is now one of the first European territories whose inequality trends have been reconstructed in a consistent way and over the long run.

To summarize, the evidence collected for Catalonia matches quite well with some widely known hypotheses suggested previously in the literature. Namely, that the high inequality levels prevalent across pre-industrial Europe; an inequality gradient that linked urban, more populated, and wealthier communities to greater inequality and vice versa; and the importance of the trends followed by the share owned by the top wealthy are good indicators of global economic inequality trends.

In contrast, one of the most appealing propositions, the idea that economic inequality grew in the whole of Europe during the early-modern period, shaping a long left side of a "super Kuznets curve"—a proposition first made by Van Zanden (1995) in connection to areas experiencing preindustrial economic growth, and later generalized by Alfani (2010a; 2015) to economically stagnating or even declining areas—does not seem to be fully confirmed for Catalonia. In short, in the case of Catalonia, it depends on the exact period used for comparisons. From the mid-17th century, inequality growth seems to go hand-in-hand with growth in per capita GDP. In earlier periods, though, the inequality trend seems to be unrelated to economic growth— and even, during the second half of the 16th century, there is some evidence of inequality decline coupled with economic growth. Therefore, although economic growth could explain inequality growth from 1650 onwards, the case of Catalonia does not support the idea that preindustrial economic growth always leads to inequality growth—so that, as stressed by Reis *et al.* (….), the notion of a "super Kuznets curve" seems to be dispensable as a general rule.

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