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Economic inequality and poverty in the very long run: The case of the Florentine State (late thirteenth-early nineteenth centuries)

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Abstract

This paper provides an overview of economic inequality in the Florentine State (Tuscany) from the late fourteenth to the late eighteenth century. Regional studies of this kind are rare, and this is only the second-ever attempt at covering such a long period. Consistent with recent research conducted on other European areas, during the Early Modern period we find clear indications of a tendency for economic inequality to grow continually, a finding that for Tuscany cannot be explained as the consequence of economic growth. Furthermore, the exceptionally old sources we use allow us to demonstrate that a phase of declining inequality, lasting about one century, was triggered by the Black Death from 1348 to 1349. This finding challenges earlier scholarship and significantly alters our understanding of the economic consequences of the Black Death. We also take into account other important topics, such as the change over time of the patrimony of the Church and of poverty. Particular attention is paid to the latter, and estimates of the prevalence of the poor in time and space are provided and discussed, also taking into account the definition and perception of the poor.

Keywords
Economic inequality; social inequality; wealth concentration; middle ages; early modern period; Tuscany; Florentine State; Italy; plague; Black Death; Church property; poverty; Florence; Prato; Arezzo; San Gimignano

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Introduction

In recent years, research on economic inequality has seen significant change. First, in many countries the Great Recession that began in 2007 has altered the perception of economic inequality, which has increasingly been seen as a problem, with a growing call for public action to moderate it. Second, the study of long-term dynamics has tended to become central to the analysis of current inequality levels. Although the most notable example of both trends is probably Thomas Piketty's recent and controversial book (Piketty 2014), which calls for placing distribution back in the centre of economic analysis, it is only part of a more general process in which different scholars are all moving in the same direction—although not necessarily with an ex-ante coordination. If we focus on post-2007 scholarship, regarding long-term dynamics it is interesting to note that, apart from work co-authored by Piketty himself (Atkinson et al. 2011; Alvaredo et al. 2013) and Prados de la Escosura's (2007; 2008) studies of Spain and Latin America, most new research has focused on the pre-industrial period, covering areas like the Sabaudian State in northwestern Italy (Alfani 2009; 2010a; 2014), the Low Countries (Ryckbosch 2012; 2014; Hanus 2013), Spain (Santiago-Caballero 2011; Santiago-Caballero and Fernández 2013; Nicolini and Ramos Palencia 2013; García Montero 2014), Portugal (Reis and Martins 2012), and Turkey (Canbakal 2013). All of this work is characterized by the use of new databases built from fresh archival research. To these, the general paper by Milanovic, Williamson, and Lindert (2011), which introduced the notion of the "inequality possibility frontier," should be added, as well as Williamson's (2009) speculative inquiry into Latin American inequality since 1491. Finally, at least one work focused on how perception of inequality changed over time (Alfani and Frigeni 2013), although this topic is still clearly understudied.

The change in focus towards the preindustrial period is an interesting development, considering that before 2007, the only study of long-term trends in preindustrial economic inequality was Van Zanden's analysis of the Dutch Republic (Van Zanden 1995; Soltow and Van Zanden 1998). This work made reference to Kuznet's original hypothesis, according to which economic inequality would follow an inverted-U path through the industrialization process (the so-called 'Kuznets curve'), with a rising phase at the beginning of industrialization, starting from relatively low pre-industrial levels, which would be followed by a decrease due to largely automatic mechanisms (Kuznets 1955). Van Zanden suggested that a "super-Kuznets curve" could be described for the Dutch Republic, connecting pre-industrial and industrial economic growth. His study was an exception in a field in which most research generated by Kuznet's seminal paper focused on the industrialization period (for example, Williamson 1985 for Britain; Piketty, Postel-Vinay, Rosenthal 2006 for France; Rossi, Toniolo, Vecchi 2001 for Italy; Lindert, Williamson 1980 for the United

States). However, Kuznet’s ideas are currently the object of significant criticism, especially regarding his “promise” of declining inequality, which seems not to have been fulfilled by actual historical developments (Piketty 2014). The notion of a “super-Kuznets curve” has also been criticized, as in the long run, substantial inequality growth has also been found in stagnating or declining areas of Europe, a point that has been most strongly made by Alfani in his study of northwestern Italy (Alfani 2010a; 2014).

All recent revisionist work has called for more empirical research, as in fact the amount of information we have about long-term inequality trends is still fairly limited. This is especially the case for the preindustrial period, notwithstanding the recent surge in (mostly still unpublished) research. Our paper increases the amount of available information relevant to this general debate by developing the case study of the Florentine State, which covered most of Tuscany and was not only among the main pre-Unification Italian states, but also one that occupied a truly central position in the European Medieval economy (although less so in the Early Modern period). The exceptional sources available for the Tuscan area allow us to cover a particularly long time period, from the early fourteenth to the late eighteenth century. Only one other attempt to cover fully such a long and complex period has ever been made (the aforementioned study of northwestern Italy by Alfani).

The Tuscan sources, described in Section 2, are exceptional in that not only do they allow us to begin our analyses at a particularly early date, but we can explore relevant but strikingly difficult-to-study topics. These include the impact on economic inequality of the Black Death and the development over time of the patrimony of the Church, analyzed in Section 3 (where general, long-term trends in economic inequality are also described), as well as the prevalence of poverty across time and space, to which Section 4 is dedicated. Section 1 provides some key information about the Florentine State in the Medieval and Early Modern period.

1. The Florentine State

Before proceeding, it is necessary to clarify that the “Tuscany” considered in this work does not coincide exactly with the present administrative region, as we cover neither the Republic of Lucca, which became part of the Grand Duchy only in 1847, nor a series of territories that were annexed during the eighteenth century (Fasano Guarini 1973). The area we study corresponds to the territory of the Republic of Florence, with its development into Duchy (from 1532) and subsequently Grand Duchy (from 1569) of Tuscany. This large area was split into two parts administratively, differing both for the intensity of the political control exerted by the capital city of Florence and for the system of taxation. The *Contado* was the surrounding hinterland that originally embraced the dioceses of Florence and Fiesole and then expanded as Florence brought more territory under its control. Later, when larger cities like Arezzo and Pisa came under Florentine rule together with their rural territories, they were referred to as the *Distretto*.

The two main elements contributing to the regional hegemony of Florence between the twelfth and fourteenth centuries were of a demographic and economic nature. First, a steady and continuous population growth, at least until the first half of the fourteenth century, led to a centripetal attraction towards the city, pushing people to move there spontaneously. Since ancient times, the process had also involved the rural landowners, causing the progressive enlargement of the urban property to the detriment of smallholder farmers, and bringing about important changes in the pattern of land ownership, on which we will focus later. Second, during the thirteenth century Florence imposed its economic hegemony: between the end of the twelfth and middle of the thirteenth century it began to orient the economy of its countryside towards the urban market, while Florentine businessmen, engaged in international trade and contributing to the creation of a solid urban manufacturing sector, took on a leading position in the international economy.

It is clear that territorial expansion would not have been possible without careful political and military alliances. Florence was able to withstand all the military actions against the great feudal lords of the end of the twelfth century and to win many of the wars fought against the main Tuscan cities that characterized the following decades, supported by the financial resources of its ruling class and by a strong civic unity. The struggle of Florence for the conquest of its own *Contado* began by incorporating the existing diocesan boundary, and continued by expanding to the neighbouring ones. Starting with the conquest of Fiesole in 1125, this process was completed in less than fifty years with the destruction of the castle of Figline (1167), which in the plans of the Bishop of Fiesole, Rodolfo, was to have been the new seat of the diocese. After that, the *Contado* of Florence consisted of the sum of the two dioceses, as the settling of the borders around the middle the thirteenth century shows: they were not drawn around physical or natural elements but on the cast of the ecclesiastical districts (Zorzi 1994).

However, the rulers of Florence believed that to ensure the survival of the state, there needed to be an area surrounding the *Contado* to protect it from external threats and to guarantee a continuous supply of food. The policy of expansion was thus intensified during the fourteenth century. Over 20 years, small independent cities, along with their countryside, were annexed: Carmignano (1329); Fucecchio, Castelfranco, and Santa Croce sull'Arno (1330); Pescia (1339); Colle (1349); Prato (1351); San Gimignano (1353); and Colle Val d'Elsa (1370). Some, such as Prato, were incorporated into the Florentine *Contado*, others, like San Gimignano, formed the emerging

Distretto, which widened gradually through the territories of several rural lordships and real *civitates* (cities) such as Pistoia (1361), Volterra (1361), Arezzo (1384), and Montepulciano (1390).
With the conquest of Pisa in 1406 the first phase of the construction of the Florentine state can be considered complete. It did not experience substantial changes until the annexation of the Republic of Siena in 1555. The State of Siena, however, was never made an integral part of the Duchy: it was granted as a fief by the King of Spain Philip II to Cosimo I in 1557, and it formed with the state of Florence a kind of "personal union" under the Duke. Consequently, it was not subject to the Florentine magistrates, but maintained an autonomous administrative structure (Fasano Guarini 1973; La Roncière 2010).

From the fiscal standpoint, the distinction between *Contado* and *Distretto* was maintained until the eighteenth century, not only because of the existence of a series of *gabelle* ("duties"), of which as late as 1763 it could be written that the boundaries between *Contado* and *Distretto* were "still religiously observed for the transport of goods and customs", but primarily for the different systems of direct taxation in force over the two areas (Fasano Guarini 1973).

The *Contado* consisted of more than 1,100 medium, small, and very small communities all under a single fiscal system set by Florence, which, however, suffered three major changes during the period considered. From 1315 Florentine citizens were spared direct taxation[1], based on the *estimo*, and it was kept only for the communities of the *Contado*. The capital was subject to indirect taxation and forced loans (Barbadoro 1929). Although evidence exists of *estimi* for the *Contado* dating back to 1259 (Barbadoro 1929, Conti 1966), the first surviving ones are those of 1350. The oldest material was destroyed during the riots for the expulsion of the Duke of Athens, the lord of the city (1343) (Conti 1966).

From 1350 to 1415 there were eight revisions of the *estimo* of the Florentine *Contado*: 1350, 1357, 1364-65, 1372-73, 1384, 1394, 1401-02, and 1412-15 (Conti 1966). The determination of the *quota d'estimo*—the amount due by each taxpayer—took place in two stages: once the overall amount to be imposed on the whole Contado was established, by law "Officers of the *estimo*" were given the mandate to distribute it among the various communities. The quota was then split between the households of each single community. The technical procedures with which they carried out the allocation of the quota are not clearly indicated by the sources but they were based on the household's ability to pay, even though approximated. Consequently, the "*quota d'estimo*" did not represent the value of the assets or the income in their "real" dimensions (for example, as market values), but it stated the ability of each household to pay, thus setting proportions among the

[1] Some attempts were made to reintroduce it during the fourteenth century, but to no effect.

taxpayers—adequate information to reconstruct the kind of distributions needed to study economic inequality.

The *estimo* represented a significant technical advance compared to the previous forms of taxation based on the feudal *focatico* at a fixed value. However, in 1427 Florence introduced its famous *catasto*, a complex and very innovative attempt to change the State's fiscal policy in favour of a better and more efficient distribution of taxation (Conti 1966, Herlihy, Klapisch-Zuber 1985).[2] In May 1428 the law was extended to the *Distretto*: here the *catasto* was renewed in 1435-37, 1451-55, 1458-60, 1469-71, 1487-90, and 1504-05 and it was prepared in accordance with the same criteria used for the city, representing a clear improvement over the *estimi*, which had become increasingly complex to manage. The sum expressed in the *catasto* was the capital value: the property was valued by capitalizing the income declared (in kind for land, in cash for rents of urban properties) at the rate of 7%, and the house of residence was excluded. Household goods, commodities, credit, and debt positions also had to be reported, although as a matter of fact, after the first *catasto* the clear tendency was to record only real estate. The difference between assets and liabilities formed the "*sustanze*", or "*valsente*", or "*sovrabbondante*" that was taxed.

The *catasto*, however, did not last very long. A new, simpler system of taxation that was based on the *decima*, an annual tax of 10% (hence the name) to be applied to the income from immovable property owned by citizens and peasants, was introduced in 1495. Taxation was then formally restricted to real estate[3], with the exemption of the house of residence. In the countryside the *decima* was introduced only from 1507-08, and in 1516 Pope Leo X granted the extension of taxation to ecclesiastical property, albeit restricted to the assets purchased after that date (Conti 1966, 132; Procacci 1996, 75-79). The introduction of the *decima* system led to a complete replacement, in both the city and the countryside, of the previous registers by a direct survey of all income generated from real estate. Those values would remain the base of the property tax until the first decades of the nineteenth century (Conti 1966).

The *decima* was abolished in 1776. Contextually, however, it was ordered to each *comunità*—the districts that had incorporated the old *pivieri* and *popoli* in larger administrative aggregates—to survey the assets situated in their territory and to collect the *decima* for one last time (in 1779). The data produced from this operation make it possible to identify the owners of all property, urban and rural, of a single territory, regardless of their condition (inhabitants of the *Contado*, Florentines,

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[2] The *catasto* was not *per se* a radical innovation in the larger Tuscan area, as there is evidence of earlier fiscal systems based on the same model, i.e., the so-called *Estimi guinigiani* for the countryside of Lucca dated 1411 (Leverotti 1981; 1992) or the *estimi* of the Florentine *contado* themselves, which in their last renewal in the early fifteenth century were used as a theoretical basis for the new general *catasto* of 1427.

[3] More precisely, to the income produced by the real estate.

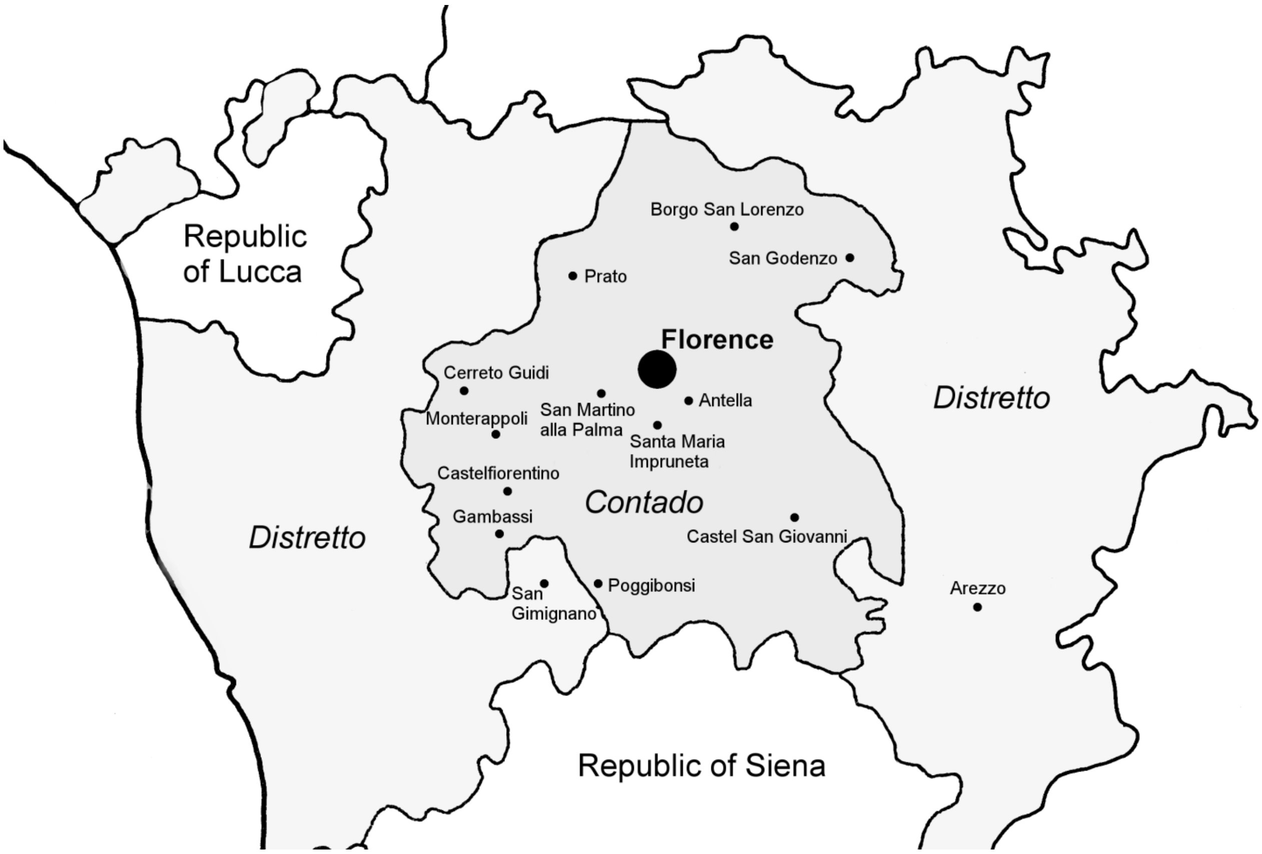
religious institutions, etc.). All the properties were described, including those of the Grand Duke and the clergy, which since 1775 had lost any exemptions.

Regarding the *Distretto*, each main centre had its own tax system that levied tax both within the city walls and the countryside. The Florentine fiscal policy aimed at leaving them some freedom in the choice of the tax system, merely requiring periodic global contributions. A fiscal study of the cities belonging to the *Distretto* therefore requires an analytical work on a case-by-case basis. For the sake of synthesis, this is done in Appendix A.

2. The sources and the database

Our database includes 14 communities, 12 belonging to the *Contado* (including Prato[4]) and 2, San Gimignano and Arezzo, to the *Distretto.*

Figure 1. The Florentine State: Contado and Distretto (ca. 1406)



Note: Only the communities included in our analysis, plus the capital city of Florence, are indicated on the map.

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[4] An important center of the valley of the Bisenzio, Prato and the rural areas under its jurisdiction became part of the *Contado* of Florence after it was annexed in 1351. In the earlier periods, Prato was not formally a "city" as its territory fell under the jurisdiction of the Diocese of Pistoia. Only in 1653 did Prato become an episcopal see.

Our analysis of economic inequality will be carried out using tax records, in particular those related to direct taxation, even though we are well aware of the limitations that this type of documentation can present (see below). Table 1 provides an overview of the communities studied and the sources used, as well as some essential information about the status of each community (urban/rural) and its demographic size across time.

Table 1. Composition of the database

Community	*Urban /Rural*	*Contado/ Distretto*	*Sources used (year)*	*Population (year of reference between parentheses)***
Antella	R	C	1357; 1394; 1458; 1504; 1536; 1570; 1621; 1715	548 (1356), 557 (1365), 553 (1373), 529 (1384), 418 (1427)
Arezzo	U	D	1390; 1443; 1501; 1558; 1602; 1650; 1710; 1751; 1792	*13000 (Early '300)*, 9000 (1389), 7000 (1393), 5500-6000 (1403-1468), *8500 (1476)*, 4500 (1480), 5000 (1490), 7750 (1551), 5693 (1562), 6719 (1745), 10402 (1833)
Borgo San Lorenzo	R	C	1357; 1402; 1460; 1504; 1536; 1570; 1621; 1715	2071 (1350), 1871 (1356), 1746 (1365), 1662 (1373), 1713 (1384), 1124 (1427), 1889 (1551), 3168 (1745), 3235 (1833)
Castel San Giovanni	R	C	1357; 1402; 1469; 1504; 1536; 1570; 1621; 1715	1049 (1350), 1918 (1356), 2270 (1373), 2085 (1384), 1466 (1427), 2050 (1551), 2195 (1745)
Castelfiorentino	R	C	1365; 1402; 1458; 1504; 1536; 1570; 1621; 1715; 1779	1456 (1350), 1497 (1364), 1583 (1371), 1380 (1383), 1467 (1393), 1353 (1402), 1243 (1414), 1301 (1427), 1023 (1487), 1295 (1551), 1486 (1745), 2630 (1833)
Cerreto Guidi	R	C	1357; 1402; 1458; 1504; 1536; 1570; 1621; 1715	1305 (1356), 1133 (1365), 1179 (1373), 1189 (1384), 882 (1427), 1129 (1551), 1452 (1745), 2396 (1833)
Gambassi	R	C	1357; 1402; 1458; 1504; 1536; 1570; 1621; 1715	604 (1350), 748 (1356), 534 (1365), 534 (1373), 878 (1384), 618 (1427)
Monterappoli	R	C	1357; 1402; 1458; 1504; 1536; 1570; 1621; 1715	1356 (1350), 1360 (1356), 1118 (1365), 1128 (1384), 708 (1427)
Poggibonsi	R	C	1338;1357; 1365; 1384; 1394;1402; 1458; 1504; 1536; 1570; 1621; 1715; 1779	3594 (1338), 1902 (1371), 1393 (1428), 1274 (1551), 884 (1558), 685 (1642), 1162 (1745)
Prato	U	C	1325; 1372; 1428; 1487; 1546; 1621; 1671; 1763	10559 (1339), 6504 (1372), 3533 (1428), 6845 (1551), 5676 (1642), 6623 (1672), 9968 (1784)
San Gimignano	U/R*	D	1277-1290; 1314; 1318-1336; 1332; 1375; 1419; 1428; 1475; 1549; 1674	10046 (1277-90), 11479 (1332), 3997 (1350), 3138 (1428), 4675 (1551), 4405 (1622), 3075 (1674), 4461 (1784)
San Godenzo	R	C	1357; 1402; 1461; 1504; 1536; 1570; 1621; 1715; 1779	826 (1350), 2071 (1356) 1151 (1365), 1193 (1373), 1309 (1384), 882 (1427), 1043 (1551), 1345 (1745), 1745(1833)
San Martino alla Palma	R	C	1357; 1402; 1458; 1504; 1536; 1570; 1621; 1715	761 (1350), 789 (1365), 715 (1365), 766 (1384),589 (1427), 1033 (1833)
Santa Maria Impruneta	R	C	1307; 1319; 1330; 1365; 1373; 1384; 1394; 1402; 1414; 1427;1458; 1504; 1536; 1570; 1621; 1715	469 (1350), 469 (1356), 469 (1365), 418 (1384), 325 (1427), 1025 (1551), 1546 (1745)

* City + countryside
** In *italics*: Uncertain estimates. Underlined: Data obtained by multiplying the number of hearths for the average size

of a hearth (4.643 people) according to the fiscal data of the communities of the *Contado* for the breakpoint-years 1450 and 1500. This figure is consistent with the existing literature on the demographic dynamics of the Florentine State (Pardi 1918; Fiumi 1950; Pinto and Tognarini 1986)

The problems related to the processing of our database can be classified into three main groups. The first involves the incidence of exempt property (owned by religious and charitable institutions) whose income was not subject to taxation. This problem is analyzed in the next section.

The second deals with property owned by Florentine citizens in rural areas that gradually increased, especially in the *Contado* and to a much lesser degree in the *Distretto*. Few earlier studies assessed this problem, as it requires the complex matching of the sources available for the capital city with those of the subject communities (see, for example, Conti 1965; Fiumi 1968, 126-8; Curtis 2012). From this point of view, unfortunately Tuscany is compared with other areas of Italy, like Veneto, where "dominant" cities with specific privileges also existed (Venice), but local property owned by citizens of the capital was listed in local sources (Alfani and Di Tullio 2014a; 2014b). As Florentine property is simply invisible in the sources we used, we will not debate the matter further (see Appendix B for a more detailed comment). Third, the taxable base used in our sources changes over time. Specifically, the evolution, which occurred throughout Tuscany, from a system of relatively rough estimation (the distribution of tax burdens according to a somewhat arbitrary estimate of the ability to pay) to a precise assessment of the overall capitalized income of taxpayers on the basis of statements or surveys (fifteenth-century *catasti*) was later replaced by a fiscal system based on income produced by real estate only (lands and buildings). Although contemporaries considered the introduction of the *decima* an improvement, in terms of greater fairness,[5] from our perspective it is a limitation as some components of wealth/income become unobservable,[6] in particular the public debt. However, this is of little practical consequence, as we know that in 1427 the citizens of Florence owned 99.75% of the public debt and, more generally, 78% of all the movable property in the State (Herlihy 1978, 137). A more serious problem lies with the houses of residence: In the *Catasti* such assets were valued but not considered for calculating the tax due, while in the *decima* they were indicated but not given a value. An obvious distortion is that those who owned only one house in which they resided were fiscally equivalent to propertyless. However, those who were

[5] Pagnini believed the system of the *decima* was "the best that could be used" because of a series of advantages in terms of simplicity and equality, as it was applied only to "the resurgent fruits that continuously reproduce themselves [those coming from the 'stable' property]" and not to those resulting from the economic activity (trade, manufacturing, etc). (Pagnini 1766, I, 41-42).

[6] Moreover, from the fifteenth to the early seventeenth century, many prosperous people of the middle classes had very little land, and wives often filed their property separately under their maiden names only, so that the wealth of the couple is distorted by looking only at one of the parties. Recent studies also seem to suggest that many of the really wealthy people were much richer than their landed possessions indicate (Carter, Goldthwaite 2013, Chapter 2 and Conclusion).

genuinely poor did not appear at all in the tax records, due to the nature of the fiscal system. This issue is analyzed in the third section, where the possible distortions caused by the absence of part of the poor from our inequality measures are also discussed.

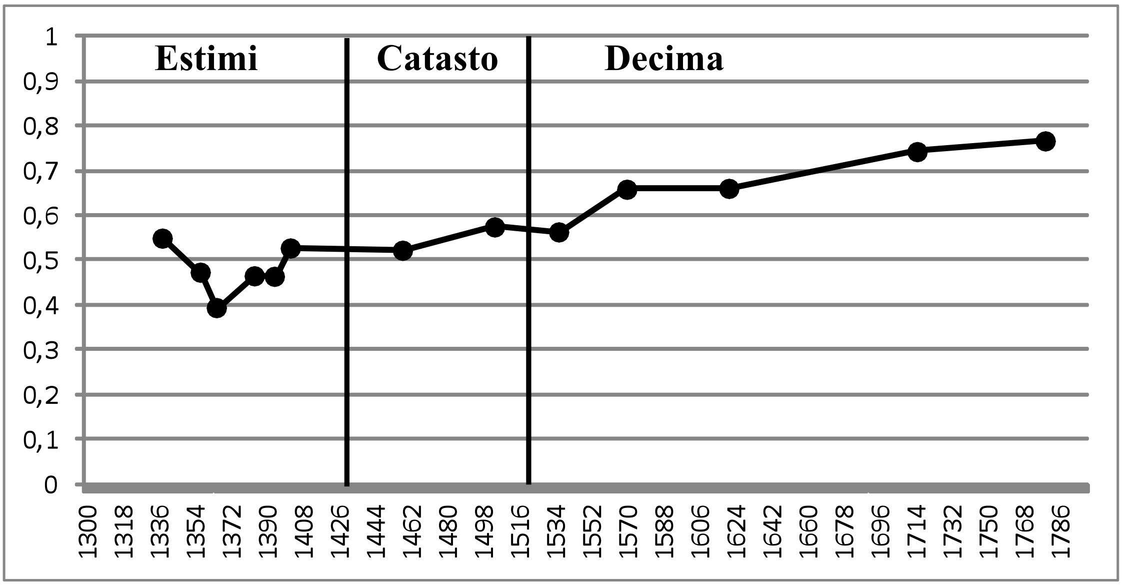
Before proceeding, the nature of the information we used to build our measures of inequality needs further clarification. All of our sources (*estimi*, *catasti*, and *decime*) record the fiscal capacity of the taxpayers—i.e., they tend to reflect their actual ability to pay tax. From this point of view, there is consistency over time in the kind of information they provide, a conclusion further strengthened by the fact that changes in the sources used do not mark breakpoints in our series of inequality measures (see next section). However, it is rather more difficult to classify our sources as information about "wealth" or "income". Historiographic tradition has assimilated the "capitalized income" recorded by the *catasti* to wealth (see for example Herlihy 1978; Herlihy and Klapisch 1985) and for reasons of convenience we will stick with thus such an approach—although we will refer preferably to a notion of general "economic inequality", in which the distinction between income and wealth inequality is somehow blurred. This is clearly the case of the *estimi*, while for the *decime*, which provide us with information about income from lands and buildings only, under the assumption that such incomes are proportional to the value of the estates there is no difference, in distributive terms, between income and wealth (consequently, inequality measures like the Gini index, which is a pure number, would be the same). Also from this point of view, the Tuscan sources are of more complex use than the *estimi* available for northern Italy, which focus on wealth throughout the Medieval and Early Modern periods (Alfani 2014; Alfani and Barbot 2009). This being said, the aforementioned absence of breakpoints at times of change in sources confirms that the Tuscan sources allow us to reconstruct a reliable picture of the overall trends in economic inequality—which is the subject of the next section.

3. Inequality in the long run: From the Black Death to the eighteenth century

The information available to study long-term trends in economic inequality in Tuscany has some striking characteristics. First of all, it allows us to cover a very long time period, in some cases beginning from the late thirteenth or the early fourteenth century. Second, from the middle of the fourteenth century it is possible to study large areas (like the Florentine *Contado*) making use of sources perfectly homogeneous over space, and expressed in the same unit of measurement. While the first point is common also to Piedmont, which until now was the only other area of Italy researched systematically with aims similar to those of this paper (Alfani 2014), concerning the second point Tuscany has clear advantages, as in Piedmont each community held property tax

records expressed in their specific unit of measurement, impossible to convert into a standard unit. Unfortunately, this comes at a cost—the change in nature over time of the available sources, which requires some standardization of the data used as well as a degree of caution in interpreting them.
To clarify the matter, as well as to introduce our discussion of long-term changes in economic inequality, we will start with a specific case: the large rural community of Poggibonsi, which throughout the period considered had a population of 2,000 to 2,500 people and for which we have collected a large number of observations in time: 13, covering 1338 to 1779. Of these, 5 relate to the fourteenth century, offering quite a precise picture of the distributive consequences of the Black Death, which spread to Tuscany in 1348. As can be seen in graph 1, in Poggibonsi the Black Death apparently triggered a period of decline in economic inequality, as measured by a standard indicator like the Gini index.[7] Already from the late fourteenth century, however, inequality had started to recover and, although the levels reached in the pre-Black Death decades would be exceeded only in the early sixteenth century, the tendency from 1384 to 1789 was that of an almost monotonic growth in inequality.

Graph 1. Economic inequality in Poggibonsi, 1338-1789 (Gini indexes)



By and large, the long-term tendencies found for Poggibonsi reflect those of the Florentine *Contado*, as will be shown shortly. However, we must first dispel any doubt that such tendencies

[7] The Gini index is calculated by using the following formula: G=(2/(n-1))*Σi(Fi-Qi), where (in our case) n is the number of declarants/households; i is the position of each household in the ranking sorted by increasing income/wealth/tax due; the sum goes from 1 to n-1; Fi is equal to i/n; Qi is the sum of income/wealth/tax due of all individuals comprised between position 1 and i divided by the total income/wealth/tax due of all individuals.

are not simply the result of certain characteristics of the sources used, and do indeed reflect real changes in inequality. In fact, the sources available for Poggibonsi change in nature over time: they are rural *estimi* for 1357, 1365, 1384, 1394, and 1402, which measure the relative contributive capacity of each household; the *catasto* for 1458 and 1504, which list "capital values" and are consequently also indicators of contributive capacity; the *decima* for 1536, 1570, 1622, 1715, and 1779, which reports the income from immovable property only (lands and buildings). These three kinds of sources are the ones we also used for the other communities of the Florentine *Contado*, however in the case of Poggibonsi we have an additional source, used for 1338 only—a particularly useful source then, as it pre-dates the Black Death—a local *estimo* that provides us with the total value of the real estate owned by each household. These sources (at least the three main ones) have been described in greater detail in Section 1. What is now worth mentioning is the fact that, generally, the date when the kind of source used changes does not affect the trend, nor has it any significant impact on the level of the Gini index. It is true that a minimal decline in the Gini level is found between 1402 and 1458, and between 1504 and 1536, but this does not change the overall long-term tendency of inequality to grow (although it is possibly a hint that, if we could standardize all measures to the *estimi*, maybe the long-term inequality growth would be even more intense than it appears from Graph 1). The less-homogeneous source is probably the 1338 local *estimo* but also in this case the tendency from 1338 to 1357 seems to continue from 1357 to 1365, so we have no reason to suspect that it is not genuine (the more so considering that the consequences of the Black Death seem to be the same in other communities like Prato and San Gimignano [see below]).

The 1357, 1402, 1458, 1504, 1536, 1570, 1622, 1715, and 1779 sources are the same as those used for the other communities of the *Contado* comprised in this study (small variations in date may occur, reflecting exactly when the process of renewal of the fiscal record was completed in each community), and for them the same considerations as above are valid. Some additional clarification is needed, however. The measures presented in Graph 2 are comparable also because some standardization was applied. In fact, in certain sources and years people or goods not usually included in the records were listed. In the *Contado* of Florence, this is particularly the case of the people with "zero *valsente*", that is those who were so poor or had such a limited possibility of generating income that they were exempt from taxation. In the *Contado*, these poor were listed only in 1458 and 1504. To make the time series as homogeneous as possible and to produce the standard inequality measures presented below, these people were simply removed from the distribution. The other problem lies in the property of religious institutions, which was exempt from taxation and consequently does not usually appear in the records, in Tuscany as elsewhere in Italy. This is less of a problem than one might think, as still today household surveys do not include institutional incomes or property. In fact, some of our Tuscan sources are exceptional in that they provide unusually good and regular information about Church property. This is especially the case for San Gimignano (see below), while in the Florentine *Contado*, only in the 1338 local *estimo* of Poggibonsi was Church property listed and given a value. Also in this case, to improve comparability of inequality measures through time, it has simply been removed from the distribution. However, as the information we collected on the poor and on Church property, albeit non-systematic and scattered in time, is rare, interesting, and relevant, we will provide a more detailed discussion of the dynamics of Church property at the end of this section, while in Section 4 we will develop a specific analysis of the prevalence (and the characteristics) over time of the poor.

As already mentioned, for the communities of the *Contado* we collected fewer data than for Poggibonsi. In fact, we used Poggibonsi as a pilot study, which helped us select the most complete, reliable, and comparable sources. For each community we decided to take, when available, one observation close to 50-year breakpoints (1300, 1350, 1400, etc.), also to allow easy comparison with research being conducted on other areas within the broader framework of the EINITE research project (see, for example, the case of Piedmont: Alfani 2014). We selected the communities to study taking into account various parameters, and principally the availability and the quality of the surviving documentation, and the adequate territorial coverage of the whole area (see Appendix A for details). Overall, we researched 11 communities (excluding Prato). The Ginis we calculated for all of them and covering the whole period are presented in Table 2, where measures have been clustered around reference years (the above-mentioned breakpoints) to ease comparison with the communities of the *Distretto* (see below). The indexes have been standardized to vary within the value 0 (perfect equality: all households are equal) and 1 (perfect inequality: one household owns everything). Note that we have pre-Black Death information (coming from local *estimi)* for only two communities, and only for three could we reconstruct the situation around 1800 (due to substantial changes in the administrative boundaries of the other communities that occurred during the eighteenth century).

Table 2. Economic inequality in the *Contado* of Florence, ca. 1300-1800 (Gini indexes clustered around reference years; actual year between parentheses)

	Antella	Borgo San Lorenzo	Castel San Giovanni	Castelfiore ntino	Cerreto Guidi	Gambassi	Monterapp oli	Poggibonsi	San Godenzo	Santa Maria Impruneta	San Martino alla Palma
1300	0.452 (1319)							0.550 (1338)		0.462 (1307)	
1350	0.462 (1357)	0.504 (1357)	0.352 (1357)	0.505 (1365)	0.463 (1357)	0.248 (1357)	0.528 (1357)	0.474 (1457)	0.501 (1357)	0.439 (1365)	0.531 (1357)
1400	0.523 (1394)	0.665 (1402)	0.592 (1402)	0.574 (1402)	0.433 (1402)	0.546 (1402)	0.567 (1402)	0.528 (1402)	0.468 (1402)	0.449 (1402)	0.526 (1402)
1450	0.490 (1458)	0.517 (1460)	0.463 (1469)	0.473 (1458)	0.455 (1458)	0.429 (1458)	0.558 (1458)	0.523 (1458)	0.438 (1461)	0.491 (1458)	0.461 (1458)
1500	0.499 (1504)	0.494 (1504)	0.526 (1504)	0.504 (1504)	0.629 (1504)	0.545 (1504)	0.573 (1504)	0.575 (1504)	0.512 (1504)	0.456 (1504)	0.426 (1504)
1550	0.447 (1536)	0.543 (1536)	0.503 (1536)	0.480 (1536)	0.572 (1536)	0.526 (1536)	0.577 (1536)	0.564 (1536)	0.515 (1536)	0.465 (1536)	0.61 (1536)
1600	0.474 (1570)	0.53 (1570)	0.563 (1570)	0.679 (1570)	0.579 (1570)	0.582 (1570)	0.575 (1570)	0.659 (1570)	0.543 (1570)	0.520 (1570)	0.617 (1570)
1650	0.642 (1621)	0.599 (1621)	0.619 (1621)	0.588 (1621)	0.652 (1621)	0.682 (1621)	0.657 (1621)	0.661 (1621)	0.618 (1621)	0.513 (1621)	0.722 (1621)
1700	0.764 (1715)	0.678 (1715)	0.745 (1715)	0.723 (1715)	0.759 (1715)	0.725 (1715)	0.748 (1715)	0.743 (1715)	0.658 (1715)	0.736 (1715)	0.939 (1715)
1800				0.788 (1779)				0.767 (1779)	0.752 (1779)		

A quick glance at Table 2 is sufficient to reveal what is surely one of our main findings: Overall, in the five centuries we covered, economic inequality grew everywhere. In each single community of the *Contado* we studied, the Gini value for 1700 is higher than that found for any earlier period, ranging from 0.658 in San Godenzo to 0.939 in San Martino alla Palma. On the whole, these values are similar to the Ginis measured for rural areas in other parts of Italy. For example in Piedmont around the same date, the Gini was 0.579 in Cumiana and 0.733 in Vigone (Alfani 2014). In these communities, like in San Godenzo, Poggibonsi, and Castelfiorentino where the Gini rose respectively to 0.752, 0.767, and 0.788 by 1779, inequality continued to grow during the eighteenth century, to 0.675 in Cumiana by 1749 and to 0.809 in Vigone by 1764. In another part of Italy, Romagna, in 1783 rural Ginis were in the range of 0.76 to 0.82 in the territory of Brisighella and 0.67 to 0.75 in that of Russi (Mazzotti 2009). Although caution is needed when comparing inequality measures built from different kinds of archival sources, it is quite clear that our

Florentine communities are not exceptional from the point of view of inequality levels—save for San Martino alla Palma, where the Gini for 1700 equals 0.939 (in fact from around 1550 San Martino is invariably the most unequal community). This very high level—the highest found to date in any Italian rural community at any time—could be due to specific dynamics affecting this community, particularly its apparent de-population in time (as reflected in the steady decline in the number of recorded taxpayers: from more than 100 until the early sixteenth century, to a few scores in the final dates) with consequent extreme concentration of local real estate in few "surviving" hands. It should also be noted that such a high rural inequality level is not altogether unrealistic, as similar levels are testified for in other areas of Europe (for example, the real estate Gini was 0.92 in the village of Saint-Etienne-de-Bailleul in 1826: Boudjaaba 2009, 390). However, preindustrial rural inequality is surely one field in which we still know too little—considering that this paper alone practically doubles the amount of case studies developed quantitatively for Early Modern Italy, and provides the longest-existing time series.

If Tuscan rural inequality was high, it was even higher in the cities. Table 3 presents similar measures for the three cities considered in this study: Arezzo, Prato, and San Gimignano. In the case of the latter, the Ginis include the "*Contado*" (the area subject to San Gimignano was not formally a *Contado*, but for the sake of simplicity we will use the term here to indicate the rural areas surrounding the town and subject to its jurisdiction). Table 3 also presents proxy information about the Florentine *Contado* in general (resulting from the merger of the distributions of the 11 rural communities mentioned above) as well as for the whole of the *Contado* of San Gimignano, which for some years at least we could separate from the general distribution. As will be remembered, the case of San Gimignano is exceptional because here also Church property and more generally "institutional" property was recorded. As a consequence, we provide measures both including and excluding institutions (the latter being the time series better comparable to the other cities).

Table 3. Economic inequality in selected areas of Tuscany, ca. 1300-1800 (Gini indexes clustered around reference years; actual year between parentheses)

	Arezzo	Prato	San Gimignano (including the *Contado*)	San Gimignano (including the *Contado*, excluding institutions)		*Contado* of San Gimignano	*Contado* of Florence
1300		0.703 (1325)		0.712 (1277-1290)		0.674 (1290)	
1350		0.591 (1372)	0.657 (1375)	0.658 (1375)		0.585 (1375)	0.53
1400	0.481 (1390)		0.634 (1419)	0.639 (1419)		0.499 (1419)	0.58
1450	0.600 (1443)	0.683 (1428)	0.674 (1428)	0.671 (1428)			0.504
1500	0.627 (1501)	0.624 (1487)	0.648 (1475)	0.631 (1475)		0.582 (1475)	0.546
1550	0.651 (1558)	0.575 (1546)	0.627 (1549)	0.592 (1549)		0.630 (1549)	0.540
1600	0.722 (1602)	0.737 (1621)					0.613
1650	0.725 (1650)	0.807 (1671)	0.682 (1674)	0.641 (1674)			0.645
1700	0.810 (1710)						0.737
1750	0.846 (1751)	0.831 (1763)					
1800	0.832 (1792)						0,855* (1779)

Notes: * Measure calculated from three communities out of 11.

The data presented in Tables 2 and 3 allow for some general considerations about the relative inequality levels in different Tuscan environments. There is, in fact, an earlier attempt to do this: David Herlihy's rightly famous study of economic inequality in the Florentine State (Herlihy 1978). This study was based on a single source, the *catasto* of 1427 (which is also one of our sources, used for all the communities of the Florentine *Contado* as well as for Prato and San Gimignano). Herlihy reached a number of relevant conclusions:

1) For cities, there exists a positive correlation between population size, average per capita wealth, and concentration of property. In fact, in the smaller cities under Florentine rule (Cortona, Volterra, Prato) average per capita wealth was about 45 *fiorini* versus the 70-85 of medium-sized cities like Arezzo, Pistoia, and Pisa and the 273 of the capital city, Florence, where the richest families resided (Herlihy 1978, 136-7). Moreover, the Gini was higher in the capital (0.788) than in all other cities (0.747 in the aforementioned six cities taken together—unfortunately city-per-city measures are not provided: Herlihy 1978, 139; Herlihy and Klapisch-Zuber 1985, 341), declining, as a tendency, with population.

2) When comparing inequality in cities and in rural communities, the first were almost invariably wealthier (in per capita terms) and more unequal. According to Herlihy, average rural wealth equalled 32 *fiorini* per capita in the villages, and just 14 in sparsely populated areas (Herlihy 1978, 136). Although Herlihy did not calculate concentration indexes for rural communities in the *Contado* of Florence, in his study of the village of Santa Maria Impruneta he underlined the fact that the share of wealth owned by the poorest 50% of the population was about double in the country compared to Florence (6% versus 2.68%. Herlihy 1968; 1977). We can add considerably to this comparison, as our database suggests that around 1450 the Ginis for rural communities ranged from 0.429 (Gambassi) to 0.523 (Poggibonsi)—considerably lower than the 0.600 found for Arezzo, the 0.683 of Prato, and the 0.671 of San Gimignano (the latter figure being distorted towards equality by the inclusion of the *Contado*—as suggested by the fact that taken alone, the *Contado* of San Gimignano had a Gini of just 0.547). A similar urban-rural differential is to be found in the territory of Pistoia in the Florentine *Distretto*. Here, in 1427 the city had a Gini of 0.713 while rural inequality varied between 0.634 for the villages on the plain taken together and 0.515 for those in the mountains (Herlihy 1967, 186-8). Finally, in Livorno, which at the time was still a small town with less than 7% of the households of Pisa and about 1% of those in Florence, a study reported a Gini of 0.520 (Casini 1984).

If Herlihy's pioneering intuitions were fundamentally right, an aspect that was missing in his analysis was the long-term perspective. This not only prevented him from noticing other interesting and important phenomena but also (and surely, independently from Herlihy's intentions) it helped to spread the idea among international scholars that the 1427 *catasto* was an exceptional source, the like of which was not to be found elsewhere, and furthermore, that it was an *unicum* in time. Such an idea was probably reinforced by the fact that the 1427 *catasto* was generously made accessible online[8]. However, although it is true that the 1427 *catasto* is particularly informative about different

[8] *Online Catasto of 1427.* Version 1.3. Edited by David Herlihy, Christiane Klapisch-Zuber, R. Burr Litchfield and

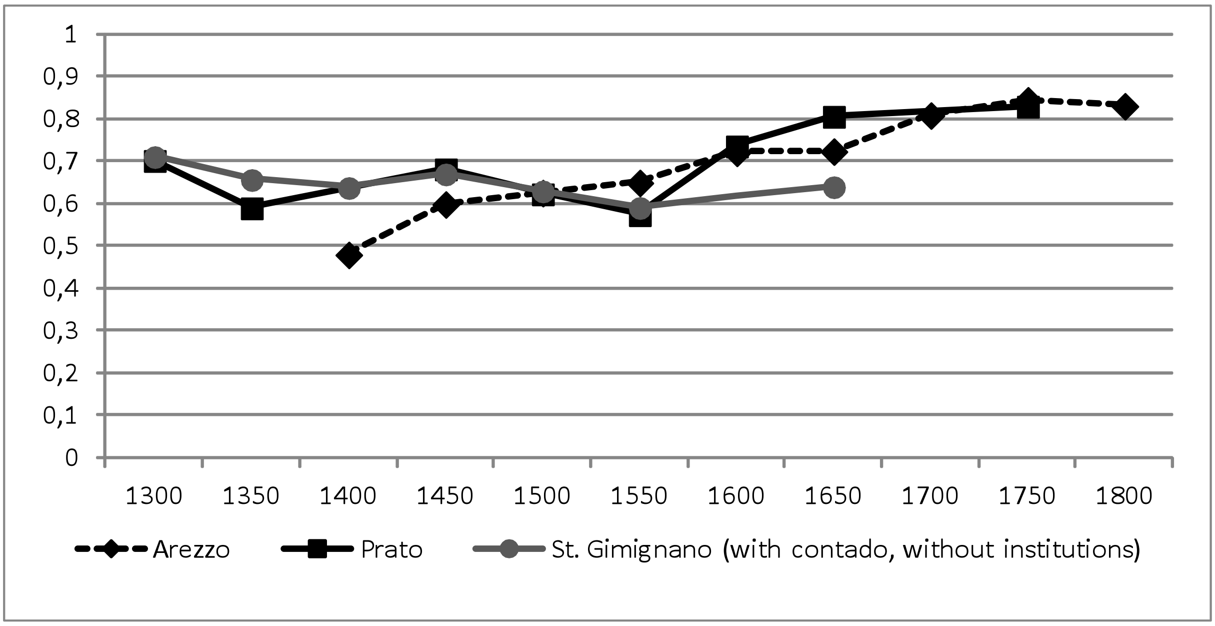
components of wealth, not-too-different sources exist also for other parts of Italy and Europe that allow for a systematic study of economic inequality and wealth or income distribution, as demonstrated by the recent case study of Piedmont (Alfani 2014), as well as research led on various Italian communities (Alfani and Barbot 2009) and as the broader EINITE project is showing ever more clearly. Moreover, exceptional sources providing information as rich as the *catasto* exist elsewhere, like the 1613 Sabaudian "census" (Alfani 2010a). Regarding availability of sources through time, Tuscan records redacted with criteria similar to the 1427 *catasto* cover a much longer period of about one century (the last we used for the *Contado* dates from 1504) and as the data presented here show, other sources can be used in addition to produce information comparable in many regards to that provided by the *catasto*, covering many centuries.

If we overcome the limitations implicit in single-source studies of economic inequality and focus on long-term dynamics, very interesting phenomena appear. In Graph 2, long-term trends in economic inequality are represented, in the cities, in the two *Contadi* of Florence and San Gimignano, and in selected communities of the Florentine *Contado* (the excluded ones tell the same story, as can be easily verified plotting graphs from the data presented in Table 2).

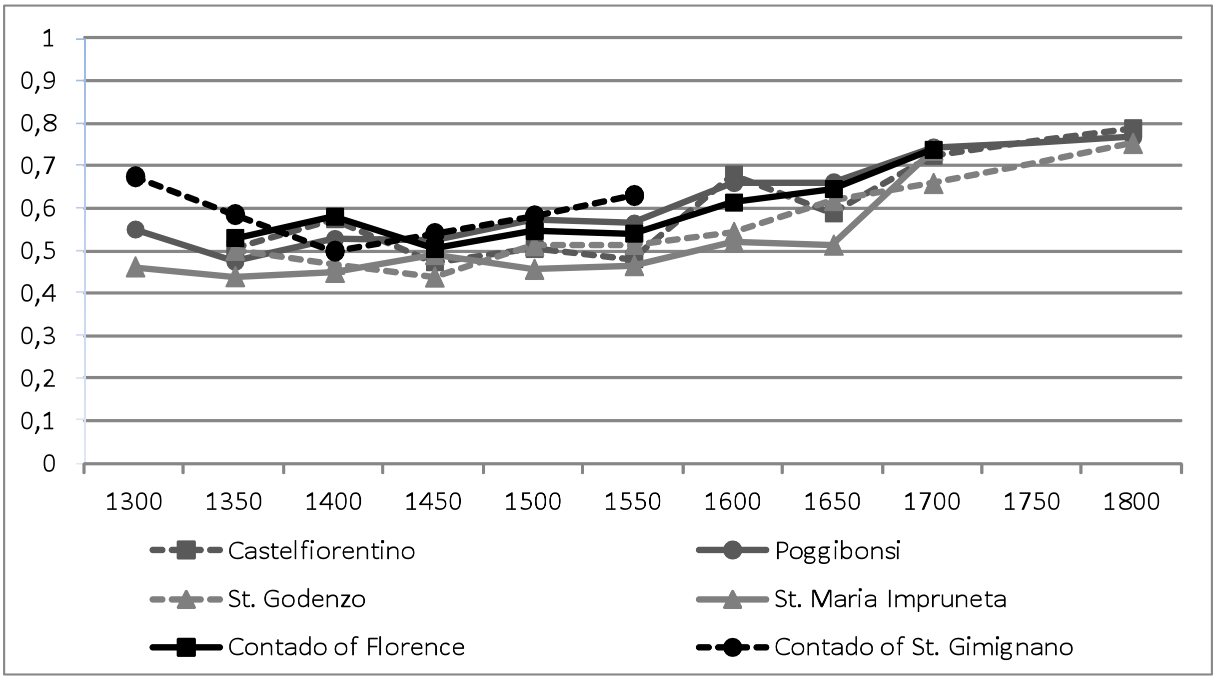
Anthony Molho (machine readable data file based on D. Herlihy and C. Christiane Klapisch-Zuber, *Census and Property Survey of Florentine Domains in the Province of Tuscany, 1427-1480*). Florentine Renaissance Resources/STG: Brown University, Providence, R.I., 2002. http://cds.library.brown.edu/projects/catasto/.

Graph 2. Long-term trends in economic inequality (Gini indexes)

a. Cities



b. Rural areas



Overall, our time series of inequality measures strongly suggest that in the very long term, economic inequality was orientated towards growth, both in rural and in urban areas. In fact, only the post-Black Death period seems to be generally associated with inequality decline (see discussion below). Regarding the later periods, we found that in rural communities, from about 1450 inequality tended to grow almost monotonically. In the overall Florentine *Contado*, inequality stagnated or slightly declined only from 1500 to 1550, while continuing to rise in the *Contado* of San Gimignano. In the cities the situation is more complex. In fact, although from about 1400 the overall tendency is towards an increase in inequality, the process is much more linear in Arezzo than in Prato or San Gimignano. While for San Gimignano the absence of information after 1650, as well as the inclusion of the *Contado* in the "urban" time series, complicates the interpretation of the data, for Prato the impression is that the century from 1450 to 1550 marks the temporary interruption of an overarching process of increasing inequality spanning a much longer time period. This could be partly the consequence of the terrible sack suffered by the city in 1512, which cost the lives of many citizens and peasants (Ammannati 2012, 41), and as the rich were usually targeted in such instances as the better able to provide bounty and ransoms (Alfani 2013a, 27), could have caused a downward-levelling of the wealth distribution. Inequality decline, however, was already underway before the sack (the Gini index diminished from 0.683 in 1428 to 0.624 in 1487, before reaching a floor of 0.575 in 1546).

Another aspect that our urban time series allow us to explore in some greater detail is the relationship between population growth and inequality growth. On the one hand our data largely confirm Herlihy's intuition that smaller centres were less unequal than the larger ones. Around 1427 (the date to which Herlihy referred), all our communities were less unequal than the capital, Florence, and all cities were more unequal than the villages of the Florentine *Contado*. Importantly, the second finding also remains true at other points in time, while for 1407 we could calculate the Gini for a larger city, Pisa, whose value of 0.640 is higher than that which we found at close dates in all other cases we studied. However, within the group of cities we studied the hierarchy of inequality levels does not match univocally that of population size (Arezzo, which in the first half of the fifteenth century was the largest city in our database, is the least unequal), a fact that could reflect differences both in local social-economic structures and the sources used. On the other hand, considering the development of each specific city or rural community, we find that population growth generally seems to be associated with inequality growth—although the correlation is much less clear than in studies involving other areas, from Piedmont to Veneto (Alfani 2009; 2014; Alfani and Caracausi 2009). In the cities, one possible causal explanation for this is the constant immigration from rural areas, which could have acted as a kind of perpetual generator of inequality, as suggested by some studies (Alfani 2010a; 2010b).

If population growth is associated with inequality growth, during the fourteenth and fifteenth centuries the inverse correlation is also found, as the huge demographic losses caused by the Black Death seem to be associated with inequality decline. However, in this case causation is particularly complex and interesting to explore, and since our findings contradict older publications, the distributive effects of the Black Death will be analysed in some greater detail. Herlihy's pioneering works are once more the unavoidable starting point, particularly those on Santa Maria Impruneta, a village in the Florentine *Contado*, and on Pistoia and a village placed in the Pistoiese *Contado*, Piuvica—although, as Pistoia city statutes ordered that all old *estimi* be burned (Herlihy 1967, 185), the village is much more important than the city in Herlihy's analysis of the consequences of the pandemic. In Piuvica, where a rare *estimo* dated 1243 (a full century earlier than the Black Death) survived, Herlihy compared it with the 1427 *catasto* and described a wealth distribution becoming markedly more unequal after the Black Death (Herlihy 1967, 182-3). In Santa Maria Impruneta, the comparison of three pre-Black Death *estimi* (dated 1307, 1319, and 1330) with the 1427 *catasto* yielded much the same result (Herlihy 1968, 258-60). In both instances, a higher concentration of wealth and income was the result of the weakening in numbers and in collective assets of the "middle class"; for example in the Pistoiese area, "In the city and on the plain—the economic heart of the territory—a few families with great wealth had come to confront many with few assets or none. The troubles of the fourteenth century had not been favourable to the growth or even the defence of small fortunes" (Herlihy 1967, 189). The process would have been strengthened by inheritance systems and managerial factors[9]. Overall, Herlihy believed that by 1427, in the whole of Tuscany the urban (and the rural) middle class was "crushed between the rich, distinguished by their huge possession, and the poor, distinguished by their numbers", and that probably "the highly skewed distribution of wealth in the fifteenth-century was a comparatively new development, and (...) wealth had been somewhat more evenly distributed across the population in the thirteenth century, before the onslaught of the great epidemics" (Herlihy 1978, 139).

Unfortunately, it is sufficient to look at Graph 2 to note that as far as our case studies are concerned, the situation seems to be very different from that described by Herlihy. Apparently the Black Death

[9] "The shrinking of the population also undoubtedly favored with accumulated inheritances a few lucky survivors. But the wealthy were also able, as smaller landlords were not, to keep their farms in operation. This required (...) continual outlays of capital (...). The new conditions of cultivation (...), requiring high investments at modes returns and considerable risks, were disadvantageous to the middle-class landlord. The great property owner, on the other hand, while he hardly prospered under the new conditions, at least was not destroyed by them. Within the city too, the high costs required in economic enterprises, the low return from them, were similarly hostile to the growth and defense of moderate fortunes, and similarly worked to erode the prosperity and importance of the urban middle class." (Herlihy 1967, 190-1).

triggered a phase of reduction in inequality that continued until about 1400 in the cities, and until about 1450 in rural communities. In all but one of the cases for which we have pre-Black Death measures of inequality, they are much lower in 1427 or around that date than before the Black Death—the exception being Antella (see Table 2), possibly due to the fact that it seems to have been affected in a milder way by the plague (137 households are recorded in 1319 and 116 in 1357: a 15.3% decline, which compares favourably to the 34.5% decline of Santa Maria Impruneta between 1319 and 1365 and the 24.2% decline of Poggibonsi between 1338 and 1357). However even in Antella the Gini trend between 1319 and 1357 is almost flat, and some decline in inequality occurred in the early fifteenth century. These findings contrast directly with Herlihy's assumptions—but they find support in the only other area for which a study of the impact of the Black Death on inequality levels has been conducted, that is, Piedmont. Also in this area, the terrible pandemic seems to be the root of a fairly long phase of inequality decline, which even in the cities lasted until about 1450. In Chieri, for example, a Gini index of 0.715 has been calculated for 1311, which is much higher than that calculated for 1437 (0.669), while in Cherasco the Gini of 0.630 calculated for 1350 contracted first to 0.546 in 1395-1415 and then to 0.521 in 1447-50 (Alfani 2014).

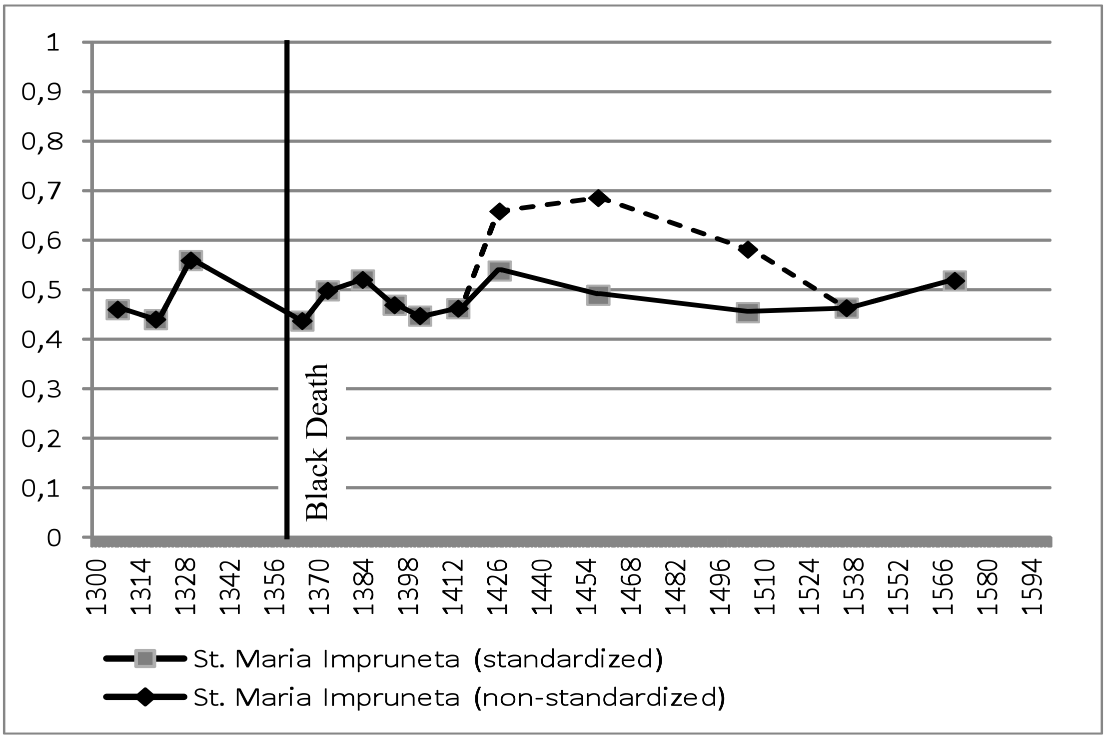
The most recent research, then, in no way confirms Herlihy's hypotheses about the long-term distributive consequences of the Black Death—providing in fact quite substantial evidence that the contrary happened. As argued by Alfani, the findings for Piedmont (and the same is true for the findings about Tuscany presented by this paper) should not be considered surprising, as they are "entirely consistent with the widespread idea that the Black Death determined a significant increase in real wages of skilled and unskilled workers (Pamuk 2007), who consequently would have had more resources to buy property." (Alfani 2014, 26). Studies of labour conditions in the aftermath of the Black Death confirm that in Tuscany, wages showed a tendency to rise (Goldthwaite 1980, 317-342, Appendix 3; La Roncière, 1981; 1982), although Florence tried to contain the process, at least in the rural areas and—presumably—with limited success (Cohn 2007, 469-70)[10]. We could wonder, then, if Herlihy was exceptionally unlucky in fishing from the archives two "abnormal" cases, or if there is some other problem. In fact, Herlihy seems to have made two mistakes in collecting and analysing his data. First of all, he compared very different points in time (separated by more than a century in the case of Santa Maria Impruneta, and by almost two in Piuvica) without considering the very real possibility that he may have missed crucial in-between dynamics. For example, as suggested by the case of Poggibonsi (Graph 1), a recovery before 1427 could hide the

[10] In Florence there is evidence of a "huge tidal wave" in the formation of new lineages after the Black Death (Padgett 2010), which reflect particularly good opportunities for entering the elite.

possibility that the consequences of the Black Death in the short- and medium-term were distinctly egalitarian. Secondly, and more importantly, Herlihy seems to have made a mistake when comparing the thirteenth- and fourteenth-century *estimi* with the 1427 *catasto*. It was, in fact, the nature of the sources, and not the actual characteristics of wealth or income distribution, that determined the absence from the *estimi* records of the poor unable to pay tax, while the *catasto* recorded almost everybody.[11] We have proof of this in the distributions published by Herlihy (1967, 183; 1968, 111). In Priulica for example, the poorest 30% of the population would own nothing at all in 1427, while in 1243 even the poorest 10% are attributed 1.7% of the overall wealth (which is a very high share for the poorest owners of a rural community, see next section). Herlihy was aware of possible difficulties in comparing different sources, but he concluded that "While the comparison is crude, the distortion is still not so great as to vitiate its results." (Herlihy 1967). Unfortunately this was not the case, as standardization of the sources with elimination of the property-less from the 1427 distribution (a necessary step to compare, insofar as possible, like with like) overturns the result, exactly as in Poggibonsi where, when the individuals with "zero *valsente*" are taken out, the Gini calculated for 1338 (0.550) is higher than that calculated for 1458 (0.523) but much lower than the Gini calculated including them (0.704). In fact, after collecting the first data for the *Contado*, we decided to add Santa Maria Impruneta to the original sample, replicating the research done by Herlihy but also considering additional sources in between those used by him and continuing the analysis until the early eighteenth century. We discovered that here, too, including the propertyless in the calculation of the Gini from the *catasto* dramatically alters the index values—from 0.540 to 0.660 in 1427, and from 0.491 to 0.687 in 1458. Graph 3, which presents particularly dense yearly data for the fourteenth to sixteenth centuries, shows how forgetting standardization can be a fatal pitfall in interpretation of the data (notice that if we consider the standardized data only, the high point for the whole period predates the Black Death, being reached in 1330 when the Gini is equal to 0.561). The impact of the inclusion of the propertyless in calculations of inequality measures is analyzed in greater detail in the next section.

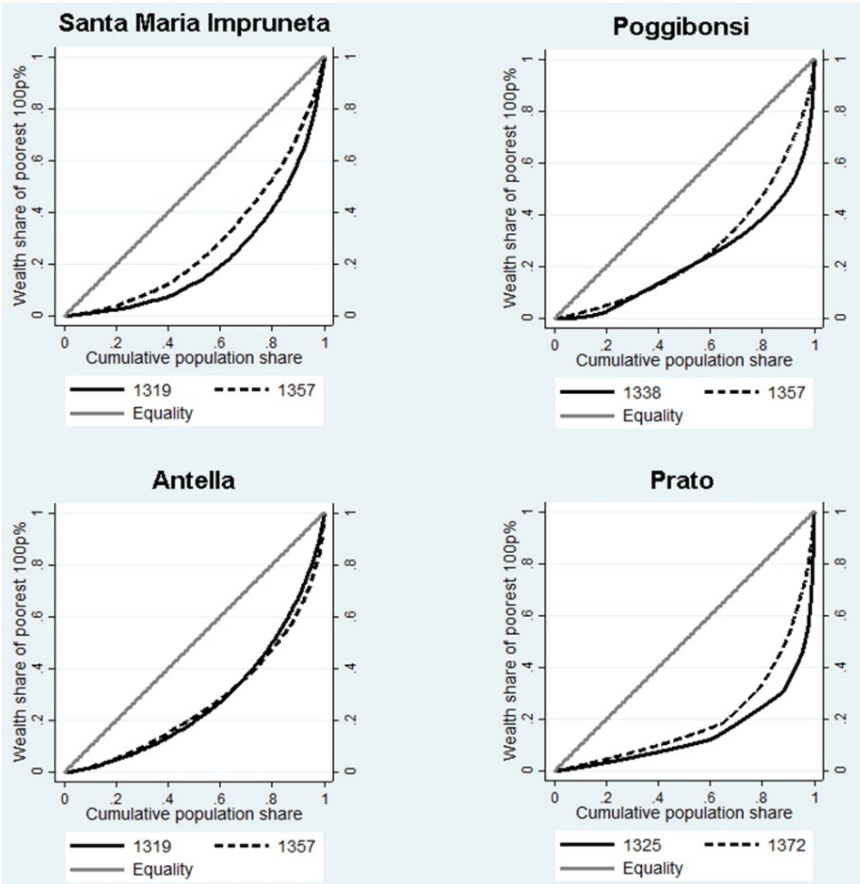
[11] Some categories, however, remained excluded: for example, female servants were not included as well as many *manovali* (labourers) found in building accounts (Goldthwaite 1980).

Graph 3. Economic inequality in Santa Maria Impruneta, 1307-1570 (Gini indexes, with or without standardization)



In his paper on Piedmont, Alfani (2014), puzzled by the discrepancies between his findings and Herlihy's, called for more research on Tuscany to test whether the latter was right. This paper demonstrated that he was not, and provided strong support for the idea that the Black Death had a strong "egalitarian" impact on wealth distributions. To conclude our analysis, however, we need to look more closely at how such an event affected the overall distributions. In Figure 2, we present Lorenz curves for the four communities for which we have pre-Black Death information, focusing on the distributions closer to the event. For Santa Maria Impruneta and Prato we find that the post-plague distribution lays entirely above the pre-plague one, suggesting an improvement in the relative conditions of those placed at the bottom, middle, and upper-middle parts of the distribution, to the detriment of the top rich only. This also applies to Poggibonsi, notwithstanding a slight worsening of the relative conditions of the lower-middle levels. Only in Antella do the pre- and post-plague distributions cross each other. While the relative share of wealth of the bottom 50% of the distribution increases, the upper-middle levels lose positions to the advantage of the top 10% (as will be remembered, the overall result is an almost-unchanging Gini). The impact on inequality levels of the plague waves following the Black Death is less clear, mostly due to the adaptation that occurred in inheritance practices (Alfani 2010b; 2014) and, also for reasons of synthesis, it will not be discussed in this article.

Figure 2. Wealth distribution in pre- and post-Black Death years (Lorenz curves)

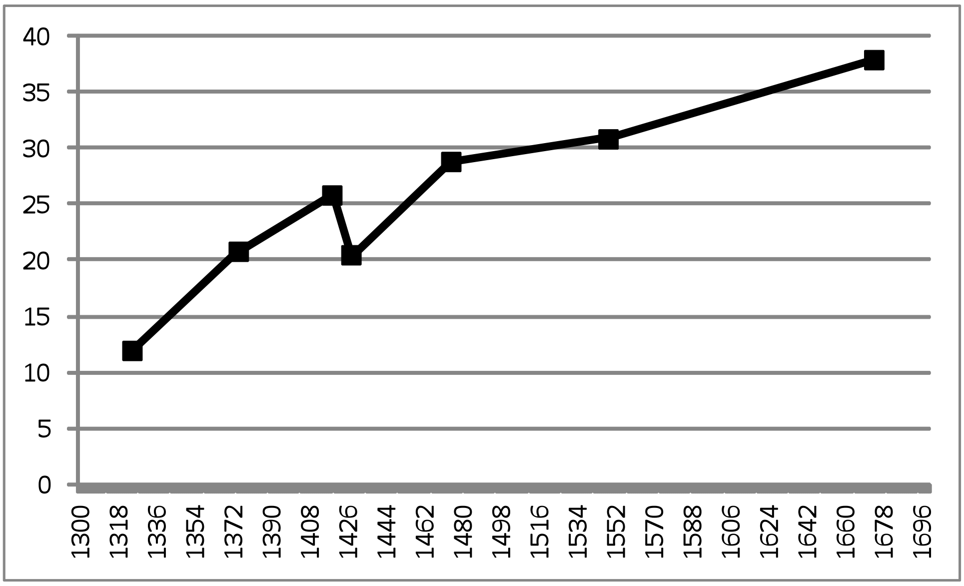


Notes: Lorenz curves have been drawn using the glcurve Stata package.

A final aspect worthy of closer attention is the property of the Church. The problem here, which also applies to the rest of Italy and most of Europe, is that it is extremely difficult, and often impossible, to discover the full extent of the Church's possessions (Hoffman 2006, 73), especially the "ancient" part that, in the Florentine state as elsewhere, was not subject to taxation. Some of the sources used here, and those available for San Gimignano in particular, are truly exceptional as they give us information over time about the overall amount of the Church's patrimony (i.e., the patrimony of each specific religious institution: monasteries, confraternities, churches, or hospitals).

Graph 4 represents the trend followed by the overall Church patrimony from before the Black Death until the middle of the seventeenth century.

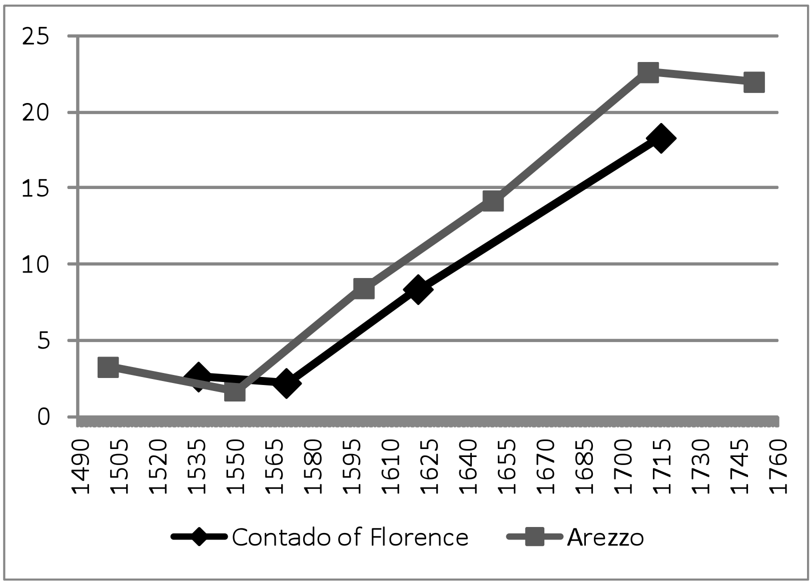
Graph 4. Patrimony of the Church (all religious institutions) in San Gimignano, 1314-1674 (% of overall)



The patrimony of the Church in San Gimignano (city and *Contado*) shows an impressive tendency to grow over time and the only period when it would appear to be in decline (from 25.9% in 1419 to 20.5% in 1428) is probably, in fact, a simple perturbation due to a change in sources (the *catasto* for 1428, the *estimo* for both the preceding and the following date, as discussed in Section 1. Note that from the same *catasto* we also get information about Prato, where in 1428 the Church owned 33.5% of the overall patrimony). Equally impressive is the doubling of its property over 50 years or so, from 12% in 1314-36 to 20.8% in 1375. Again it was probably the Black Death that brought about a change in property structures—one that proved impossible to reverse for a long time, due the prohibition against alienating Church patrimony. And in this case also we have a term of comparison in Herlihy's works. In his study of Pistoia, he described many cases of ecclesiastical or "quasi-ecclesiastical" institutions whose wealth grew enormously after the Black Death, a process that began with the first wave of the disease but continued in the following decades: "In an age of frequent plagues, religious institutions, especially the hospitals, were showered with bequests" (Herlihy 1967, 190). The increase in the amount and frequency of donations to the Church comes in answer to the unstable environment typical of the post-Black Death period (when it became more urgent to secure spiritual protection against disease). Conversely, the declining prevalence of plague from about 1450 may help explain the slowing of the rate of accumulation of ecclesiastical patrimony during that epidemiological "happy island" that was, in Italy, the sixteenth century (Alfani 2013a, 109).

During the seventeenth century, the rate of accumulation seems to speed up again. The tendency is confirmed by another kind of information, one that is more generally available as it is reported by the *decima* records: the taxable patrimony of the Church (and of individual members of the clergy). In fact, although the part of patrimony that was ecclesiastical "*ab antiquo*" or "since ancient times" was not recorded in these sources, originally lay property newly acquired by the Church through donations, bequests, and so on continued to pay tax and consequently does not disappear from the records. Graph 5 reports the trend of the share of taxable ecclesiastical property in the Florentine *Contado* and in Arezzo during the Early Modern period.

Graph 5. Taxable property of religious institutions and clergy in the Florentine *Contado*, 1536-1715 (% of overall taxable property)



Graph 5 clearly shows a sharp increase in the prevalence of taxable ecclesiastical property from the end of the sixteenth century. The tendency is similar to that found in San Gimignano, where from 1549 to 1674 the Church patrimony increased by 7 percentage points of the overall recorded property (from 30.9% to 37.9%). In the Florentine *Contado* the increase is even more impressive: an extra 16.1% of the overall property became ecclesiastical between 1570 and 1715 (amounting to 2.2% of the total in 1570, 8.4% in 1621, and 18.3% in 1715). The largest increase, however, is found in Arezzo, where nearly 21% of the overall property became ecclesiastical between 1558 and 1710 (the peak value reached that year is 22.7%, after which the trend seems to flatten for the rest of the century). A similar phenomenon has also been found in the city of Ivrea in northwestern Italy, where the taxable property of the Church almost doubled from the 1620s to the mid-century years, peaking at about 11% of the total (Alfani 2010a, 537-8). For Ivrea, two explanations have been proposed: the impact of the 1629-30 plague (the worst to affect northern Italy after the Black Death), which triggered a wave of donations, especially to monasteries, and the resurgence of piety and religious fervour throughout Italy caused by the so-called Counter-Reformation.

In 1631, plague spreading from the north affected Tuscany, although more mildly than other parts of Italy (Alfani 2013b, 418-9). Plague might have favoured donations to the Church also in this area, but Graph 5 suggests that the process was well underway from pre-plague years so that a cultural and religious explanation is probably preferred. In fact, it is an entirely acceptable hypothesis that also in Tuscany the new active policies of the Roman Catholic Church, progressively introduced after the end of the Council of Trent (1545-63), created a cultural environment more favourable to donations to religious institutions, contributing to the further expansion of the patrimony of especially the largest ecclesiastical properties, a process that has also been described in general terms by Stumpo (1986). As this process was making rich "institutional" owners even richer, we can easily deduce that excluding them from measurement of levels of economic inequality distorts those measures towards a greater equality, as can also be seen from the data presented in Table 3 for San Gimignano (where among the institutions counted is also the commune, which, however, owned but a small fraction of the overall "institutional" wealth). Interestingly, Table 3 suggests that the distortion towards equality increases through the Early Modern period—so that we can hypothesize that if the Church property could be fully accounted for, the tendency for a long-term inequality rise, clearly visible in Graph 3, would be even steeper. A similar problem arises from the absence in most sources of the property-less, as discussed in the next section.

4. The rich and the poor in Medieval and Early Modern Tuscany

Several studies have shown that the Tuscan society of the late Middle Ages was profoundly unequal. In fourteenth and fifteenth century Florence, a huge mass of poor families was in close contact with a small number of people enjoying immense wealth, and in the secondary cities of the State the concentration of riches was equally strong (Herlihy 1983; Herlihy, Klapisch-Zuber 1985, 97-102; Stella 1993, 185-192). The situation in the Florentine *Contado*, does not seem very different. In the previous sections we highlighted the secular trend of economic inequality, growing throughout the Early Modern period and at the same time widening the gap between the rich and the poor—categories to which we will now dedicate specific attention. Table 4 provides key information about the distribution of wealth in different parts of the Florentine state.

Table 4. Distribution of wealth in the Florentine *Contado*, Arezzo, Prato, and San Gimignano (1300-1750, data clustered around reference years)

	Year	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	Top 5%	Top 1%
Contado of Florence	1350	0,92	2,17	2,98	3,84	5,05	6,79	9,08	12,42	17,96	38,79	25,84	9,12
	1400	1,23	1,58	2,37	3,25	4,42	5,88	8,03	11,11	16,97	45,16	31,63	12,69
	1450	1,39	2,26	3,13	4,08	5,44	7,21	9,29	12,35	17,81	37,05	22,99	6,75
	1500	0,9	1,8	2,71	3,82	5,04	6,63	8,89	12,04	17,45	40,72	27,28	10,61
	1550	1	2,04	2,82	3,87	5,15	6,66	8,85	11,56	17,36	40,68	27,42	10,5
	1600	0,59	1,48	2,26	3,16	4,18	5,43	7,35	10,32	16,47	48,76	34,86	13,67
	1650	0,42	1,15	1,84	2,66	3,66	4,97	6,91	10,17	16,59	51,62	36,49	13,85
	1700	0	0,08	0,73	1,52	2,55	3,91	5,7	8,94	16,06	60,52	44,52	17,46
Arezzo	1400	2.08	3.54	3.89	5.06	5.77	7.13	7.63	10.02	14.09	40.8	30.27	15.55
	1450	1.5	1.57	1.87	2.74	3.66	5.45	7.57	11.06	17.65	46.92	31.9	11.24
	1500	1.51	1.58	1.59	2.21	3.21	4.62	6.83	10.73	18.56	49.16	33.21	13.59
	1550	0.22	0.57	1.1	1.98	3.41	5.49	7.95	11.98	19.6	47.71	31.46	8.94
	1600	0.17	0.49	0.86	1.43	2.3	3.85	6.07	9.9	17.72	57.21	42.44	21.59
	1650	0.18	0.5	0.86	1.34	2.21	3.67	5.99	9.9	18.04	57.3	42.7	20.52
	1700	0	0.02	0.26	0.57	1.14	2.11	3.8	7.13	15.89	69.08	51.57	25.3
	1750	0	0	0,05	0,27	0,6	1,29	2,66	6,01	14,87	74,24	57,11	26,36
	1800	0	0	0	0,22	0,68	1,73	3,61	6,62	14,32	72,82	56,03	20,9
Prato	1300	1.58	1.82	1.98	2.14	2.27	2.49	5.93	6.69	9.39	65.72	55.26	29.18
	1350	2.26	2.39	2.62	2.76	3.06	3.57	6.44	10.22	18.58	48.12	31.99	10.81
	1450	0.61	0.61	0.97	1.81	2.71	3.82	7.03	11.46	17.39	53.59	35.96	13.04
	1500	1.69	1.83	1.9	2	2.09	2.79	9.41	10.65	20.24	47.4	32.25	8.11
	1550	0.77	1.57	2.26	3.25	4.7	6.19	8.42	12.09	18.03	42.71	28.51	10.77
	1600	0	0.24	1.08	1.74	2.54	3.56	4.89	8.09	16.59	61.25	44.38	17.32
	1650	0	0	0.18	0.79	1.46	2.35	3.8	6.62	15.39	69.41	52.78	21.32
	1750	0	0	0	0.29	0.79	1.53	3.2	7	15.16	72.03	54.74	23.32
San Gimignano (with *Contado*, without institutions)	1300	0.74	0.76	1.17	1.51	1.64	2.66	5.3	10.06	20.1	56.05	38.29	16.74
	1350	0.49	0.79	1.31	2.38	2.99	5.29	6.06	12.18	19.24	49.28	36.47	15.44
	1400	0.43	1.08	1.53	3.01	3.3	5.15	7.14	11.82	16.97	49.56	35.23	11.31
	1450	0.66	0.64	0.66	1.7	2.83	5.07	7.63	11.95	18.86	50.01	35.47	13.8
	1500	0.41	1.02	1.43	2.88	3.08	6.48	7.06	13.14	17.76	46.74	34.96	15.85
	1550	0.67	1.54	1.84	3.54	3.92	6.42	7.89	11.82	17.61	44.75	29.76	10.44
	1650	0.31	0.76	1.67	2.08	3.54	6.03	7.55	13.17	16.82	48.08	34.25	14.46

Note: Zero-entries in the books of the *decima* (used for reference years from 1550 onwards) come from accounts only including exempt assets (houses of residence) or whose value is nullified by fees or other charges.

The distribution of wealth by deciles shows the extraordinary concentration of property in the hands of a few people: In San Gimignano, from the Middle Ages to the Modern Times, 10% of the richest taxpayers held on firmly to about 50% of the wealth. In the *Contado* of Florence, about 40% was owned by the richest 10% of the population, a percentage that exceeded 50% in the seventeenth century and reached 60% at the beginning of the eighteenth. Shares are even higher for the top rich of Arezzo and Prato.

A detailed analysis of the wealth possessed by the economic elite enrolled in the fiscal records is even more explicit: The richest 1% living in the *Contado* of Florence owned a percentage of wealth rising from 10.61% to nearly 18% over two centuries (ca. 1500-1700). In the cities, the top rich stood out even more clearly over the rest. In Florence in 1427, the richest 1% of households—no more than 100 families—owned more than one-quarter of the city's wealth (Herlihy and Klapisch-Zuber 1985). In Arezzo around 1700, more than half the real estate was concentrated in the hands of the richest 5% of taxpayers, while the top 1% had one-fifth of the total already by 1650, rising to one-quarter in the eighteenth century. Three centuries earlier, in Prato, the average *libra* amounted to 15 *lire* and 10 *soldi*—but just 7 hearths were sharing 9.36% of the total: Guicciardo di messer Ranieri Rinaldeschi had 510 *lire* of property, Ghino and Buono di Meo Ugolini 617 *lire*, *messer* Chello Guiliccioni 700 *lire*, Alfania widow of *messer* Vita di Giani Pugliesi 700 *lire*, Bonsignore Iacopi Fronti 723 *lire*, Giovanni di *messer* Arrigaccio Rinaldeschi 777 *lire*, while Bonifazio di Marinaro Marinari alone was valued at 883 *lire*. In 1372 the average *libra* amounted to 56 *lire* and 13 *soldi*, but 11 hearths declared to the tax authorities 1000 *lire* (i.e., 0.6% of taxpayers owned more than 10% of the total wealth: Fiumi 1968).

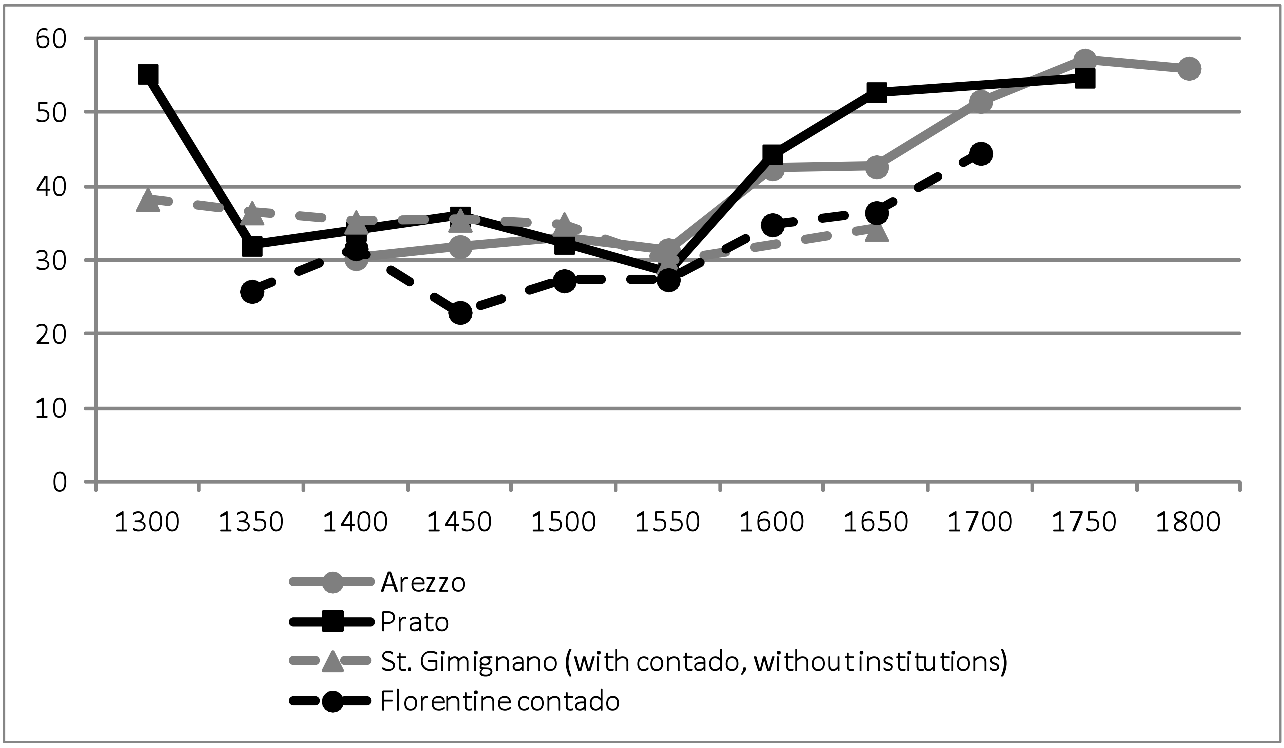
The average values were slightly lower in San Gimignano, considering the overall population of the city and the district, where, however, the richest 5% of taxpayers held more than one-third of the property throughout the period covered by our analysis. In 1419, with an average income valued at 10 *moggia* (about 365 litres[12]) of wheat per taxpayer, Francis Brogio Brogi stood out, claiming more than 142 *moggia*—nearly 4% of the total. The situation does not seem to change over the years: in 1475 (average income 10.5 *moggia*) one single taxpayer, Antonio di Bartolomeo Cortesi, declared 239.8 *moggia*, 6% of the total (Fiumi 1961).

These examples strengthen the image of a highly unequal society, in which a small group of super-rich shared the vast majority of the available resources, surrounded by a legion of poor. The case of Tuscany does not seem to be exceptional: in Piedmont, the 5% top rich owned a share of the total taxable wealth ranging from 30% to 40% in the years between 1400 and 1600, growing to an

[12] Fiumi 1961, 128 n. 13.

average of 50% by the end of the eighteenth century (Alfani 2014, Graph 9). In Tuscany as in Piedmont, the share of the richest 5% grew continuously over time, starting from the Modern Age (Graph 6), and there is a clear correlation between the dynamics observed for the top rich and the trend of the Gini indexes analyzed earlier.

Graph 6. Share of wealth owned by 5% top rich in Tuscany, 1300-1700



If this was the situation of the top rich, what was that of the poor, and more specifically, how large a part of the population can be defined as such? Works on poverty and destitution are not lacking for Medieval and Early Modern Tuscany. They tend to focus, however, on two specific topics: the living standards of some classes of workers (with a special focus on urban labourers in sectors like textile manufacturing or construction) and public or private assistance to the poor[13]. Particular attention was given to Florence, both for the importance of the case and the availability of the sources, but there are also studies on other cities of the State (Raveggi 1991). The countryside enjoyed less attention.

[13] The bibliography is wide for both of these themes. For the first, see De Roover 1968, Rolova 1978, Cohn 1980, Goldthwaite 1980, Pinto 1981, La Roncière 1981, Casini 1983, Stella 1993, and Franceschi 1993; for the second, Falsini 1971, Polverini Fosi 1980, Cajani 1982, Lombardi 1982, 1988, Carmicheal 1986, Spicciani 1981, Pinto 1989, Bresnahan Menning 1993, Henderson 1994, Sandri 1996, and the reference mentioned in Fubini Leuzzi 2005.

Many works considered the problem of indigence as a whole, placing it in the context of the society of the time, even if this was not the sole focus of the research. Interesting remarks on the topic can be found in La Roncière (1993), Stella (1993), Gavitt (1981), Cherubini (1974), and Cohn (1980; 1999). La Roncière, in particular, thoroughly investigated the concept of poverty in fourteenth-century Florence, taking as a starting point how poverty was perceived by the wealthier classes, the public power, the Church, and the poor themselves.

Life in the city had been becoming increasingly complex since the thirteenth century. The emergence, next to a class of merchant-entrepreneurs, of the "new poor", or those who were not able to fit into the new order that the "urban revolution" had shaped, led people to perceive poverty as a key factor of social instability (Moriani 1989). However, the problem was not seen as one to be solved by working on existing social structures: for the man of the fourteenth century, the concept of poverty was not so much sociological as it was evangelical and religious. (La Roncière 1993, 76). The pauper who needed help from others had a function and was tolerated, as long as he accepted his condition with resignation, just as the poor who are mentioned in the Scriptures did (Raveggi 1991, 496). In this sense the poor man was necessary for the salvation of the rich man who through his charity invested in future heavenly rewards. This form of assistance, however, was not aimed at freeing the needy from their condition. In fact, only in certain circumstances was indigency recognized as actual poverty: widowhood, illness, mendicancy, and all the forms of misery accepted in a spirit of submission. Other, very broad, categories, such as wage-earners or artisans who in normal times struggled to maintain a minimum standard of living, on the threshold of subsistence, were more or less consciously rejected by the wealthiest (La Roncière 1993; Raveggi 1991).

This ambiguity in the identification of the "poor" began to fade—both in the minds of the wealthy and of the destitute themselves—at least by the end of the fourteenth century, thanks also to the work of some leading clerics (Herlihy 1967, 249; Gavitt 1981; Henderson 1994) who replaced the term "charity" with "justice" in their sermons. However in the Early Modern Age, the parameters used to classify the different levels of poverty were still not easy to determine, as indigence was often related to social status or conditioned by the public order, and generally viewed with suspicion (Lombardi 1988, 61-63; Pinto and Tognarini 1986, 441).

It is not easy to define a pauper precisely, because the concept of poverty tends to change over time. It is no coincidence that, even in contemporary statistics, a distinction is made between absolute and relative poverty. The former is based on the idea that it is possible to identify a basket of essential goods and services to meet minimum needs: a poor man is one whose purchasing power is less than that required by the basket. According to the concept of relative poverty, the poor are those who do not reach a certain threshold of resources fixed according to the average level of resources owned by the individuals composing the universe of reference (Atkinson 2008). In our sources, the term "*pauper"* applied to one who lacked the essentials to survive, in terms of food, shelter, and clothing (La Roncière 1993). It is apparent that such a definition could also include someone who owned a small piece of unproductive land. By contrast, the material conditions of a family of sharecroppers, not owning real property but settled on good land, could be much better (Pinto, Tognarini 1986; La Roncière 1993; Cherubini 1974, 441).

Fiscal sources can be used to make some estimate of the incidence of indigence, but they must be analyzed with care so as not to ask them more than they can tell us (Cherubini 1974, 435). It is obviously necessary to establish exactly who was exempt from taxation due to inability to pay—whether he was excluded from the tax records altogether or recorded with a zero or blank entry. The Florentine law of the *Gabella fumantium* of 1342 identified as "poor and miserable people" those "who own no land, no house, no property of value greater than 100 *lire* and do not exercise any art or office" (Stella 1993, 188, our translation). Examination of the fourteenth-century *estimi* of the *Contado* of Florence, however, reveals that those who were registered as "*nichil habentes*" [sic] were not really needy. Indeed in some cases the propertyless appear with a *lira d'estimo* higher than that of many actual property owners. In Prato, in the tax records of 1325, several "*nichil habentes*" were estimated *ex officio* from 50 to 100 *lire*, thus showing some ability to pay. The same was true for the Florentine *estimo* of 1327 (a short-lived attempt to re-introduce direct taxation in the city): Whomever had neither land nor houses nor furniture, unless he or she was a beggar, had to be registered as a regular taxpayer with a *lira d'estimo* of between a maximum of 15 *lire* and a minimum of 15 *soldi* for a man and the lower limit of 10 *soldi* for a woman (Fiumi 1957, 338). Despite these considerations, the category of the propertyless can be considered a good proxy to study the diffusion of poverty. If an owner was recorded among the propertyless, this was probably due to the fact that his debts exceeded, or almost, his assets, meaning that his condition was precarious to say the least, and constantly on the verge of destitution (La Roncière 1993, 201).

So, how many people were poor in Tuscany? Definitely a "multitude!" (Geremek 1973, 670), but we will try to be more precise than this and to provide some estimates—with the warning that, given the aforementioned difficulties, they should be taken with the utmost caution. In the *estimi* of the *Contado* of Florence, as said above, the poor with no ability to pay taxes were basically excluded from the records (Conti 1966, 14), but for 1364 and 1383 the share of "*nichil habentes*" are available: 46% and 53% (Lis and Soly 1979, 44). As for the city of Florence, Stella—using other fiscal sources[14]—calculated an average incidence of the miserables on the total population of 36.4% and 28.3% respectively for 1355 and 1378 (Stella 1993, 192)[15]. The *libra* of Prato of 1372 also shows that the people listed with a value equal to zero were 37.6% of the total taxpayers (Fiumi 1968).

The *catasti* of the fifteenth century provide a greater amount of data to work with. In 1427 the law allowed Florentine citizens to deduct 200 florins for each member of the family,[16] a sum that could have reduced even a good fortune to zero (Conti 1984). This rule, however, was not extended to the taxpayers of the *Contado*, who only shared with the citizens the deduction for the house of residence. Luckily, the sources indicate the value of these properties, even if they were not included in the calculation of the total taxable amount. Whomever did not have *sovrabbondante* could be declared miserable (if in the opinion of fiscal officers he was not able to pay any tax), or he could be registered for a sum agreed upon with the tax authorities (Conti 1984, 146). What matters for our purposes is that the documentation related to the *catasto* allows us to identify these situations and to "reconstruct" a patrimony—if any—by eliminating the distortion of the deductions and identifying the taxpayers who really had a *valsente* equal to zero. It is useful to stress again that the taxable value did not mirror all the facets of wealth and income: many urban taxpayers without resources according to the *catasto* lived better with their wages than those who owned meagre property that was not sufficient to give them a living. Similarly, the *mezzadri* of the countryside, who for the most part did not declare any property, often enjoyed other benefits from their condition (Herlihy and Klapisch-Zuber 1985, 104).

In rural Tuscany, as a whole, 21% of households were recorded in the *catasto* without even a florin (net of deductions), while almost two-thirds were taxable under 100 florins. In the central area of the *Contado*, where more than half of the land was involved in sharecropping, the percentage of taxpayers with *valsente* zero was more than 50%—not surprisingly, sharecroppers were 47% of those who had nothing, even before deductions. Around the middle of the fourteenth century, on average 25.3% to 29.6% of the households of the countryside were involved in sharecropping (data for 1427 and for 1469 respectively, the latter being a 10% sample. Herlihy, Klapisch-Zuber 1985, 118-20).

Using the data of our eleven communities of the *Contado* for the years 1450 and 1500, the overall percentage of taxpayers with *valsente* 0 (without considering deductions) is 33.1% and 30.6%,

[14] The books of the so called "*Gabella della Sega*" for the years 1351-1354, integrated with estimates for 1378.
[15] He identifies the percentages of the individual gonfalons of the city, with values ranging from 6.6% to 57.3%.
[16] Estimating a yearly per-capita expenditure of 14 florins for victuals and basic necessities, which capitalized at a 7% rate resulted in a deduction of 200 florins.

respectively. In Prato the propertyless represent 37.6% of household heads listed in the *Lira* of 1372, and 17.9% and 32.2% in the Catasto of 1428 and of 1487 (Table 5). These values are close to those of the city of Florence in 1427, which have been used to produce estimates ranging from 28.8% (De Roover 1970, 42) to 31%. The latter figure, however, is net of deductions allowed to the taxpayer—those who did not have anything at all regardless of the deductions were just 14% (Herlihy and Klapisch-Zuber 1985, 100).

Table 5. Percentage of propertyless in the Florentine *Contado*, Prato, and Arezzo (data clustered around reference years)

Community	Year			
	1350	1450	1500	1550
Florentine *Contado* (overall)		**33.1%**	**30.6%**	
Prato	**37.6%**	**17.9%**	**32.2%**	
Arezzo				**50.1%**

Some data relating to the *Distretto* seem to corroborate these figures. In Pisa in 1428, out of 1,752 entries in the *Catasto* books, 288 were considered to be miserable and 203 did not have taxable income, for a total of 28% of all taxpayers (Casini 1965, 120). In the community of Castiglion Fiorentino, the share of miserable citizens in the third decade of the fifteenth century was 10.9%, while among the inhabitants of the countryside it did not exceed 6.9%. However, if we consider taxpayers with taxable income between 1 and 50 florins (a very weak category under constant threat of poverty), the percentages are 30.5% in the city and 45.9% in the countryside (Taddei 2009, 344). Even in the community of Lari, in the Pisan countryside, in 1428 the miserable amounted to 15.1%, but as many as 62.8% had an average *valsente* of less than 25 florins (Tremolanti 1995, 145); similar figures are found for Pescia (10% without anything to declare, while 30% owned an average of 43 florins. Brown 1982, 110). The *Catasto* of the community of Piuvica, in the countryside of Pistoia, listed in 1427 30% of taxpayers with no taxable wealth (Herlihy 1967, 186).

Estimates of indigence based on tax records for the Early Modern period are more complicated, partly because of changes in the taxation systems. In the books of the *decima*, as noted before, some entries show a value of zero, but they are accounts opened to exempt assets (houses of residence) or whose value was nullified by fees or other charges. For Arezzo, the combined data of the *Catasto* of 1558 and of the census of 1548 can be used: entries that appear in the latter but that do not match with the former can be considered taxpayers not owning real estate, or at most just their house of residence. Their incidence was 50.14% of the total, a figure not dissimilar to that observed, for example, for Perugia in 1493 (53%) (Franceschi 2004, 141).

This short survey has shown how difficult it is to estimate the proportion of the poor in the total population in an area as varied as Tuscany. The capital city of Florence, the communities of the *Contado* with their different organization of land, the cities of the *Distretto*: each of these components enjoyed special characteristics. Values, however, rarely deviate too far from percentages between 30% and (more rarely) 50%. To conclude our survey with some data for the eighteenth century, a study on poverty in the countryside of Prato provides measures obtained from the lists of people assisted by the charitable institution Casa Pia dei Ceppi. The number of individuals that on average enjoyed the aid of the Ceppi from 1764 to 1776 was 31.6% of the total rural population (surveyed in 1784). In the sub-period from 1775 to 1776, when the incidence of assisted individuals was 28.2%, it has been estimated that they belonged to more than 60% of the households of the countryside (Pinto and Tognarini 1986).

The exclusion from our database of the propertyless allows us to make the data of the various series standard and comparable with each other and with information available for other areas, but inevitably causes a distortion in the direction of equality, the amount of which can be calculated, at least for some dates (see Table 6). The decrease in the Gini values is around 20%, except in the case of Prato in 1450 where the incidence of the propertyless was much lower, 7.7%—very close to the 8% that Van Zanden (1985, 645) calculated using data from the Florentine *catasto* of 1457 provided by De Roover (1970, 42). A decrease of 11.7% has been measured instead by excluding the miserable from the calculation of the Gini index in Ivrea, in northwestern Italy, in 1613. In Padua the decrease is only 0.76% for 1575, rising to 2.3% in 1627 (Alfani and Caracausi 2009, 199, 203). Unfortunately, the information available about the prevalence of the propertyless is at present too scattered in time to allow for a systematic correction of the Gini series. However, surely better accounting for the impact of poverty on economic inequality (across Europe) is something towards which future research should be directed.

Table 6. Variation in the Gini index including and excluding the propertyless

Year	Contado of Florence			Prato			Arezzo		
	Gini index	Gini index without propertyless	*% var.*	Gini index	Gini index without propertyless	*% var.*	Gini index	Gini index without propertyless	*% var.*
1350				0.745	0.591	*-20.67*			
1450	0.662	0.504	*-23.86*	0.74	0.683	*-7.70*			
1500	0.682	0.546	*-19.94*	0.747	0.624	*-16.46*			
1550							0.837	0.651	*-22.22*

Conclusion

This paper has presented a broad picture of economic inequality in the Florentine State (Tuscany) from about 1300 to about 1800. This is significant *per se*, but the exceptional characteristics of the Tuscan sources allowed us to explore in detail other relevant issues related to inequality and specifically the impact of the Black Death on property structures, the growth in the patrimony of the Church, and the prevalence of poverty across time. Each of these issues would be well worthy of specific studies, but here the broad scale of the analysis and the interaction between different aspects was privileged.

Tuscany is, in fact, only the third region of Europe to have been the object of a comprehensive attempt to study inequality in the long run. Many of our findings are consistent with those of the earlier two studies, namely Alfani's work on Piedmont and Van Zanden's on Holland (Alfani 2014; Van Zanden 1995). In all three regions, a continuous increase in inequality has been found from at least the sixteenth century onwards. The interpretation of the process, however, varies: Van Zanden connected it to preindustrial economic growth, while Alfani suggested that this explanation was not sufficient for Piedmont, whose economy stagnated during the seventeenth century when inequality continued to grow. In Piedmont, other factors, including institutional (the development of a more 'extractive' fiscal state) and demographic ones, allowed for rises in inequality even in the absence of significant economic growth. The case of Tuscany clearly supports the hypothesis that in Early Modern Europe, inequality was growing everywhere, including areas that were economically stagnating and declining, as was first hypothesized by Alfani (2010a; 2014). Indeed, the literature on the Florentine State agrees in describing the Early Modern period—since at least the first decades of the seventeenth century—as one of decline, following a glorious 'early' Renaissance when Florence was one of the main economic centres of Europe and even of the whole world (Carmona 1976; Malanima 1982; 1993; Goldthwaite 2009; Ammannati 2009). This is, however, an aspect on which further research is needed.

Although overall characterized by economic growth, the Middle Ages were not a period of continuous increase in economic inequality. The Black Death, in fact, seems to have triggered a phase of declining inequality that lasted about a century. Very similar dynamics were found in the only other study—that of Piedmont (Alfani 2014)—that allows for a comparison. Interestingly, until now the only earlier attempt to uncover the impact of the Black Death on property structures and general economic inequality levels suggested exactly the contrary—which is even more disconcerting, considering that the data it used were from Tuscany (Herlihy 1967; 1968). In light of this we checked carefully our early findings and partly replicated Herlihy's work, finally providing substantial evidence that he misinterpreted the data. Therefore, on the grounds of all the evidence currently available (although still limited), we can argue that among the consequences of the Black Death in Europe, a significant decline in economic inequality must also be counted.

Our Tuscan sources are even more exceptional in that they allow us to study the long-term growth of the patrimony of the Church. As Phil Hoffman rightly pointed out, we do not truly know how wealthy the Roman Catholic Church was in preindustrial times (Hoffman 2006). This paper helps to clarify this aspect, for two reasons: First, because it describes, at least for selected areas, the long-term dynamics (from the fourteenth century for San Gimignano, and from the sixteenth for the Florentine *Contado* and for Arezzo), and second because, in the case of San Gimignano, both the taxable and the non-taxable part of the Church patrimony are included in the analysis. This rare information confirms the general idea that the Church patrimony was increasing over time (and it could not have been otherwise, given that rules were in place forbidding its free alienation) as well as other less-obvious aspects, like the growth of its *taxable* component during the Early Modern period, in the cultural context of the so-called Counter Reformation, a process hitherto described by very few case studies (in particular, Alfani 2010a for Ivrea) that was at the root of many local problems and conflicts, contributing to the spread of anti-clerical sentiments that were not without consequences in subsequent developments.

Finally, we have dedicated specific attention to the issue of poverty. This is a topic that has been the object of much research in past decades, including in the Tuscan area. However, these studies have been mostly social-historical, sociological, or cultural in nature, and few attempts have been made to quantify the phenomenon of poverty. We have provided much new information about the prevalence of the poor in the late Medieval and Early Modern period, placing it into the broader context of the economic and social meaning of "poverty", as well as taking into account cultural aspects and in particular how the poor were perceived and defined. Moreover, a brief discussion has been provided of the impact of the absence of the propertyless from attempts at measuring inequality in preindustrial societies (in terms of distortions towards equality of indexes like the Gini). Future research will extend this analysis to the broader Italian and European area—but presumably, for few other regions, if any, such detailed quantitative information as we provide here for Tuscany will prove available.

Finally, we believe that this paper confirms the importance of collecting more original archival data in a field in which the amount of reliable information readily available to researchers is still extremely limited. Given our scant knowledge of inequality trends in preindustrial societies, any new contribution significantly improves our understanding and produces non-obvious results with the potential for triggering new and innovative research avenues—also considering that the debates originated by Piketty's recent book suggest that *even* for the nineteenth and twentieth centuries, periods for which research on economic inequality has been carried out for a number of decades, an investment in collecting original data can produce exceptionally bountiful results. Of course, much is still to be done, including on Tuscany, but we hope to have provided a general picture useful to put future in-depth studies of specific inequality-related topics into the right perspective.

Bibliography

ALFANI, G. (2009), 'Prima della curva di Kuznets: stabilità e mutamento nella concentrazione di ricchezza e proprietà in età moderna', in G. Alfani and M. Barbot (eds), *Ricchezza, valore, proprietà in Età Preindustriale. 1400–1850* (Venice: Marsilio), 143-68.

ALFANI, G. (2010a), 'Wealth Inequalities and Population Dynamics in Northern Italy during the Early Modern Period', *Journal of Interdisciplinary History*, XL (4), 513-549.

ALFANI, G. (2010b), The effects of plague on the distribution of property: Ivrea, Northern Italy 1630', *Population Studies*, 64 (1), 61-75.

ALFANI, G. (2013a), *Calamities and the Economy in Renaissance Italy. The Grand Tour of the Horsemen of the Apocalypse* (Basingstoke: Palgrave).

ALFANI, G. (2013b), 'Plague in seventeenth century Europe and the decline of Italy: an epidemiological hypothesis', *European Review of Economic History*, 17, 408-430.

ALFANI, G. (2014), *Economic inequality in northwestern Italy: A long-term view (fourteenth to eighteenth centuries)*, Dondena Working Paper, n. 61, March 2014.

ALFANI, G. and BARBOT, M. (eds.) (2009), *Ricchezza, valore, proprietà in Età preindustriale. 1400-1850* (Venice: Marsilio).

ALFANI, G. and CARACAUSI, A. (2009), 'Struttura della proprietà e concentrazione della ricchezza in ambiente urbano: Ivrea e Padova, secoli XV-XVII', in G. Alfani, M. Barbot (eds.), *Ricchezza, valore, proprietà in Età preindustriale. 1400-1850* (Venice: Marsilio), 185-209.

ALFANI, G. and FRIGENI, R. (2013), *Inequality (un)perceived: The emergence of a discourse on economic inequality from the Middle Ages to the Age of Revolutions*, Dondena Working Paper n. 58.

ALFANI, G. and DI TULLIO, M. (2014a), *Economic inequality, population and environment in Early Modern Italy: the case of the Republic of Venice, 16th-18th centuries*, Dondena Working Paper, forthcoming.

ALFANI, G. and DI TULLIO, M. (2014b), *Dinamiche di lungo periodo della disuguaglianza in Italia settentrionale: prime comparazioni*, paper given at conference "Innovare nella Storia Economica: temi, metodi, fonti", Rome, Università di Roma Tre, 10-11 October 2014

ALVAREDO, F., ATKINSON, A.B., PICKETTY, T. and SAEZ, E. (2013), 'The Top 1 Percent in International and Historical Perspective', *Journal of Economic Perspectives*, 27(3), 3-20.

AMMANNATI, F. (2009), 'Florentine Woollen Manufacture in the Sixteenth Century: Crisis and New Entrepreneurial Strategies', *Business and Economic History On-Line, 7,* 1-9.

AMMANNATI, F. (2012), 'Il costo della libertà nei conti di alcuni personaggi', *Prato Storia e Arte*, 112, 39-51.

ATKINSON, A.B. (2008), 'Poverty', in S.N. Durlauf and L.E. Blume (eds.), *The New Palgrave Dictionary of Economics* (Basingstoke: Palgrave Macmillan).

ATKINSON, A.B., PICKETTY, T. and SAEZ, E. (2011), 'Top Incomes in the Long Run of History', *Journal of Economic Literature*, 49 (1), 3-71.

BARBADORO, B. (1929), *Le finanze della Repubblica Fiorentina. Imposta diretta e debito pubblico fino all'istituzione del Monte* (Florence: Leo S. Olschki).

BENIGNI, P. (1980), 'Oligarchia cittadina e pressione fiscale : il caso di Arezzo nei secoli XVI e XVII', in *La Fiscalité et ses implications sociales in Italie et en France aux XVII et XVIII siècles, Atti Del Convegno, Firenze, 5-6 Dicembre 1978* (Rome: Ecole Française de Rome), 51-73.

BENIGNI, P. (1983), 'Fonti per lo studio dell'imposizione diretta in Arezzo tra il XIV e il XV secolo: problemi di ordinamento e di utilizzazione', in *Studi in onore di Leopoldo Sandri* (Rome: Ministero per i beni culturali e ambientali), I, 107-122.

BENIGNI, P., CARBONE, L. and SAVIOTTI, C. (eds.) (1985), *Fonti per la storia del sistema fiscale urbano* (Rome: Ministero per i beni culturali e ambientali. Ufficio centrale per i beni archivistici).

BRESNAHAN MENNING, C. (1993), *Charity and State in Late Renaissance Italy. The Monte di Pietà of Florence* (Ithaca-London: Cornell University Press).

BROWN, J.C. (1982), *In the Shadow of Florence. Provincial Society in Renaissance Pescia* (Oxford-New York: Oxford University Press).

CAJANI, L. (1982), 'L'assistenza ai poveri nella Toscana settecentesca', in Politi, G., Rosa, M., Della Peruta, F. (eds.), *Timore e carità. I Poveri nell'Italia Moderna* (Cremona: Libreria del Convegno), 185-210.

CANBAKAL, J. (2012), *Wealth and Inequality in Ottoman Bursa, 1500-1840*, paper given at the Economic History Society Annual Conference (York, U.K., 5-7 April).

CARBONE, L. and SAVIOTTI, C. (eds.) (1995), *Con il computer alla scoperta del passato. Proprietari, mercanti, artigiani ed indigenti in Arezzo alla metà del '500* (Arezzo: Ministero per i beni culturali e ambientali. Archivio di Stato di Arezzo. Provincia di Arezzo).

CARMICHAEL, A.G. (1986), *Plague and the Poor in Renaissance Florence*, (Cambridge-New York-Melbourne: Cambridge University Press).

CARMONA, M. (1976), 'La Toscane face à la crise de l'industrie lanière: techniques et mentalités economiques aux XVI et XVII siècles', in M. Spallanzani (ed.), *Produzione commercio e consumo dei panni di lana, nei secoli 12-18 - Atti della seconda Settimana di studio, 10-16 aprile 1970* (Florence: Leo S. Olschki), 151-168.

CARTER, T., AND GOLDTHWAITE, R. A. (2013), *Orpheus in the Marketplace. Jacopo Peri and the Economy of Late Renaissance Florence* (Cambridge, Mass.-London: Harvard University Press).

CASINI, B. (1965), *Aspetti della vita economica e sociale di Pisa dal catasto del 1428- 1429* (Pisa: S.E.I.T.).

CASINI, B. (1983), 'Note sul potere di acquisto dei salari a Pisa nei primi anni della Signoria gambacortiana', in: *Studi in Onore di Leopoldo Sandri* (Rome: Ministero per i beni culturali e ambientali), I, 227-260.

CASINI, B. (1984), *Il catasto di Livorno del 1427-29* (Pisa: Pacini).

CHERUBINI, G. (1974), *Signori, contadini, borghesi. Ricerche sulla società italiana del Basso Medioevo* (Florence: La Nuova Italia).

CHERUBINI, G. (1991), *Scritti toscani. L'urbanesimo medievale e la mezzadria* (Florence: Salimbeni).

COHN, J.K. Jr. (1980), *The Laboring Classes in Renaissance Florence* (New York: Academic Press).

COHN, S.K. Jr. (1996), 'Inventing Braudel's Mountains: The Florentine Alps after the Black Death', in: Cohn, S.K.J., Epstein, S.A. (eds.), *Portraits of Medieval and Renaissance Living. Essays in Honor of David Herlihy* (Ann Arbor, MI: The University of Michigan Press) 383-416.

COHN, S.K. Jr. (1999), *Creating the Florentine State. Peasants and Rebellion, 1348-1434* (New York, Cambridge University Press).

COHN, S.K. (2007), 'After the Black Death: labour legislation and attitudes towards labour in late-medieval western Europe', *Economic History Review*, 3, 486-512.

CONTI, E. (1965), *La formazione della struttura agraria moderna nel Contado fiorentino. III. Parte 2a. Monografie e tavole statistiche (secoli X-XIX)* (Rome: Istituto Storico Italiano per il Medio Evo).

CONTI, E. (1966), *I catasti agrari della Repubblica fiorentina e il catasto particellare toscano (secoli XIV-XIX)* (Rome: Istituto Storico Italiano per il Medio Evo).

CURTIS, D.R. (2012). 'Florence and its hinterlands in the late Middle Ages: contrasting fortunes in the Tuscan countryside, 1300-1500', *Journal of medieval history*, 38(4), 472-499.

DE ROOVER, R. (1968), 'Labour Conditions in Florence Around 1400: Theory, Policy and Reality', in N. Rubinstein (ed.), *Florentine Studies. Politics and Society in Renaissance Forence* (London: Faber & Faber), 277-313.

DE ROOVER, R. (1970), *Il banco Medici dalle origini al declino (1397-1494)* (Florence: La Nuova Italia).

FALSINI, A.B. (1971), 'Firenze dopo il 1348. Le conseguenze della peste nera', *Archivio Storico Italiano*, CXXIX (3), 425-503.

FASANO GUARINI, E. (1973), *Lo stato mediceo di Cosimo I* (Florence: Sansoni).

FIUMI, E. (1957), ‘L’imposta diretta nei comuni medioevali della Toscana, in *Studi in Onore di Armando Sapori* (Milan-Varese: Istituto Editoriale Cisalpino), 327-353.

FIUMI, E. (1961), *Storia economica e sociale di S. Gimignano* (Florence: Leo S. Olschki).

FIUMI, E. (1968), *Demografia, movimento urbanistico e classi sociali in Prato dall’età comunale ai tempi moderni* (Florence: Leo S. Olschki).

FRANCESCHI, F. (1993), *Oltre il tumulto. Lavoratori fiorentini dell’Arte della Lana fra Tre e Quattrocento* (Florence: Leo S. Olschki).

FRANCESCHI, F. (2004), ‘The Economy: Work and Wealth”, in J.N. Najemy (ed.), *Italy in the Age of the Renaissance* (Oxford: Oxford University Press), 124-144.

FUBINI LEUZZI, M. (2005), ‘Le istituzioni assistenziali in Toscana in età moderna. Una rassegna storiografica attraverso gli ultimi decenni’, in A. Contini, M. Ascheri (eds.), *La Toscana in Età Moderna (secoli XVI-XVIII). Politica, istituzioni, società: studi recenti e Prospettive di Ricerca. Atti del Convegno (Arezzo, 12-13 Ottobre 2000)* (Florence: Leo S. Olschki), 229-259.

GARCIA MONTERO, H. (2014) *Long-Term Trends in Wealth Inequality in Catalonia 1400-1800*, Dondena Working Paper, forthcoming.

GAVITT, P. (1981), ‘Economy, Charity, and Community in Florence, 1350-1450’, T. Riis (ed.), *Aspects of Poverty in Early Modern Europe* (Florence: Le Monnier), 79-118.

GEREMEK, B. (1973), ‘Il pauperismo nell’età preindustriale (secoli XIV-XVIII), in *Storia d’Italia, 5. I documenti* (Turin: Einaudi), I, 667-698.

GIORGETTI, G. (1974), *Contadini e proprietari nell’Italia moderna* (Turin: Einaudi).

GOLDTHWAITE, R.A. (1980), *The Building of Renaissance Florence. An Economic and Social History* (Baltimore: Johns Hopkins University Press).

GOLDTHWAITE, R.A. (2009), *The Economy of Renaissance Florence* (Baltimore: Johns Hopkins University Press).

HENDERSON, J. (1994), *Piety and Charity in Late Medieval Florence* (Oxford: Clarendon Press).

HERLIHY, D. (1967), *Medieval and Renaissance Pistoia* (New Haven/London: Yale University Press).

HERLIHY, D. (1968), ‘Santa Maria Impruneta: a Rural Commune in the Late Middle Ages”, in N. Rubinstein (ed.), *Florentine Studies. Politics and Society in Renaissance Forence* (London: Faber & Faber), 242-276.

HERLIHY, D. (1977), ‘Family and property in Renaissance Florence’, in H.A. Miskimin, D.Herlihy, A.L. Udovitch (eds.), *The medieval City* (New Haven: Yale University Press), 3-24.

HERLIHY, D. (1978), ‘The distribution of wealth in a Renaissance Community: Florence 1427’, in P.Abrams, E.A. Wrigley (eds.), *Towns in Societies. Essays in Economic History and Historical*

Sociology (Bristol: Cambridge University Press), 131-157.

HERLIHY, D. and KLAPISCH-ZUBER, C. (1985), *Tuscans and their families*, (New Haven: Yale University Press)

HOFFMAN, P. (2006), 'The Church in Economy and Society', in S.J. Brown, T. Tackett, *The Cambridge History of Christianity* (Cambridge: Cambridge University Press 2006), VII, 72-88.

JONES, P.J. (1968), 'From Manor to Mezzadria: a Tuscan Case-Study in the Medieval Origins of Modern Agrarian Society', in N. Rubinstein (ed.), *Florentine Studies. Politics and Society in Renaissance Forence* (London: Faber & Faber), 193-241.

LA RONCIÈRE, C.-M. DE (1981), 'La condition des salariés à Florence au XIVe siècle', in *Il Tumulto Dei Ciompi. Un Momento di storia fiorentina ed europea* (Florence: Leo S. Olschki - Istituto Nazionale di Studi sul Rinascimento), 13-40.

LA RONCIÈRE, C.-M. DE (1982), *Prix et salaires à Florence au XIVe siècle (1280-1380)* (Rome: École Française de Rome).

LA RONCIÈRE, C.-M. DE (1993), 'Poveri e povertà a Firenze nel XIV secolo', in ID., *Tra preghiera e rivolta. Le folle toscane nel XIV secolo* (Rome: Jouvence), 197-281.

LA RONCIÈRE, C.-M. DE (2010), 'Dalla città allo stato regionale: la costituzione del territorio (XIV-XV secolo)', in J. Boutier, S. Landi, O. Rouchon (eds.), *Firenze e la Toscana. Genesi e trasformazioni di uno stato (XIV-XIX secolo)* (Florence: Mandragora), 11-30.

LEVEROTTI, F. (1981), 'Gli estimi lucchesi del 1411-13. Una fonte per lo studio dell'amministrazione del paesaggio agrario e della demografia', in *Scritti in memoria di Giorgio Buratti*) (Pisa: Pacini),199-222.

LEVEROTTI, F. (1992), *Popolazione, famiglie, insediamento. Le Sei Miglia lucchesi nel XIV e XV secolo* (pisa: Pacini).

LIS, C., and SOLY, H. (1979), *Poverty and capitalism in pre-industrial Europe* (Brighton, Sussex: Harvester Press).

LOMBARDI, D. (1982), 'Poveri a Firenze. Programmi e realizzazioni della politica assistenziale dei Medici tra Cinque e Seicento', in G. Politi, M. Rosa, F. Della Peruta (eds.), *Timore e Carità. I Poveri nell'Italia Moderna* (Cremona: Libreria del Convegno), 165-184.

LOMBARDI, D. (1988), *Povertà maschile, povertà femminile. L'Ospedale dei mendicanti nella Firenze dei Medici* (Bologna: Il Mulino).

MALANIMA, P. (1982), *La decadenza di un'economia cittadina. L'industria di Firenze nei secoli XVI-XVIII* (Bologna: Il Mulino).

MALANIMA, P. (1993), 'L'economia toscana nell'età di Cosimo III', in F. Angiolini, V. Becagli, M. Verga (eds.), *La Toscana nell'età di Cosimo III, Atti del convegno, Pisa – San Domenico Fiesole 4-5 giugno 1990* (Florence: Edifir), 3-17.

MILANOVIC, B., LINDERT, PH and WILLIAMSON, JG (2011), 'Pre-Industrial Inequality', *The Economic Journal*, 121, 255-272.

MORIANI, A. (1989), 'Assistenza e beneficenza ad Arezzo nel XIV secolo: la Fraternita di Santa Maria della Misericordia', in G. Pinto (ed.), *La società del bisogno. Povertà e assistenza nella Toscana medievale* (Florence: Salimbeni), 19-35.

NICOLINI, E.A. and RAMOS PALENCIA, F. (2013), *Comparing Income and Wealth Inequality in Pre-Industrial economies. Lessons from Spain in the 18th century*, paper given at the 10th Swedish Economic History Meeting (Lund, Sweden, 4-5 October)

PADGETT, J. (2010), 'Open Elite? Social Mobility, Marriage, and Family in Florence, 1282–1494', *Renaissance Quarterly*, 63, 357–411.

PAGNINI DEL VENTURA, G.F. (1766), *Della decima e di varie altre gravezze imposte dal Comune di Firenze* (Lisbon-Lucca). Reprinted in 1967 (Bologna: Forni).

PAMPALONI, G. (1980), 'Prato nella Repubblica fiorentina, secolo XIV-XVI', in *Storia di Prato* (Prato: Cassa di Risparmi e Depositi), I, 1-218.

PAMUK, S. (2007), 'The Black Death and the origins of the 'Great Divergence' across Europe, 1300-1600', *European Review of Economic History*, 11 (3), 289-317.

PIKETTY, T. (2014), *Capital in the Twenty-First Century* (Cambridge: Harvard University Press).

PINTO, G. (1981), 'I livelli di vita dei salariati cittadini nel periodo successivo al Tumulto dei ciompi', in *Il Tumulto Dei Ciompi. Un Momento di storia fiorentina ed europea* (Florence: Leo S. Olschki - Istituto Nazionale di Studi sul Rinascimento), 161-198.
PINTO, G. (1982), *La Toscana nel Tardo Medioevo* (Florence: Sansoni).

PINTO, G. (1993), *Toscana medievale. Paesaggi e realtà sociali* (Florence: Le Lettere).

PINTO, G. (ed.) (1989) *La società del bisogno. Povertà e assistenza nella Toscana medievale* (Florence: Salimbeni).

PINTO, G. and TOGNARINI, I. (1991), 'Povertà e assistenza', in E. Fasano Guarini (ed.), *Prato storia di una città. Un microcosmo in movimento* (Prato-Florence: Comune di Prato-Le Monnier), II, 429-500.

POLVERINI FOSI, I. (1980), 'Lo stato e i poveri: l'esempio senese fra seicento e settecento', *Ricerche Storiche*, X, 93-115.

PRADOS DE LA ESCOSURA, L. (2007), 'Inequality and Poverty in Latin America: A Long-Run Exploration', in T.J. Hatton, K.H. O'Rourke, and A.M. Taylor (eds.), *The New Comparative Economic History* (Cambridge, Ma: M.I.T. Press), 291-315.

PRADOS DE LA ESCOSURA, L. (2008), 'Inequality, poverty and the Kuznets curve in Spain, 1850-2000', *European review of Economic History*, 12, 287-324.

PROCACCI, U. (1996) *Studio sul Catasto fiorentino* (Florence: Leo S. Olschki).

RAVEGGI, S. (1991), 'Le condizioni di vita', in G. Cherubini (ed.), *Prato storia di una città. Ascesa e declino del centro medievale (dal Mille al 1494)* (Prato-Florence: Comune di Prato-Le Monnier), I-1, 479-528.

REIS, J. and MARTINS, C.A. (2012), *Inequality in Early Modern Europe: The "Strange" Case of Portugal, 1550-1770*, paper given at the conference *Wellbeing and Inequality in the Long Run* (Madrid).

ROLOVA, A.D. (1978), 'Alcune osservazioni sul problema del livello di vita dei lavoratori di Firenze (seconda metà del Cinquecento)', in *Studi in Memoria di Federigo Melis* (Naples: Giannini), IV, 129-146.

RYCKBOSCH, W. (2012), *A Consumer Revolution under Strain. Consumption, Wealth and Status in Eighteenth-Century Aalst (Southern Netherlands)*, unpublished PhD dissertation, University of Antwerp & Ghent University.

RYCKBOSCH, W. (2014), *Economic inequality and growth before the industrial revolution: a case study of the Low Countries (14th-19th Centuries)*, Dondena Working Paper n. 67.

SANDRI, L. (1996), 'La gestione dell'assistenza a Firenze nel XV secolo', in *La Toscana al tempo di Lorenzo il Magnifico. Politica Economia Cultura Arte. Convegno di studi promosso dalle Università di Firenze, Pisa e Siena. 5-8 Novembre 1992* (Pisa: Pacini editore), III, 1363-1380.

SANTIAGO-CABALLERO, C. (2011) 'Income inequality in central Spain, 1690–1800', *Explorations in Economic History*, 48 (1), 83-96.

SANTIAGO-CABALLERO, C. and FERNÁNDEZ, E. (2013), *Income inequality in Madrid, 1500-1850*, paper given at the Economic History Society Annual Conference (York, U.K., 5-7 April).

SOLTOW, L., VAN ZANDEN, J.L. (1998), *Income and wealth inequality in the Netherlands, 16th-20th centuries* (Amsterdam: Het Spinhuis).

SPICCIANI, A. (1981), 'The "Poveri Vergognosi" in Fifteenth-Century Florence. The first 30 years' activity of the Buonomini di S. Martino', in T. Riis (ed.), *Aspects of Poverty in Early Modern Europe* (Florence: Le Monnier), 119-182.

STELLA, A. (1993), *La révolte des Ciompi. Les hommes, les lieux, le travail, Recherches d'histoire et de sciences sociales* (Paris: Éditions de l'École des hautes études en Sciences Sociales).

STUMPO, E. (1986), 'Il consolidamento della grande proprietà ecclesiastica nell'età della Controriforma', in G. Chittolini, G. Miccoli (eds.), *La Chiesa e il potere politico. Storia d'Italia, Annali, 9* (Turin: Einaudi), 263-289.

TADDEI, G. (2009), *Castiglion Fiorentino fra XIII e XV secolo. Politica, economia e società di un centro minore toscano* (Florence: Leo S. Olschki).

TREMOLANTI, E. (1995), I *catasti dei contadini del sec. XV. Aspetti storici, socio-economici e demografici di ciascuna comunità costituente l'attuale municipalità larigiana* (Pisa: Pacini editore).

VAN ZANDEN, J.L. (1995), ‘Tracing the Beginning of the Kuznets Curve: Western Europe during the Early Modern Period’, *Economic History Review*, 48 (4), 643-664.

WILLIAMSON, J. (2009), *History without Evidence: Latin American Inequality since 1491*, NBER Working Paper n. 14766.

ZORZI, A. (1994), ‘L’organizzazione del territorio in area fiorentina Tra XIII e XIV Secolo”, in *L’organizzazione del territorio in Italia e Germania: secoli XIII-XIV* (Bologna: Il Mulino), 279-349.

Archival sources

Arezzo State Archives

Libri della lira di città:

- 2 (1390, Arezzo)
- 10 (1443, Arezzo)
- 17 (1501, Arezzo)
- 33 (1602, Arezzo)
- 43 (1650, Arezzo)
- 52 (1710, Arezzo)
- 55 (1751, Arezzo)
- 60 (1792, Arezzo)

Siena State Archives

Comune di Poggibonsi, 172 (1338, Poggibonsi)

Florence State Archives

Notarile antecosimiano:

- 448 (1319, Antella)
- 2354 (1307, Santa Maria Impruneta)
- 2359 (1330, Santa Maria Impruneta)
- 7415 (1319, Santa Maria Impruneta)

Estimo:

- 258 (1402, Castelfiorentino, Gambassi, Monterappoli, Poggibonsi, San Martino alla Palma, Santa Maria Impruneta)
- 259 (1414, Santa Maria Impruneta)
- 264 (1357, Gambassi, Monterappoli, Poggibonsi, San Martino alla Palma)
- 266 (1373, Santa Maria Impruneta)
- 267 (1365, Castelfiorentino, Poggibonsi, Santa Maria Impruneta)
- 269 (1384, Poggibonsi, Santa Maria Impruneta)
- 270 (1394, Poggibonsi, Santa Maria Impruneta)
- 272 (1357, Antella, Castel San Giovanni)
- 277 (1394, Antella)
- 278 (1402, Castel San Giovanni)
- 282 (1357, Cerreto Guidi)
- 287 (1402, Cerreto Guidi)
- 294 (1357, Borgo San Lorenzo, San Godenzo)
- 299 (1402, Borgo San Lorenzo, San Godenzo)

Catasto:

- 307 (1427, Santa Maria Impruneta)
- 842 (1458, Gambassi)
- 846 (1458, Santa Maria Impruneta)
- 847 (1458, San Martino alla Palma)
- 852 (1458, Castelfiorentino, Monterappoli)
- 856 (1458, Poggibonsi)
- 859 (1458, Antella)
- 871 (1458, Cerreto Guidi)
- 883 (1458, Borgo San Lorenzo)
- 886 (1458, San Godenzo)
- 947 (1469, Castel San Giovanni)

Decima repubblicana:

- 272 (1504, Castelfiorentino)
- 274 (1504, Gambassi)
- 277 (1504, Poggibonsi)
- 281 (1504, Santa Maria Impruneta)
- 283 (1504, San Martino alla Palma)
- 289 (1504, Monterappoli)
- 299 (1504, Castel San Giovanni)
- 307 (1504, Antella)
- 325 (1504, Cerreto Guidi)
- 373 (1504, Borgo San Lorenzo)
- 377 (1504, San Godenzo)

Decima granducale:

- 5165 (1536, Santa Maria Impruneta)
- 5166 (1570, Santa Maria Impruneta)
- 5167 (1621, Santa Maria Impruneta)
- 5168 (1715, Santa Maria Impruneta)
- 5169 (1536, San Martino alla Palma)
- 5170 (1570, San Martino alla Palma)
- 5171 (1621, San Martino alla Palma)
- 5172 (1715, San Martino alla Palma)
- 5181 (1536, Castelfiorentino, Monterappoli)
- 5182 (1570, Castelfiorentino, Monterappoli)
- 5183 (1621, Castelfiorentino, Monterappoli)
- 5184 (1715, Castelfiorentino, Monterappoli)
- 5185 (1536, Gambassi)
- 5186 (1570, Gambassi)
- 5187 (1621, Gambassi)
- 5188 (1715, Gambassi)
- 5194 (1570, Poggibonsi)
- 5195 (1622, Poggibonsi)
- 5196 (1715, Poggibonsi)
- 5197 (1536, Antella)
- 5198 (1570, Antella)
- 5199 (1621, Antella)
- 5200 (1715, Antella)
- 5209 (1536, Castel San Giovanni)
- 5210 (1570, Castel San Giovanni)
- 5211 (1621, Castel San Giovanni)
- 5212 (1715, Castel San Giovanni)
- 5253 (1536, Cerreto Guidi)
- 5254 (1570, Cerreto Guidi)
- 5255 (1621, Cerreto Guidi)
- 5256 (1715, Cerreto Guidi)
- 5289 (1536, Borgo San Lorenzo)
- 5290 (1570, Borgo San Lorenzo)
- 5291 (1621, Borgo San Lorenzo)
- 5292 (1715, Borgo San Lorenzo)
- 5309 (1536, San Godenzo)
- 5310 (1570, San Godenzo)
- 5311 (1621, San Godenzo)
- 5312 (1715, San Godenzo)
- 5361 (1546, Prato)
- 5364 (1621, Prato)
- 5365 (1671, Prato)
- 5366 (1763, Prato)
- 5641 (1536, Poggibonsi)
- 5741 (1779, Castelfiorentino)
- 5742 (1779, Castelfiorentino)
- 5772 (1779, San Godenzo)
- 5773 (1779, San Godenzo)
- 5796 (1779, Poggibonsi)
- 5797 (1779, Poggibonsi)

APPENDIX A: Additional information about sources and data collection in the *Contado* and in the *Distretto* of Florence

The tax records providing the data for the 11 communities of the *Contado*[17] (not including Prato) are organized according to the same basic set-up, based on the *estimo* until the end of the fourteenth century, the *catasto* for the fifteenth century, and the *decima* until the end of the eighteenth century. The homogeneity of the tools used to distribute the tax burden did not necessarily lead to a universal tax levy. Specifically, it can be excluded that Florence intended to apply for all the communities of the *Contado* uniform tax rates, at least before the first half of the fifteenth century (Cohn 1996; 1999).

Sampling strategy used in selecting the communities of the Contado

We selected the rural communities of the *Contado* to include in this study from among more than 1.000. The choice was made according to four main criteria:

1) We considered the demographic size, excluding those villages that during the entire period did not meet a minimum population set at approximately 80 to 100 hearths (300 to 500 inhabitants). We also decided to use as the observation unit the individual *popolo* and not the *piviere*, the superior administrative level that included a variable number of small communities.[18] The *Contado*, the territory beyond the walls,[19] was in fact split into the four districts of the city (*quartieri*), each of which was divided into *pivieri*, and the latter into *popoli* (this followed quite closely the old ecclesiastical organization of the land, divided into *pievi* and *parrocchie*). The *catasto* of 1435 introduced a major innovation: a progressive number was given to each *popolo* of the *Contado*, district by district, univocally identifying it until the gradual transition from the old *catasto* to the modern land registry of the nineteenth century. This is also related to the second sampling criterion we applied (see below).

2) We favoured communities that maintained a territorial unity over the centuries. In fact, from the fourteenth to the eighteenth century, Florence on several occasions changed the administrative framework of its territory by organizing the communities into *leghe*, *vicariati*, and *podesterie*, the

[17] Antella, Borgo San Lorenzo, Castel San Giovanni, Castelfiorentino, Cerreto Guidi, Gambassi, Monterappoli, Poggibonsi, San Godenzo, San Martino alla Palma, Santa Maria Impruneta.

[18] With the sole exception of Monterappoli, whose data belong to the popoli of the whole piviere of S. Giovanni a Monterappoli, consisting of S. Andrea and S. Giovanni a Monterappoli, S. Lorenzo a Monterappoli, San Jacopo a [Fi]Stigliano, S. Bartolomeo a Brusciana, and the commune of Borgo S. Fiora.

[19] The people of the suburbs were part of the *piviere* of San Giovanni which, however, was divided into the four *quartieri* of the city of Florence: there was then a *piviere* of San Giovanni in the district of Santo Spirito, one of Santa Croce and also of Santa Maria Novella and San Giovanni.

extent of which could change over time due to splits or mergers. The *popoli*, thanks to the progressive numbering that was left unchanged over more than three centuries, were always univocally identified, thus allowing us to follow their evolution.

3) Given the nature of the sources used, our archival series are all complete from the second half of the fourteenth century to the end of the eighteenth century. However, pre-Black Death *estimi* are rare, and consequently we gave preference to those communities for which such data existed in order to assess the impact of the plague on the distribution of wealth. The selection of Antella (from 1319), Santa Maria Impruneta (from 1307), and Poggibonsi (from 1338) is due to this.

For some communities, it was also possible to stretch the series until the end of the eighteenth century, as since 1776 the grand-ducal administration had begun a restructuring of the old *popoli* and *pivieri* by creating the broader *comunità,* but some of the new administrative aggregates retraced old districts. This was the case of Poggibonsi, Castelfiorentino, and San Godenzo, for which we have data for 1779.

4) Finally, we took into account geographic coverage. As can be seen in Figure 1, the 11 communities analyzed (plus Prato) are distributed homogeneously throughout the territory of the *Contado*. Some, such as Antella, San Martino alla Palma, and Santa Maria Impruneta, which are particularly close to the capital, were among the first areas subjected to Florentine expansion, and consequently their territory was the more marked, from the late Middle Ages, by the penetration of urban property (see Appendix B). The communities of the Val d'Elsa, with their fertile and varied lands, from the plains of the valley areas to the low hills, became part of the *Contado* during the first 20 years of the fourteenth century (first those situated on the right bank of the river, Castelfiorentino, Poggibonsi, and Monterappoli, then Gambassi) and constituted for a long time the border with the State of Siena. Particularly significant is the presence of Castel San Giovanni, in the upper Valdarno, one of the communities newly founded by Florence around the end of the thirteenth century to impose its rule in areas without large settlements, as well as to prevent the military incursions of Arezzo and Siena and to limit or eradicate the power of the local lords. Finally, to the north of Florence, we included the communities of Borgo San Lorenzo in the heart of the Mugello region, along the Sieve river, and that of San Godenzo (sold by the Counts Guidi to Florence in 1344), whose mainly mountainous territory stretched along the slopes of the Apennines towards Forlì.

The original plan of Florence was to apply the general *catasto* of 1427 to all areas of the State and therefore also to the communities of the *Distretto.* The discontent of the subject cities was palpable, and in some cases—as in Volterra—led to a dramatic rebellion. For this reason, in the *Distretto* from the sixteenth century it was preferable to distribute the tax burden needed for the local and general expenditures on the basis of *estimi* drawn up by each community and conducted with criteria that, although evaluated and authorized by the capital city, granted them a large margin of autonomy. Different tax systems produced different kinds of sources, not only from a formal point of view but also in terms of content, mirroring the different sources of taxable wealth or income taken into account.

Arezzo

The documentation available for Arezzo is particularly rich and quite uniform over time, even if the tax system experienced some changes over the four centuries considered. The sources of the years between 1387 and 1428 always use the term "*libra*" to indicate the operations leading to direct taxation. In this period, however, the word corresponded to a constantly changing reality: Starting from an empirical and arbitrary assessment of the ability to pay, typical of the years between 1384 and 1411, in 1412 a system was introduced whereby the "*lira d'estimo*" was calculated by estimating and verifying the data contained in statements submitted by each taxpayer indicating their movable and immovable property, of which the *lira* was a percentage.[20] Starting from 1418-19, the *lira* of each citizen was finally calculated only after having checked, recorded, and estimated in the registers of the *catasto* the data contained in the taxpayers' statements (Benigni 1983). This process was completed in 1428 with the subjection of Arezzo to the general *catasto* imposed by Florence on all its territory; tax records were renewed in 1443, 1493, 1535, 1557-58, and 1672, but the estimation of landed property and wealth became increasingly rough, and by the mid-sixteenth century involved the valuation of real estate only (Benigni 1980; Benigni, Carbone, Saviotti 1985).
We used in particular the series of the "*Libri della lira di città*"[21] containing data for 1390, 1443, 1501, 1602, 1650, 1710, 1751, and 1792. For the mid-sixteenth century we used the data of the *catasto* of 1558 (published by Carbone and Saviotti 1995).[22]

San Gimignano and Prato

San Gimignano was a large village of the Val d'Elsa, of which we have mention since the tenth

[20] Until the sixteenth century the ratio between *lira* and estimated wealth was 40 *denari* for every 100 florins (Benigni, Carbone, Saviotti 1985, 86).

[21] They didn't include the countryside of Arezzo. It consisted of an area of 5 miles around the city walls called "*Cortine*", for which specific tax records exist (Carbone 1999).

[22] The estimation process began in 1546, but the *catasto* went into effect, with the permission of Florence, only in 1558 (Carbone and Saviotti 1995).

century. The settlement was built around a castle of the Bishop of Volterra, to which it was subjected. It became a commune by the middle of the twelfth century, and its development was largely due to the route of the Via Francigena, which crossed San Gimignano along the stretch between Lucca and Siena. The population decrease of the city and its countryside in the aftermath of the Black Death, combined with internal political instability, led in 1353 to submission to Florence and annexation to its *Distretto*.

Our fiscal data were obtained from Fiumi's (1961) detailed study of the evolution of the community from the Middle Ages to the Early Modern period. They consist of three distinct series taken from three different kinds of sources:

1) For the years 1277-90 and for 1332, the *libra* of the city and the countryside are available[23], resulting from the distribution among the taxpayers of a sum of about 140,000 *lire* and 71,000 *lire* respectively. Like the Florentine *estimo*, the *libra* did not represent the value of assets or income in their real dimensions, but established the ability to pay of each household with respect to the others.

2) For the period 1314-1674, data are derived from the "*gabella delle possessioni o estimo*", that is, a tax on land property. Fiumi used the tax records of 1314-38, 1375, 1419, 1475, 1549, and 1674. The taxable base of this tribute was identified with the presumed annual income, expressed in *moggia* and *staia* (these were units of capacity) of wheat[24].

3) In 1428, San Gimignano was subjected, like the entire State of Florence, to the *Catasto* following the rules previously described.

As was common for studies of the distribution of wealth of his time (see, for example, Conti 1965), Fiumi distributed all the surveyed taxpayers in classes (according to their *libra*, or "*sovrabbondante"*—in the case of the *catasto* of 1428—or income from land property). For each class he provided the number of cases and the total value.

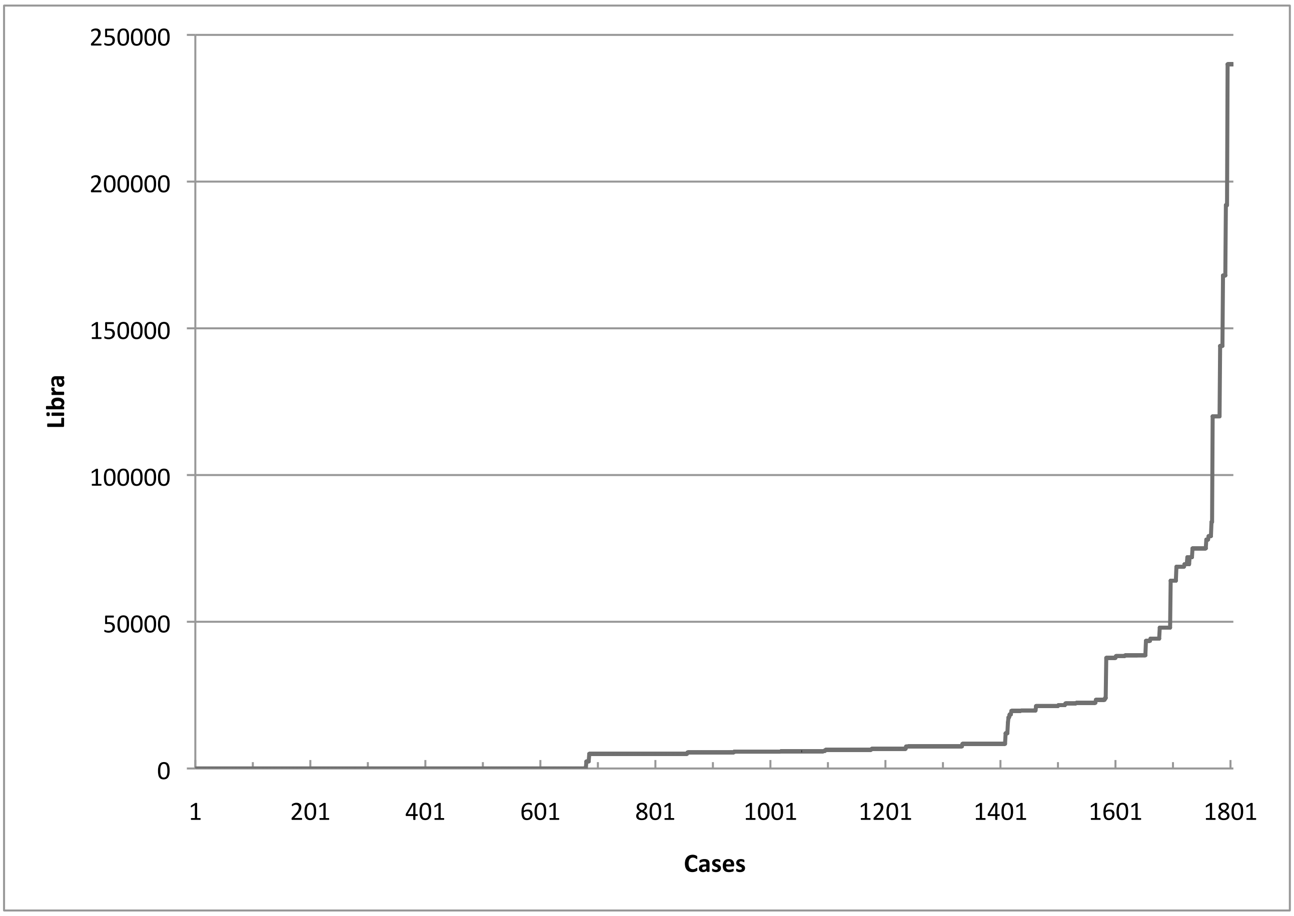
To include these data in our database, which requires a precise identification of individual taxpayers, we assumed a uniform distribution within each class, then assigned to each taxpayer an amount equal to the average calculated for the class to which he belongs. The major taxpayers, however (those above a certain threshold), have been identified individually. This fact is of particular importance, since wide empirical evidence demonstrates how, in fact, the variations at the top of the distribution tend to determine changes in the general trend (Alfani 2014; Atkinson et al.

[23] *Libra* of the city for the year 1277, of the countryside for the year 1290, *libra* of the city and countryside for the year 1332 (Fiumi 1961, 116, 124).

[24] The estimate process was refined over the centuries with the establishment of a more detailed survey, which classified the farms by the type of cultivation, assessed the income at current currency values and compared it to wheat, according to the official market price of the year of the survey (Fiumi 1961, 192).

2011; Alvaredo et al. 2013).

Graph 1A. Classes of wealth in Prato (1372)



The same procedure was adopted for the data of Prato, published in another work by Fiumi (1968) and in a study of the *catasto* by Pampaloni (1980). The data sets used in their analysis, organized in classes (of *libra* and *sovrabbondante*) come from the "*libre di città*" of 1325 and 1372[25], which are similar to the *estimi* of the Florentine *Contado*, and the *catasti* of 1428 and 1487[26]. For the following period we used newly collected information from the books of the *decima* for the years 1546, 1621, 1671, and 1723[27].

[25] Fiumi 1968, Tav. II, 92, Tav. I, 56.
[26] Fiumi 1968, 113, Pampaloni 1980, 181-185.
[27] Florence State Archive (FSA), *Decima granducale*, 5361, 5364, 5365, 5366.

APPENDIX B: The spread of Florentine property

In the period we considered there was an almost continuous increase in the extent of Florentine property, especially in the *Contado*. The phenomenon has been only briefly discussed in earlier research (Conti 1965; Fiumi 1968, 126-128; Curtis 2012), requiring a full examination of the *catasto* of the capital to get a complete picture of the land placed in the *Contado* but owned by Florentine citizens. These partial inquiries clearly indicate a deep penetration of Florentine property into the area. While there are considerable differences across distinct areas, the landscape of the *Contado*, at least from the middle of the thirteenth century, was characterized by a strong presence of Florentine landowners, increasingly expanding to the detriment of small independent farmers (Pinto 1982; Cherubini 1991). In the *Distretto* the problem was present, but less acute (Petralia 1994; Martelli 1994; Menzione 1995; Cohn 1999), partly due to the morphology of much of the territory (mountain areas covered by forests were of limited interest to Florentine citizens) but also due to the presence of large commons (Curtis 2012, 12-14).

In the *Contado*, the long-term mechanisms that allowed the radicalization of this phenomenon from the late Middle Ages and throughout the Early Modern period are well known: the presence of big landowners of ancient origin but long-time residents in Florence; the relocation to the city of small or medium landowners; and the purchase of land by Florentine citizens (Pinto 1993; Cherubini 1974). Merchants, but also craftsmen or professionals, saw in the purchase of land a way to give a stable base and a greater assurance to their business, the natural completion of their main activity, the opportunity to live off the fruits of their own land and avoiding the fluctuations of the market (Pinto 1982). There were essentially two ways in which the Florentines accumulated small plots of land, eventually consolidated into larger properties: the lending of money to small owners of land (often bordering theirs), so it could be annexed if they were not able to pay back their debt, and speculation on agricultural products (such as the purchase of future harvests or the granting of short-terms loans on wheat), which weakened the position of the farmers (Pinto 1993).

The principal form of organization of land ownership in the areas considered in this paper is sharecropping: this was a contract—in theory an annual agreement although in practice it lasted much longer—between a landowner and a cultivator, the latter becoming a *mezzadro* (sharecropper). Under this agreement, the landowner provided the *mezzadro* with a plot of land, the *podere* (farm), and a house to live in, along with various agricultural outbuildings. In return the mezzadro agreed to cultivate the land, guaranteeing the use of the labour force of his entire family and sharing the expenses involved in running the *podere* and the final product[28] (Jones 1968; Giorgetti 1974; Pinto 1982; Cherubini 1974, 1991).

From the early years of the fourteenth century, in various areas of Tuscany urban property spread considerably, preferring at first the areas closer to the city and the most productive lands. It is not by chance that in the poorest areas and on the mountain slopes land property tended to remain deeply fragmented and in the hands of small farmers (Cherubini 1991, 215). In the countryside close to the city of Siena rates around 70% to 80% of urban property were recorded, while in the Florentine *Contado* in 1427 it reached about two-thirds of the value of the land, against 18% of the peasant property. Peasants retained land ownership rates above 50% only in areas of high hills or low mountains (Conti 1965; Pinto 1982; Herlihy and Klapisch-Zuber 1985).

Not everywhere did the city exert its attraction on the landowners of the countryside. It was little felt, for example, in the mountain areas north and east of Florence (Cohn 1999), like the Casentino valley (Curtis 2012). Of the cases we studied, that of San Gimignano is striking, as the appeal of the city seemed almost to cease from the fifteenth century. The demographic crisis had led to a concentration of large families over the best land: Whereas average and big properties were few in the tax records of the countryside in the fourteenth century, the situation changed in the subsequent *estimi*. Maybe it was the "passion for the land", but it is a fact that from the fifteenth century some big capitalists began to live in the countryside (Fiumi 1961).

The massive presence of Florentine property in the *Contado* and the widespread adoption of sharecropping poses at least two issues. The first is a systematic underestimation of the conditions of the *mezzadri*, who often appear in the *catasti* as propertyless. The possession of a very small, maybe unproductive piece of land did not necessarily ensure a standard of living higher than that guaranteed by farming on an estate owned by a Florentine citizen. After all, sharecropping encountered so much favour not only for the convenience of the owner, who appreciated this type of contract because it allowed self-sufficiency in food and the exploitation of peasant labour for the intense cultivation of plants with high added value (vines, olives, fruit trees). On the other side, the *mezzadro* was guaranteed a certain supply of food (albeit in small quantities), as in the case of a poor harvest he would benefit from advances and loans from the owner (Cherubini 1991). In the rural hierarchy, the *mezzadri* were the luckier ones. Subordinate to them and much more vulnerable economically were the agricultural labourers (*braccianti*) without land of their own.

The second problem is that, since the establishment of the *decima* (which considered only the

[28] Sharecropping did not spread evenly throughout Tuscany, instead it involved mostly the low hills and dry plains of the central region. The economic significance of this form of land organization was still more important than its territorial extent: in 1947, less than a half of the region was still involved in sharecropping (Cherubini 1991, 193).

income coming from the real estate owned), the *mezzadri* were not registered at all. The immediate consequence is the thinning of the fiscal records of the communities of the *Contado*, especially those closest to Florence.