

Social Norms and Demographic Shocks: Florence, 1250–1450*

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(Preliminary and incomplete)

Abstract

By exploiting more than 7,000 unpublished dowry contracts and about 3,000 wills written in Florence between 1250 and 1450, this paper presents the first systematic analysis of dowry trends and bequest behavior in medieval and early Renaissance Florence. It then examines the effects of demographic shocks and changes in social norms on marriage markets and inter-generational transfers. Demographic shocks, such as the Black Death of 1348 that reduced labor supply and increased the return to human capital, and a new social norm, which came to prevail in the marriage market with the demise of the feudal system, both contributed to the increase in urban dowries from the 13th to the 15th centuries. Also, since dowries are an excellent proxy for family wealth, the paper can document and analyze wealth dynamics over two centuries in Florence.

1 Introduction (sketch)

Between 1348 and 1350, a sudden demographic shock brought death and devastation of unknown proportions in Europe. Arrived with a Genoese ship traveling from the Middle East to Messina in Sicily, in a matter of few months, the plague spread like a fire in most regions of Europe and killed about one-third of the population. The Black

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Death was the nickname that later was attributed to the first and most devastating waves of plagues that ravaged Europe in the middle ages and the early modern period.

Both the historical epidemiology of the pestilence (whether or not a bubonic plague), and its economic effects have been the subject of a vast literature.¹ Lopez, Miskimin, and Cipolla started one of the most famous debates regarding the impact of the plague on the economies of western Europe. According to the depression thesis of Lopez (1953), economic activity contracted more sharply than population and stagnated for more than one hundred and fifty years after the Black Death. Average income and employment fell, wealth inequality rose, urban industries in Italy collapsed, whereas urban industries in northwestern Europe were still in their infancy and unable to replace the Italian ones. Merchants in Italy preferred to invest their wealth less in commercial ventures and more in land. They also turned to leisure activities and provided the funds that promoted and sustained the cultural and artistic miracle of the Renaissance. Miskimin added further support to this argument by referring to the lack of expansion of town walls, the smaller size of Italian banks after the 1340s, and the decline of woolen cloth industry in several cities (Lopez and Miskimin 1960).

Cipolla (1963) objected to the depression thesis by pointing out that it relied on data on total population, production, and trade, whereas the appropriate measure of economic prosperity or decline should have been per capita figures, such as real wages, or per capita income and wealth. He then argued that the plague was beneficial because it increased the share of per capita income (and wealth) available to the surviving population. “Fewer but richer” was the economic outcome of the plague according to the optimistic view of Cipolla.

In this paper, I contribute to this debate by focusing on three issues: What was the effect of the Black Death of 1348 on marriage markets and dowry values in the city and countryside of Florence? Why did urban and rural marriage markets react in different ways to the same demographic shock? Given that dowries can be used as proxy for family wealth, what were the short-term and long-term effects of the plague on per capita wealth and wealth inequality?

2 Sources and the Sample

Quantitative studies on the demographic, social, and economic history of past societies are numerous. While there are studies on marriage markets, sex ratios, fertility and mortality rates for modern economies based on both the back-projection method and the family reconstitution method pioneered by Louis Henry (see de Vries, “Population,” p. 10), we focus on a period 1250 to 1450 for which both approaches cannot be employed because of the absence of parish records. But by exploiting the wealth of other types

¹Add a selected list of the many works read.

of records housed at the state archives of Florence, one can shed light on the marriage market and transfers between parents and children in a significant period for European economic and demographic history, the pre- and post-1348 plague period.

There are no studies providing quantitative and systematic evidence of dowry trends in the city and countryside of Florence in the century before and after the plague. In their monumental and impressive work on the social, demographic, and economic history of Tuscany based on the Florentine catasto (census and property survey) of 1427, David Herlihy and Christiane Klapisch-Zuber (1978, p. 561) left the study of dowry trends in Tuscany to future research.

The main reason why a quantitative study of dowry trends and bequest behavior in Florence and its countryside from 1250 to 1450 has not been carried on stems from the enormous number of notarial records in the archives one has to delve into. In the mid-sixteenth century the Duke Cosimo de Medici ordered that notarial deeds drawn up in all towns under Florentine rule (the entire Tuscany with the exception of Lucca and Siena) had to be brought in Florence and housed at the archives there (in that section of the archives known as *Notarile Antecosimiano*). Since the index of the notaries is organized by place of birth and not according to where a notary practised, the only way to discover whether a notary practised in Florence or drew up deeds pertaining to Florentine citizens involves searching through all the volumes, which are about 22,000 from the twelfth century to the mid-sixteenth century.

Consulting notarial cartularies poses another challenge. Notarial records provide information on a variety of economic and social transactions, such as wills and post-mortem inventories, dowry contracts, land and house sales or purchases, loans, settlements involving litigation, agrarian contracts, inter vivos transfers, acts in which a party designated an attorney (*procurationes*), and business partnerships. Since a notary drew up different types of deeds in the same volume, one can find at, say, carta (page) 5 recto a dowry contract, and at carta 5 verso a land sale. To find all dowry contracts or wills a notary drew up, one has to read the entire volume (unless the notary provided an index of his deeds, but this occurred in very few instances for the volumes we read).

Table 1 presents a summary of all the notarial cartularies and protocols I read at the state archives of Florence (ASF henceforth) and the number of contracts (dowry and wills) found.

[TABLE 1 HERE]

Since it is impossible to go through all the 22,000 volumes, three time periods were selected:

i) 1242 to 1299 to analyze the thirteenth-century economy and marriage market at a time when population was growing;

ii) 1340 to 1360 to study the effect of the Black Death of 1348 that reduced the size of the Tuscan (and European) population by about a third;

iii) 1420 to 1435 to investigate marriage patterns and dowry trends in a period of falling prices and even more population decline due to repeated bouts of the plague. For this period, we could also match the households listed in the dowry contracts with the corresponding households in the Florentine catasto (census) of 1427.

Overall, I read 869 volumes of notarial deeds (100 percent of those surviving for the 1242-1299 and 1340-1360 periods, and 35 percent of those surviving for the 1420-1435 period). Of these volumes, 662 contained dowry contracts and wills of citizens of Florence and its countryside. In these cartularies, I found about 6461 dowry contracts and 2681 wills.

Two questions regarding potential selection problems might arise. First, one may wonder what percentage of all notarial cartularies survives at the archives, and, second, who were the households that took the time, and were willing to pay the notary's fees, to record their dowry contracts and their wills.

It is very hard to assess what percentage of notarial protocols and cartularies have survived because we do not have a list of all notaries practicing in Tuscany from 1250 to 1450, and there is no way to know how many of their protocols went lost. However, there is no reason to believe that only the cartularies of notaries dealing with poor people or wealthy people disappeared. In the 662 volumes of notarial deeds I read, some notaries are specialized in dealing with the poorest families, others were drawing up deeds of the wealthy and the powerful, whereas a third group of notaries dealt with all types of social and economic groups. More important, the dowry values found in these notarial deeds are consistent with independent evidence on wages or wealth coming from other sources, such as the Florentine Catasto of 1427. Therefore, I do not claim that these data may not suffer from a potential selection bias because the surviving notarial deeds are only a portion of what was written in the three time periods selected. Yet, I do not think this selection bias is not a major issue.

The second potential selection bias whether all households took the time and especially were willing to pay the notary's fee to record their dowry contract or their wills easier to address. For dowry contracts, the problem does not exist in Tuscany (and Italy in general) where a notarized contract was required when the dowry was agreed upon (and transferred) between the bride's and groom's families. A marriage was sanctioned when the bride's and groom's fathers (or other adult custodians if the parents were dead) met in front of a notary and agreed upon the terms of the dowry contract. The deed written by the notary made the dowry contract binding and legally enforceable. Had a marriage terminated (for example, because the husband died before his wife), the notarial deed could be used by the wife in court to recover her dowry if the in-laws were reluctant to return her dowry. Moreover, a woman had to have a dowry, even a small one, to be able to marry. Notarized contracts recorded even the

very small dowries provided by charities to orphan girls (Cohn 1996, pp. 76-97; and Henderson 1994, pp. 316-20). In our dataset, we have contracts describing tiny dowries (10 lire), as well as huge dowries (14,000 lire) in the same year.

As for wills, Steven Epstein (1984, p. 91) states that medieval law, based on Roman law, listed these categories of persons incapable of making a valid will: those absolutely in power of others, minors, lunatics, spendthrifts, deaf-mutes, the blind, prisoners, slaves, those condemned to death or exile, hostages, monks or canon regular, heretics, and traitors. In principle, nothing prevented a woman or a poor person from asking a notary to draw up a will. A more subtle question is whether a person capable of bequeathing decided to ask a notary to draft a will. Very poor people might have had nothing to leave. Others could have preferred to make an oral will in front of witnesses. Table 1 indicates that the custom of drafting a written will in front of a notary became more widespread after the Black Death (although it might simply be that more deeds, and therefore also wills, survive for the later centuries with respect to earlier times). For this reason, wills are more likely than dowries to suffer from the selection bias just described.²

Lastly, we used the Estimo (census) of 1351 and the Florentine catasto (census and property survey) of 1427 to match the households we found in the dowry contracts and wills with the corresponding households in these censuses to obtain great demographic and economic information on them.

3 Dowries in Florence, 1250–1450

What was the typical dowry that a Florentine father provided to his daughters in the mid-thirteenth century? And one century later after the plague had struck? And in the early fifteenth century? And if from the city the attention moves to the hundreds of villages in the countryside, what picture one would get? In his masterpiece *Divina Commedia* written in the early fourteenth century, through the words of his ancestor Cacciaguida the poet Dante Alighieri left one of the shortest but most vivid descriptions of dowry trends in his times when he wrote

In the old days daughters were not a source of anxiety for their fathers
because their age at marriage and their dowries did not move in opposite
directions.

²In addition to notarial deeds in the Notarile Antecosiamino, I also read the many documents preserved in the so-called Diplomatico at the archives in Florence. In this section of the archives are housed many records, documents, and manuscripts from various religious and civil institutions from the eighth century on. In Appendix A, we list the various monasteries, hospitals, and other institutions whose documents we searched through. Very few additional dowry contracts were found using this primary source.

[(Dante Alighieri, Paradiso XVI, 103-105)]

Years later, in his chronicle the Florentine citizen Giovanni Villani (who died during the plague in 1348) asserted that in the thirteenth century, 100 lire had been the typical dowry in Florence. A dowry of 200 or 300 lire, which was typical in his times, would have been judged as extravagant one century earlier.

Were Dante Alighieri and Giovanni Villani right? From the data I collected, the answer is “apparently yes.” In current lire the median urban dowry was 100 lire in the second half of the thirteenth century and 300 lire in the decade before 1348 (Table 2). These numbers seem to perfectly match the figures suggested in Villani’s narrative account and to support the worries expressed in Dante’s verses regarding the skyrocketing trend of dowries in his times.

[TABLE 2 HERE]

This coincidence is positive as it shows that the data from the sample of dowry contracts are consistent with the trend in dowry values in the middle ages noticed by contemporaries. Yet, it might lead someone to wonder if resources and time were well devoted in collecting thousands of dowry and marriage contracts that would simply confirm what Dante and Giovanni Villani already knew from casual observation. In fact, the systematic data present a more complex picture with respect to the one sketched by the narrative evidence. The thousands of dowry contracts let one look in great detail into the Florentine urban marriage market with whom Dante and Villani were familiar with, and also enable us to shed light for the first time on the Florentine rural marriage market, which Dante and Villani did not seem interested in describing.

The sample of more than six thousands dowry contracts presents five main patterns and trends that need to be explained. First, with the exception of the years just after 1348 when the plague struck, there was a continuous upward trend in nominal dowry values—both urban and rural—from the late thirteenth century until the early fifteenth century (Figures 1A and 1C). In the city the median dowry (in current lire) soared from 100 lire in the second half of the Duecento and 371 lire in the early 1340s up to 865.7 in the 1420s-1430s. For the same time periods, the median rural dowry increased from 50, to 85 and to 136 lire, respectively (Table 2).

[FIGURE 1A HERE]

[FIGURE 1C HERE]

Second, the plague had very different effects in the short-run and in the long-run. The impact in the very short-run was impressive. Sheer fear, or more precisely, the terror and horror that this unknown disease brought, suddenly increased uncertainty about the future. Many people who feared to die soon and to see many of their loved

ones to die, discounted the future more heavily and probably consumed more. During and immediately after the plague spread, parents who were terrified by the high chances that their children were going to die, became less willing to commit large portions of the family wealth to provide dowries to their daughters. This short-term effect (exogenous increase in the probability of dying and higher discounting of the future) clearly shows up in Table 2, and Figures 1A and 1C. The median urban dowry in current lire plunged from 371 lire in the years just before the plague (1340-1347) to 102.6 lire in the three years after 1348almost exactly the same value it had in the late thirteenth century. Similarly, the median rural dowry fell from 85 to 50 lire in the same years. If someone living in 1350 could travel back in time to 1250, he would think he was living in the same world as the plague brought dowry values back to what they had been one century earlier.

Looking at the long-run instead, at first sight the plague seems to have had no long-run impact on dowries. Ignoring the three-four years right after the plague, the increasing trend in urban and rural dowry values (in current lire), which had started in the first half of the fourteenth century, continued even stronger in the late fourteenth and the early fifteenth centuries (Figures 1A and 1C). Once the dust caused by the plague settled, dowry values quickly reached their pre-plague levels in a matter of few years (from 371 to 425 lire in the city and from 85 to 80 lire in the countryside), and then kept soaring, especially in the city, as if no major demographic shock had occurred. I will argue later that the plague actually brought long-term consequences on the way grooms and brides matched and on the “prices” (dowries) in the Florentine marriage market. But before we can fully discuss the long-term impact of the plague on dowry values and the Florentine marriage market, we first need to provide additional information on dowry trends.

Third, the data in Table 2 indicate that the divergence between the urban and the rural marriage markets, already picking up before the Black Death, greatly deepened in the subsequent decades: in the second half of the thirteenth century, a “typical” (median) bride in the city had a dowry worth twice the dowry of a typical bride in the countryside (100 and 50 current lire, respectively). In the 1420s, a typical Florentine bride married with a dowry that was worth more than six times what a typical bride in the countryside was assigned (865 and 136 lire, respectively). Since dowries are a proxy for family wealth, the increasing gap between urban and rural dowries also indicates a divergence in wealth levels between the urban and the rural economies.

Fourth, from 1250 to 1450 “dowry inequality” rose in the city and in the countryside in the two decades across the Black Death, as shown by different indicators (Tables 3 and 4).

[TABLES 3 AND 4 HERE]

The Gini coefficient for rural dowries in the 1420s was almost the same as the one in the thirteenth century (0.327 versus 0.336), whereas for urban dowries it rose from 0.499 in the Duecento to 0.545 in the early fifteenth century.

Fifth, the trends in nominal dowry values in Table 2 (left-hand side), as well as the narrative evidence suggested in Dante's and Villani's remarks, do not take into account the changes in prices over the two centuries. The soaring trend in dowry values might reflect an underlying price inflation. To control for this possibility, Table 2 (right-hand side) and Figure 1B-1D present dowry values in constant (1420-1430 base) lire. Some significant changes in the trends are to be noticed. Urban dowries, even when measured in constant lire, kept increasing up to 1348, decreased in the two-three years immediately after the Black Death, and then kept soaring until the 1430s. In contrast, when measured in constant lire, rural dowries were decreasing even before the plague, and even when the trend reversed, they barely went back to their thirteenth-century values. Despite the plague hit similarly the city and the countryside in terms of population reduction, the urban and rural marriage markets reacted quite differently if we look at trends in dowries.

If dowries are a proxy for family wealth, it seems reasonable to conclude that, despite a similar demographic shock, the urban and the rural economies were affected in very different ways by the demographic turmoil brought by the plague. We will come back later to examine more in detail the consequences of the plague on wealth per capita and wealth inequality.

First, we have to explain what factors determined the spectacular increase in the size of urban dowries given by Florentine parents to their daughters, and why dowry values (in constant lire) remained stable among rural households for almost two centuries.

4 Hypotheses

4.1 Selective Plague

Suppose, hypothetically, that the Black Death selectively killed more men and made the sex ratio more favorable to men in the marriage market in Florence and its countryside. If this is the case, in the years immediately after the plague, a Florentine bride's father would be more worried to find a suitable groom for her daughter(s) and would be willing to offer larger dowries. Yet, demographers and historians have claimed that the plague of 1348 (and the successive bouts of the plague in the fourteenth and fifteenth centuries) hit mostly women and young people (Herlihy and Klapisch-Zuber 1978). Consistent with the demographic information supplied by historians, Table 5 displays the sex ratios I have constructed by counting the number of surviving sons and daughters that testators named in their wills.

[TABLE 5 HERE]

One may be skeptical about using wills to construct sex ratios because parents favoring sons over daughters might forget to mention daughters in their wills. Also, one may worry that daughters who received dowries would be excluded from bequests and would not be listed in their parents' wills. The analysis of Florentine wills seems to exclude this possibility: in the thousands of wills I read, parents carefully mentioned the dowries assigned to their daughters even if they did not leave them bequests. By doing so, they mentioned their daughters even if they did not bequeath anything to them. Even daughters who were sent into convents were listed in their parents' wills. Yet, someone can still be doubtful about using wills to construct sex ratios. To dissolve these doubts, for the early fifteenth century I can show that the sex ratio built by using wills, is similar to the one coming from a completely different and independent source: the 1427 Florentine catasto, the census property survey of about sixty thousands households in Tuscany. If in his will a testator mentioned that he had, say, two sons and one unmarried daughter in his household, and two married daughters living in their husbands' households, I matched the testator's household and the sons-in-laws' households and I found exactly the sons and daughters mentioned in the will. Of the thousands of wills I examined, there were only a handful of cases of daughters (and sons) not mentioned in the will and then showing up in the catasto's declarations of the same testators. This lead me to conclude that using wills to reconstruct sex ratios leads to fewer biases than one may think.

The other reason why using wills to build sex ratios can be very good for the purpose of studying the marriage market is that the "population" of men and women listed as heirs in the wills is the one who was actively in the marriage market or would soon enter the marriage market. Unlike in a census, where all age groups are represented, in the wills the testators themselves were not beyond a certain age, given the low life expectancy at that time. Thus, the sons and daughters listed in the wills were at most 35-40 years old, but in many cases they were much younger and therefore, active participants in the marriage market.

The last row in Table 5 indicates in parenthesis the sex ratio that Herlihy and Klapisch-Zuber (1978, p. 464, table 47) calculated with the data from the 1427 Florentine catasto. The comparison between the sex ratio obtained from the census data and the sex ratio I built by counting the number of sons and daughters named by testators in their wills during 1420-35 suggests that women were "scarce" in the early fifteenth century no matter what historical sources one relies on. In other words, using two distinct and independent sources like wills and a census, the sex ratio goes in the same direction.

The other significant feature emerging from Table 5 is that in Florence there seems to have been fewer women than men before the Black Death. In the decade before 1348,

there were about 120 men for 100 women in the city of Florence and 108 men for 100 women in the countryside. The Black Death hit young women much harder than young men, as the very high sex ratios in the 4 years from 1348 to 1351 clearly indicate—consistent with what historians and demographers of medieval Tuscany have argued by using other sources. Parents may have neglected or abandoned their daughters more than their sons when the plague hit, or the terror and disruption brought by the sudden and unknown disease may have lead parents to forget to mention their daughters in their wills especially if they were no longer willing to commit a large share of their wealth to assigning dowries, as we saw above. I believe that the second explanation may account for the huge oscillation between the sex ratios in 1348-1351, which were 152 in the city and 122 in the countryside, and the same ratios in the immediate years (1352-1360). In other words, the 152 sex ratio in the city is certainly exaggerated and probably partly determined by the huge disruption caused by the plague.

Yet, when the dust of the plague partly settled, the sex ratio was still biased: there were fewer young women than young men in the Florentine marriage market even after 1350. The repeated episodes of the plague (major ones in 1363, 1385 and 1400, and relatively minor ones but still present in the fifteenth century) again increased the sex ratio in the city of Florence up to 129 in the period from 1420 to 1435. To sum up, Table 5 shows that the number of women of marriageable age (potential brides) was always smaller than the number of potential grooms from the early fourteenth century to the mid-fifteenth century.

If prospective brides were scarce in the city of Florence, why did their parents have to pay larger dowries to convince prospective grooms to marry their daughters? Becker's theory would predict that dowries should become smaller and smaller, or even disappear and be substituted by brideprices when brides are scarce. Why is the evidence from medieval and early Renaissance Florence not consistent with Becker's theory?

To explain this puzzle, Herlihy and Klapisch-Zuber (1978, p. 266) have argued that despite women were fewer than men in early Renaissance Tuscany, given the prevailing social norm according to which brides had to be much younger than grooms, younger and more numerous cohorts of women (born right after the plague when parents replaced their dead children by having new babies) faced a tougher competition to find a good match and, consequently, their parents have to pay larger and larger dowries. While their thesis is intriguing, it does not solve the puzzle of why urban dowries kept soaring in the fifteenth century. To avoid paying exorbitant dowries and to reduce the competitive pressure on these younger and more numerous cohorts of women, Florentine parents could (and certainly did) send their daughters into convents. Even if dowries were assigned to daughters entering the monastic life, these "religious" dowries were usually smaller than those given to daughters whom parents were trying to marry off.

The argument based on sex ratios, although appealing, does not seem to pass the test of the data. There were fewer potential brides than grooms in both the early 1340s when the median dowry in Florence was 350 lire (constant lire) and in the 1420s when the median dowry had climbed to 820 lire. Why did Florentine parents give larger dowries to their sons-in-law in the early fifteenth century despite the supply and demand of potential brides and grooms was the same than the one Florentine parents faced one century earlier?

4.2 “Larger Shares of the Pie”

Instead of looking at the marriage market and considering dowries only as prices determined in this market, one can view dowries as the anthropologist Goody (1975) did as intergenerational (*inter vivos*) transfers from parents to their daughters at the time of the marriage. Instead of sex ratios in the marriage market, consider the average family size before and after the plague. An alternative hypothesis would maintain that, as a result of the Black Death killing many children and young people, parents were able to make larger wealth transfers to their surviving children because they had available a larger wealth per child to allocate. Even if the size of the “pie” available to each family remained the same, the shares of the pie available to the survivors of the plague became larger.

To see whether this hypothesis pass the test of the data, Table 6 presents data on the average number of children per household in Florence from 1260 to 1435 that I calculated by counting the number of surviving children named in their parents’ wills. Notice the impressive similarity between the average number of children per household I obtained by relying on the information from the wills (1.82) and the same number (1.80) computed by Herlihy and Klapisch-Zuber (1978, p. ???) by using the census data from the Florentine *catasto* of 1427. Two independent sources (wills and a contemporary census) give identical information, which should convince that using wills to compute the average number of children per household provides reasonably accurate information.

[TABLE 6 HERE]

The plague of 1348 reduced the average number of children per household both in the city of Florence (from 2.06 in the early 1340s to 1.71 in the three years right after the plague) and in the countryside (from 2.33 to 1.91). But in the 1420s-1430s, after several bouts of the plague, in the city the average number of children per household (1.82), though still lower than its value in the early 1340s (2.06), was increasing and higher than what was in the late thirteenth century (1.66). In the countryside, instead, families remained smaller (1.92 children per household on average) than two centuries earlier (2.45).

The same picture emerges when looking at the distribution of households according to the number of children (Figure 2).

[FIGURE 2 HERE]

The majority of Florentine testators lived in households with no children, or in households with one or two children from the late thirteenth century (about 80 percent of the households) to the 1420s (68 percent). The Black Death of 1348 and the successive waves of the plague reduced the percentage of very large households (six children or more) but increased the number of middle-size households (those with three to five children). Overall, the size of households in Florence from 1250 to 1435 remained fairly stable, with the most significant trend being the increase in the size of households with three to five children from the late thirteenth to the early fifteenth century. This increase was very likely the outcome of two simultaneous effects. Some of the very large families (with six or more children) never recovered from the losses inflicted by the plague, whereas some smaller households that lost some of their children during the Black Death of 1348 gave birth to new babies to replace the dead children.

The data on the average number of children per household (Table 6) and the distribution of households by number of children (Figure 2) show that the "larger shares of the pie hypothesis" does not seem to pass the test of the data: parents did not provide larger dowries because they had to divide the household wealth among a smaller number of children. In fact, the number of surviving children per household did not change much across two centuries despite several occurrences of the plague.

4.3 Demographic Shocks, the Returns to Human Capital, and the "Larger Pie" Hypothesis

An alternative explanation for why urban dowries (in both current and constant lire) increased in medieval and early Renaissance Florence relies on a human capital type of argument. If repeated bouts of the plague reduced the population of Florence in the fourteenth century and kept it low until the mid-fifteenth century, the labor supply was severely reduced. While unskilled workers could be replaced wages for skilled workers and the earnings of professions (artisans, merchants, doctors, and notaries) would rise because of the return to their human capital, a scarce factor that could not be easily replaced by bringing in unskilled workers from the countryside.

By making an argument similar to the one made for modern societies, in which historians argue there existed a positive nexus between real wages and marriages, one can argue that for households of wage workers rising real wages in the post-plague period made it possible for them to pay larger dowries. Figures 3 and 4 seem to provide support for this hypothesis.

[FIGURES 3 AND 4 HERE]

The nominal wages of both unskilled and skilled workers rose steeply after the plague due to the huge labor shortage, and after the 1360s when prices started plummeting the real wages kept increasing. In the late fourteenth century, the wage increase attracted a large flux of male migrants from the Florentine countryside who helped replenish the ranks of urban unskilled workers killed by the plague (Cohn 1980, 109).

But these same rural immigrants could not easily substitute for the skilled workers and the notaries, merchants, and artisans killed by the plague. Learning the skills required to run a successful business as artisan or merchant required years of training and the plagues made these skills a scarce factor. If several occurrences of the plague reduced the number of skilled professionals, the returns to their human capital likely increased. Therefore, it is plausible to conceive that in the marriage market after episodes of plagues the demand for, say, merchant bankers, wool and silk merchants, sellers of spices, medical doctors, shoemakers, and jewelers drove the size of dowries up. At the same time, fathers who practiced these skilled occupations were able to pay larger dowries.

5 Social Norms and the Florentine Marriage Market (To be completed)

Among the hypotheses listed above, the human capital argument is the only one that seems to find support in the historical evidence: real wages of unskilled and especially skilled workers rose in Florence after the plague and kept being high in the first half of the fifteenth century. The plague seems to have made the returns to human capital high. "Good" matches (grooms) in the marriage market became more expensive and brides' parents could afford to pay higher dowries because they were made better off after the plague.

By itself, however, the human capital hypothesis cannot completely explain why urban dowries rose in the decades after the plague. The plague also caused a shortage of labor in the countryside, but no dowry inflation occurred there. One thing that is missing in all previous hypotheses is that dowries are not only marriage payments, but also intergenerational transfers. Dowries were a marriage payment—the price parents of the bride had to pay to find a good match for their daughters in the marriage market. Yet, the dowry was something more; it was also an intergenerational wealth transfer that parents made to their daughters at the time of their marriage. Transfers within the family are often regulated by social norms and other nonmarket mechanisms. What we argue in the next section is that, in addition to changes in the returns to human capital caused by labor shortages after the Black Death, social norms that governed

the Florentine marriage market also played a major role in the intertemporal variation of urban dowries in the post-plague period.

The Theory. Cole, Mailath, Postlewaite (1992) show that economies differing in social organizations, for example, in the allocation of mates, can yield distinct market allocations and dissimilar growth rates due to the different savings behavior of parents.

Economies are characterized not only by different technologies, resource endowments, and tastes, but also by distinct social organizations. While many goods and services are allocated through markets, there are many other goods and decisions that are not allocated through markets. For example, societies differ according to the allocation of mates, and this allocation is not a market transaction in the traditional sense. In nonmarket transactions, other devices, instead of prices, determine the outcome. In the example of the allocation of mates, the relative position of a person in the society can be the mechanism through which people are matched one with the other. The social standing of a person can be determined by his/her own wealth, beauty, or intelligence. In some societies, prestige is acquired by working hard; in other societies, status can be inherited by parents.

In the C-M-P model, agents care about the nature of the mate with whom they pair. Men are endowed with some ability, which is exogenously given. For example, men practice different professions that confer lower or higher prestige. The problem facing a couple is, given their capital, how much to consume and how large a dowry to provide to their daughter. A large dowry can benefit the daughter in two ways. It directly affects the amount that the daughter and her descendants can consume. Moreover, it influences the quality of her mate. Therefore, dowries create a ranking among women; women who are wealthier (= have a larger dowry) can marry men practicing a more prestigious profession.

An agent's status is interpreted as a "ranking device that determines how well the agent fares with respect to the allocation of nonmarket goods." Specifically, a woman's status is a ranking device that determines how well she will fare in the marriage market. Societies differ according to the social norms about how people are "supposed" to match. In some societies, wealth determines status; in other societies, status is based exclusively on ancestry. Thus, a social norm is a status assignment rule that indicates how a woman's status is determined and a prescription of status-dependent matching behavior. C-M-P compare two social norms: one in which women's status is determined solely by relative wealth (the Wealth-Is-Status equilibrium) and another in which status is inherited (the Aristocratic Equilibrium).

In the Wealth-Is-Status equilibrium, if a man receives multiple proposals, he accepts the proposal from the wealthiest woman. A woman's match depends only on her relative position in the capital distribution, that is, it depends on her capital en-

dowry, which is determined by the dowry provided by her parents. Parents giving larger dowries to their daughters help them match with more prominent men. In the Aristocratic Equilibrium, a woman's status is inherited; her status is the same as her mother's as long as her mother matched "appropriately" by following the social norm. The social norm prescribes that each woman is matched with the man whose endowment equals the woman's status. If a woman matches with a man with an endowment not equal to her status, her family line from that point on has zero status. When status is inherited, a woman's deviation from the social norm is punished by having her daughter being matched with a zero-status man in the successive period.

The main prediction of the C-M-P model is that in Wealth-Is-Status economies, intergenerational transfers are greater than in Aristocratic economies because parents wish to transfer more wealth to their daughters to make them more attractive as mates in the matching process. In economies in which status is inherited by parents, there is no incentive to save more because in order to follow the social rule and not get punished each woman must match with a man of equal status.

Historical Evidence. In 877 with the decree of Quiercy the French king Charles the Bald transformed life fiefs into hereditary fiefs. In 1037, this provision was extended to minor fiefs by the emperor Corrado II il Salico. Yet these two decrees transformed into a formal law what had been the feudal custom of passing fiefs from a father to his heirs. From this point of view, the feudal world resembles the Aristocratic Equilibrium in which a person's status is inherited from parents. In feudal Europe, a king's son would become a king himself; a peasant's son would always be a peasant, and the daughter of a count or marquis who dared to marry someone of inferior rank would lose her status.

When the city-states and the communes emerged in Italy around the eleventh and twelfth centuries, they mainly did so to gain economic and political independence from feudal lords and bishops and to establish a new political and economic order in which status was not to be based on ancestry.

Like many other Italian communes, the Florentine commune was established in the twelfth century as a private association of citizens who wanted to gain political and economic independence from feudal lords or ecclesiastical authorities (Bruckner 1980, 102). Since its beginnings, the political arena was characterized by two antagonist forces: Florentine aristocrats descendent from wellborn and prominent families, whose wealth derived from landed property, wanted to exclude from participation to political power and administrative bureaucracy the "new men" like immigrants from the countryside, artisans, and merchants organized in the corporate bodies of the guilds who were establishing their economic leadership. These groups, on the other hand, were fighting to enter into active political life. This continuous struggle characterized the

thirteenth and fourteenth centuries and disappeared in the second half of the fifteenth century when the Medicean Signoria was established.

After 1343, when the dictator Gualtieri of Brienne invited to rule Florence by magnates and wealthy popolano families was expelled, and the aristocratic regime was overthrown by a popular revolt, three social classes characterized Florentine political arena: (a) magnates, those old aristocratic families legally excluded from holding public offices with the Ordinances of Justice of 1293 but that still retained some prestige; (b) popolani, the most powerful families who participated in Florentine governance, and (c) new men, those participants in Florentine governance whose families were admitted to the priorate, the highest political office in Florence, only after 1343 (Becker 1965; Padgett 1994, 7). Aristocratic ideals that belonged to magnates were taken by old and prominent popolano families, while corporate and republican values were defended by these “new men,” artisans and merchants organized in guilds whose commercial and mercantile ethos was in striking contrast with the ideals of the aristocratic rentiers (Becker 1967, chapter 5).

Even during the years 1343–1348 when participation to political life was enlarged to guilds men, one cannot define the Florentine commune a democratic regime. Access to political offices was still limited to twenty-one guilds and workers, like the many wool and textile workers, were excluded from eligibility. Yet in Florence middle classes had more access to political life and public offices from the middle of the fourteenth century than in any other Italian city-states (Balestracci (1985) p. 165, 192-193).

While this contraposition between aristocratic rentiers on one side and merchants and artisans on the other marked the second half of the thirteenth century and the entire fourteenth century, by the middle of the fourteenth century Florence was a society in which the social standing and prestige of a household was determined more and more often by wealth. Writing in the first half of the fourteenth century, the Florentine Pieraccio Tedaldi lamented that “The bad society in which we live does no longer appreciate wisdom and noble-mindedness if they are not blended with wealth, which is considered the sole condiment and savour to everything.” Some years later, Niccolò Soldanieri wrote that “Lower classes hold even a hoer in high esteem if he has money,” and “... In our times prestige belongs to those with more wealth.” An analogous association between wealth and social status persisted and was reinforced in the fifteenth century when the households of the most prominent political leaders (e. g., the Strozzi, the Medici, and the Pazzi) were also the wealthiest households.

According to the C-M-P model, in Wealth-Is-Status economies greater intergenerational transfers are predicted because parents wish to transfer more wealth to their daughters to make them more attractive as mates in the matching process. The emergence in medieval and early Renaissance Florence of a different social norm according to which status was determined by wealth and no longer by ancestry seems to have had an impact on dowries. Figure 1 and 2, and Table 2 indicate that from the second

half of the thirteenth century urban parents continued to give their daughters larger and larger dowries. This trend continued after the Black Death and into the fifteenth century.

The feudal economy, in which status and power were inherited or conferred by a lord, the emperor, or a bishop, was dead in the eleventh and twelfth centuries, when the communes became the leading form of political and economic organization in northern and central Italy. In the Middle Ages and the Renaissance, Florence was an economy in which status was determined by wealth. This in turn was the outcome of the political struggle during the fourteenth century between old and prominent popolano families who promoted aristocratic and feudal values and "new men" identified with merchants and artisans. Unlike the feudal economy, in which status was inherited, with the development of the commune and the emergence of a commercial economy in which merchants and artisans organized themselves in guilds as a new social and economic group, in the Florentine marriage market a good match meant a wealthy match. From this viewpoint, the increase in urban dowries was a consequence of parents providing larger dowries to daughters to enhance their prospects of finding a good match in a society in which wealth and no longer ancestry was the key parameter to determine a household's social standing. The plague of 1348 likely raised the returns to human capital, and this would support the human capital hypothesis. However, in a society like the feudal one in which ancestry and not wealth determined one's social standing, higher returns to human capital would have not been appreciated and would have not taken into consideration when deciding the size of the dowry. Interestingly, between 1340 and 1383 some of the largest dowries (800 florins, the upper 2.6 percentile) were provided by fathers who were not identified by family name and the designated grooms did not belong to old family lineages as well. These marriage transactions indicate that there was not an exchange of new wealth for old family distinction (Cohn 1980, 50-51).

The argument based on increases in the returns to human capital and changes in social norms can also shed new light on why rural dowry values did not change for two centuries (Figure 1D). Figure 3 indicates that wages for agricultural workers increased after the Black Death; yet these wages stayed well below those of urban skilled workers. Moreover, it seems plausible that rural households were less concerned about status and social standing than their urban fellow counterparts. While peasant households also had their own "sense of honor and pride," it was less likely that status was determined by wealth in the rural economy. In the rural world, the feudal social norm according to which one inherited his/her parents' status was not entirely discarded. Matching in the rural marriage market was not as much affected by the wealth of the bride's and the groom's households as it was in the city of Florence. The consequence of this different social norm that governed the rural marriage market was that rural households provided their daughters with dowries of similar size across two centuries despite they experienced the same demographic shocks that their urban fellows experienced.

6 Dowry and Wealth Inequality in Florence, 1242–1435 (To be completed)

Figure 5 shows percentile ratios: P90/P10 and P90/P50. These ratios indicate some interesting patterns regarding dowry inequality.

**** This section needs to be completed ****

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Table 1: Sources and Sample (Florence, urban-rural)

Years	Number of notarial volumes related to Florentine people (% read of total surviving)	Number of dowry contracts found	Number of wills found
1242-99	34 (100%)	489	157
1340-60	306 (100%)	2972	1136
1420-35	454 (52%)	3982	2492
All	794 (roughly 238,000 pages)	7443	3785

TABLE 2—Dowry values (in current and constant lire) in the city and countryside of Florence, 1242-1435

Years	Current lire		Constant lire (1420-1440 base)		No. of observations
	Mean	Median	Mean	Median	
City (Urban groom and urban bride)					
1242-1299	176.6	100	536.8	303.9	85
1340-1347	764.2 (683.2)	371 (300)	1005.5 (898.9)	488.1 (394.7)	266 (311)
1348-1351	364.0	102.6	478.9	135.0	225
1352-1360	816.0	425	797.6	415.4	427
1420-1435	1597.1	865.7	1597.1	865.7	1189
All	—				2192
Countryside (Rural groom and rural bride)					
1242-1299	65.2	50	198.1	151.9	366
1340-1347	126.2	85	166.0	111.8	526
1348-1351	78.9	50	103.8	65.8	555
1352-1360	107.9	80	105.5	78.2	667
1420-1435	167.7	136	167.7	136.0	1425
All	—				3539

Years	Current lire		Constant lire (1420-1440 base)		No. of observations
	Mean	Median	Mean	Median	
Urban groom and rural bride					
1242-1299	65	57	197.6	173.2	26
1340-1347	187.2	92	246.3	121.0	17
1348-1351	243.4	100	320.3	131.5	21
1352-1360	296.8	145	290.1	141.7	34
1420-1435	300.5	234	300.5	234.0	76
Rural groom and urban bride					
1242-1299	106.4	90	323.4	273.5	12
1340-1347	215.1	100	283.0	131.5	28
1348-1351	162.4	60	213.7	78.9	41
1352-1360	149.6	100	146.2	97.7	56
1420-1435	328.4	224.1	328.4	224.1	40
TOTAL (all years)	—				6082

Sources: ASF, Notarile Antecosimiano, and Diplomatico (see Appendix A for a list of the volumes of notarial deeds read).

Notes: To convert the values of dowries in gold florins (*fiorini d'oro*) into the corresponding values in lire, I use the exchange rates provided by C. de la Ronciere, *Prix et salaires à Florence au XIV siècle*, p. 517, table 86; P. Spufford, *Money and Its Use in Medieval Europe*, p. 296, Graph III; C. Cipolla, *The monetary policy*, pp. 63–68; and R. Goldthwaite and G. Mandich, *Studi sulla moneta fiorentina*, pp. 85–100. Paolo Malanima kindly provided me with data on prices to convert the values from current to constant lire.

^a The numbers in parentheses are computed for couples of which *at least* one of the spouses lived in the city of Florence, whereas the numbers outside the parentheses include couples of which *both* groom and bride lived in the city of Florence.

TABLE 3—Percentiles and percentile ratios of dowries in the city and countryside of Florence, 1242-1435

	Urban					Rural				
Percentiles	1242-1299	1340-1347	1348-1351	1352-1360	1420-1435	1242-1299	1340-1347	1348-1351	1352-1360	1420-1435
1%	8	20	20	25	50	15	21	17.6	21	25
5%	25	25	25	50	140.4	20	25	25	32	50
10%	25	40	30	60	201	25	38.4	25	40	70
25%	40	70	50	125	402	38	50	38.4	54	100
50%	100	371	102.6	425	865.7	50	85	50	80	136
75%	300	1347.2	320	1360	2412	80	150	100	130	201
90%	400	1920	1120	2031	4020	110	250	150	200	309.6
95%	500	2400	1710	2538.7	4815	150	320	200	264	402
99%	1100	3200	2240	3420	7425	213	640	444.6	415	618.8
Percentile ratios										
P99/P50	11.00	8.62	21.83	8.04	8.57	4.26	7.52	8.89	5.18	4.55
P90/P50	4.00	5.17	10.91	4.77	4.64	2.20	2.94	3.00	2.50	2.27
P10/P50	0.25	0.10	0.29	0.14	0.23	0.50	0.45	0.50	0.50	0.51
P90/P10	16.00	48.00	37.33	33.85	20.00	4.40	6.51	6.00	5.00	4.42
N	85	266	225	427	1189	366	526	555	667	1425

Sources: See Table 1.

TABLE 4 MEASURES OF DOWRY (WEALTH) INEQUALITY
IN FLORENCE AND ITS COUNTRYSIDE, 1242-1436

	1242-1299		1340-1360		1420-1436	
	Urban	Rural	Urban	Rural	Urban	Rural
Relative mean deviation	0.384	0.245	0.502	0.317	0.42	0.234
Coefficient of variation	1.069	0.731	1.327	1.051	1.13	0.679
Standard dev. of logs	0.961	0.599	1.382	0.750	1.189	0.599
Gini coefficient	0.499	0.336	0.626	0.435	0.545	0.327
Mehran measure	0.648	0.449	0.792	0.553	0.712	0.437
Piesch measure	0.424	0.28	0.543	0.375	0.462	0.272
Kakwani measure	0.213	0.1	0.334	0.163	0.253	0.095
Theil entropy measure	0.428	0.197	0.689	0.351	0.508	0.185
Theil mean log deviation	0.455	0.187	0.873	0.316	0.619	0.181
Number of observations	123	366	641	719	1,270	1,427

TABLE 5—SEX RATIOS IN FLORENCE AND HER COUNTRYSIDE, 1250-1435

Years	Sex Ratio [= (number of sons /number of daughters)*100] ^a			Number of wills ^b	
	Urban and Rural	Urban only	Rural only	Urban	Rural
1250-1299	107.5	105.8	110.7	26	28
1340-1347	113.6	119.7	107.3	159	131
1348-1350	133.3	155.7	119.9	202	277
1351-1355	115.8	125.5	103.7	72	42
1356-1360	117.5	111.6	125.9	173	108
Other episodes of plague in 1361, 1363, 1371, 1383, a major one in 1400, and other episodes of plague in the early 15 th century					
1420-1435	130.9	135.5 (117.3) ^c	111.4 (???) ^c	697	222
All					

Sources: ASF, Notarile Antecosimiano (see Appendix A for the list of volumes of notarial deeds read).

^a Only *surviving* sons and daughters are included in the computation of the sex ratios. Dead and illegitimate children were left out even if they were mentioned in the wills. Although it did not affect the sex ratios significantly, I thought it was more sensible to leave out dead and illegitimate children because not all parents with a dead or illegitimate child might have included them in the wills.

^b These are the wills of testators who had at least one child. Almost half of the testators (???? out of) whose wills I read did not have surviving children (either because they were not married yet, or because their children were already dead at the time of drafting the will).

^c Sex ratios in the entire population obtained by Herlihy and Klapisch-Zuber (1978, p.??) from the Florentine catasto of 1427.

TABLE 6—AVERAGE FAMILY SIZE IN FLORENCE AND HER COUNTRYSIDE, 1250–1435

Years	Average number of (surviving) children per household ^a		Number of observations ^b	
	Urban	Rural	Urban	Rural
1250-1299	1.66	2.45	21	24
1340-1347	1.61	1.94	159	131
1348-1350	1.22	1.27	202	277
1351-1355	1.47	1.31	72	42
1356-1360	1.37	1.69	173	108
Other episodes of plague in 1361, 1363, 1371, 1383, a major one in 1400, and other episodes of plague in the early 15 th century				
1420-1435	1.82 (1.80) ^c	1.00	697	222
All				

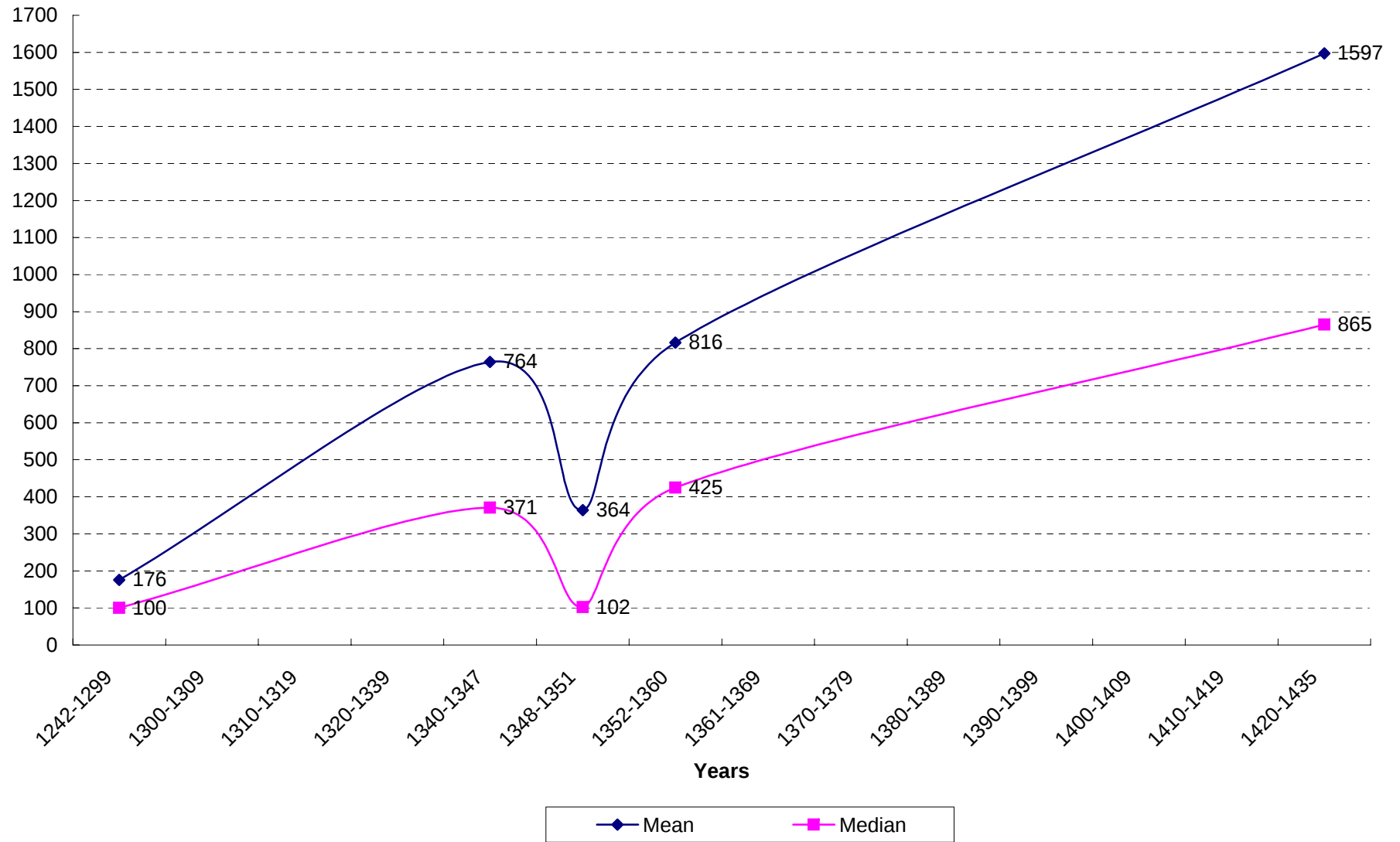
Sources: ASF, Notarile Antecosimiano (see Appendix A for the list of volumes of notarial deeds read).

^a Only *surviving* sons and daughters are included in the computation of the average household size, dead and illegitimate children were left out even if they were mentioned in the wills. Although it did not affect the figures significantly, I thought it was more sensible to leave out dead and illegitimate children because not all parents with a dead or illegitimate child might have included them in the wills.

^b It includes the households of testators who were married or widowed people even if they did not have any children, but it excludes households of testators who were unmarried. In other words, I include families with no children as long as the testator was married or widowed because in these two cases the testator could have had or had children. In contrast, I excluded unmarried testators because their marital status determined the absence of children.

^c Number of children per household in the entire population obtained by Herlihy and Klapisch-Zuber (1978, p.??) from the Florentine catasto of 1427.

Figure 1A: Urban Dowries (current lire)



Dowries in the city of Florence (current lire)

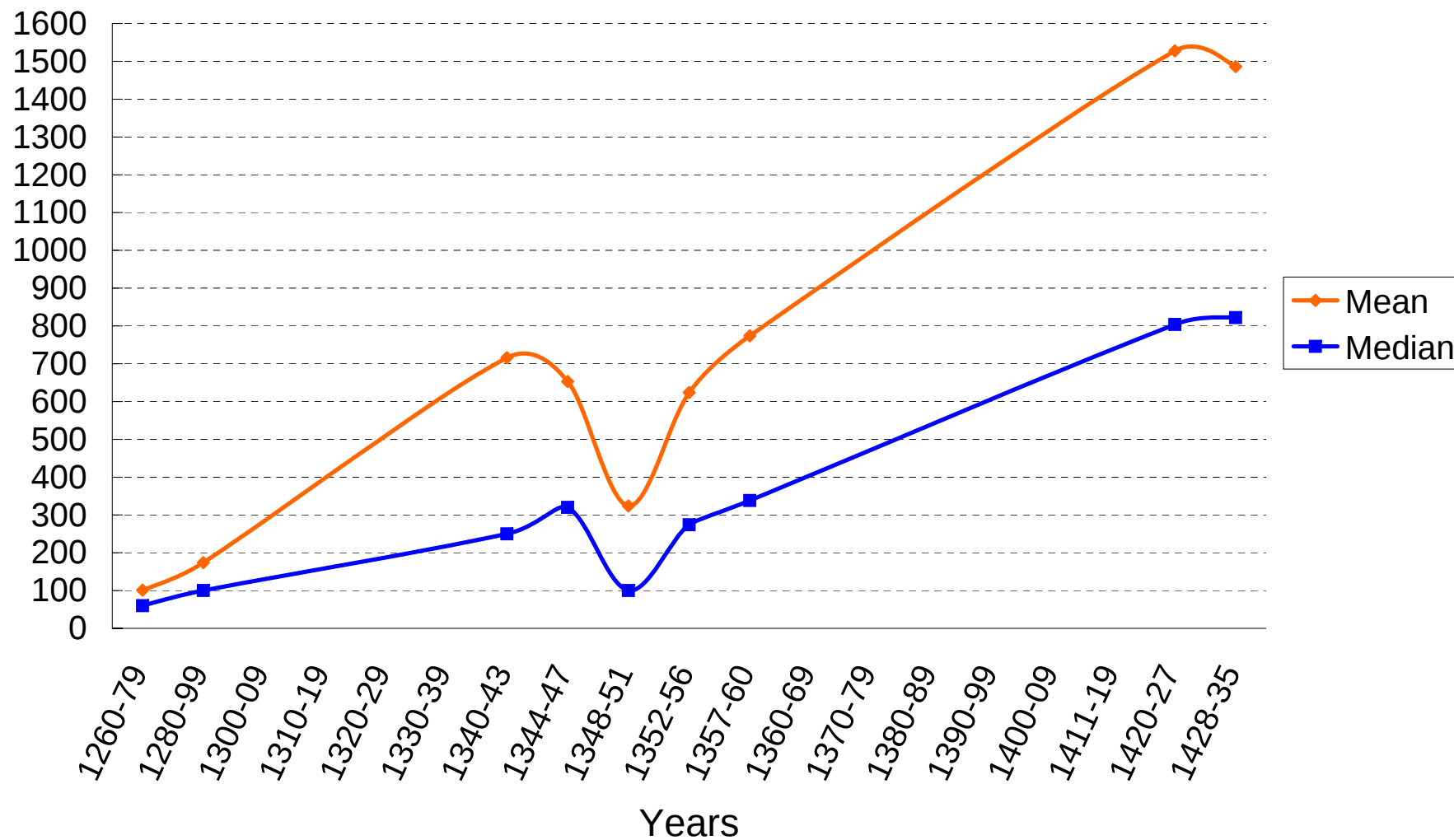


Figure 1B: Urban Dowries (constant lire)

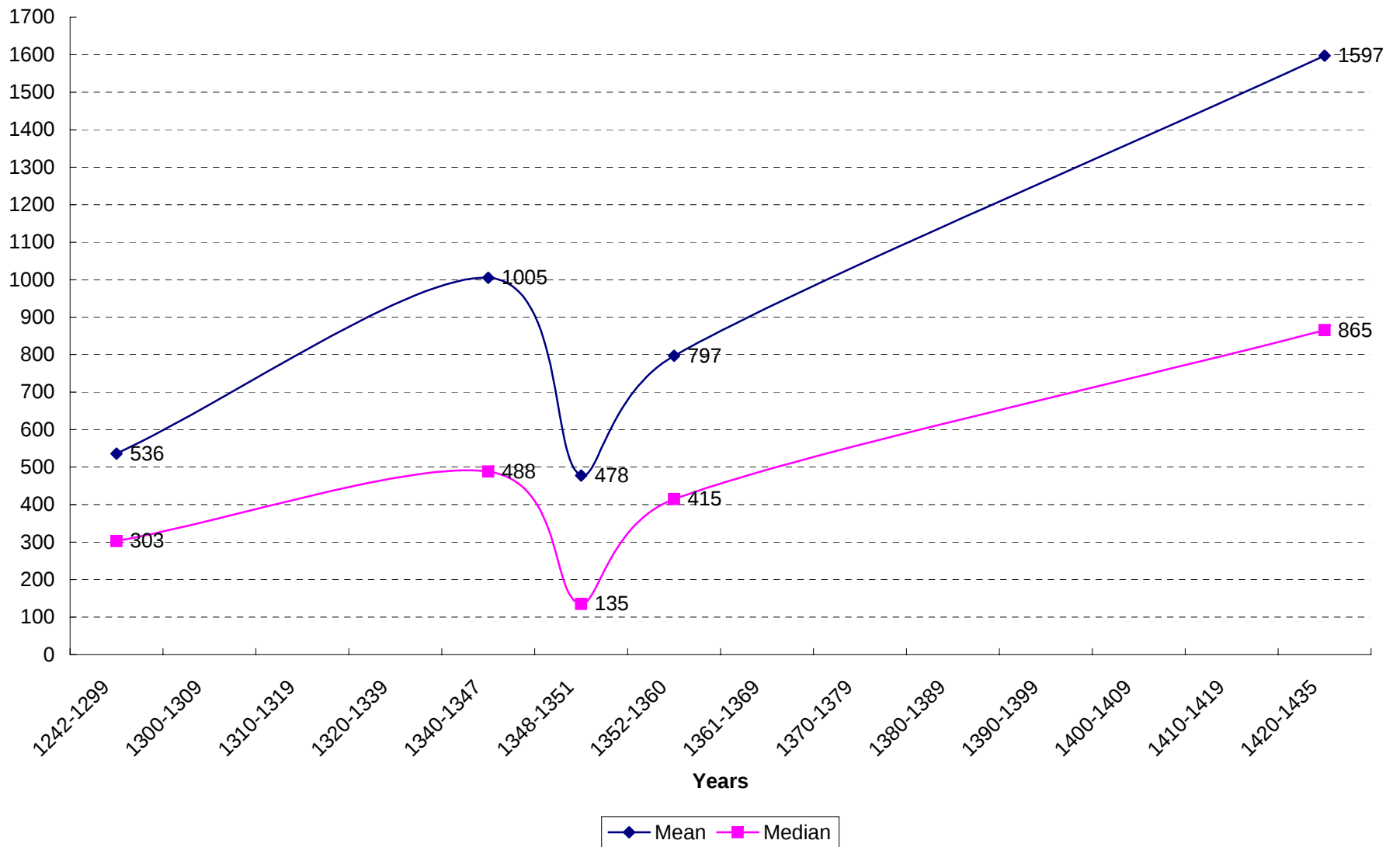
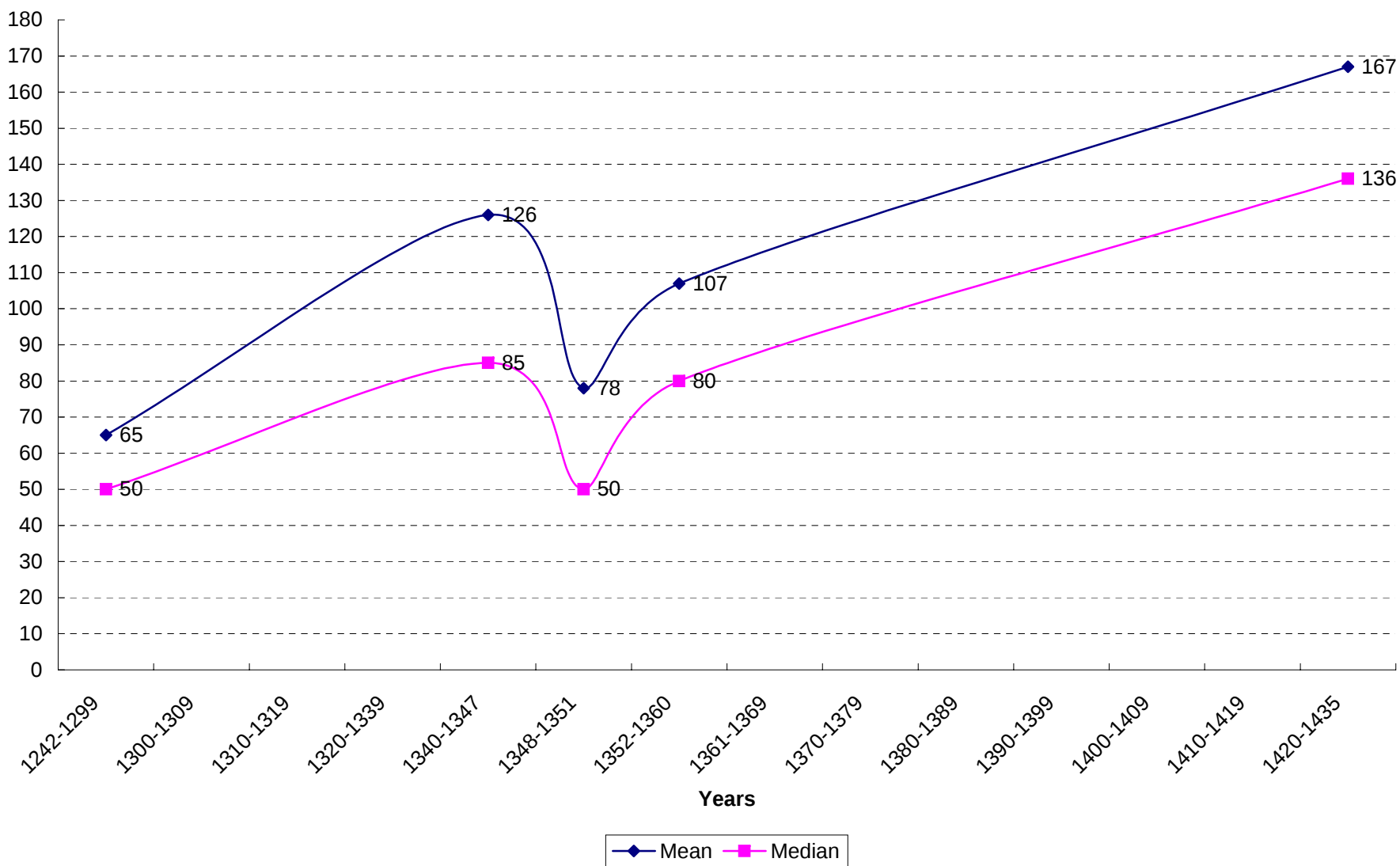


Figure 1C: Rural Dowries (constant lire)



Dowries in the countryside of Florence (current lire)

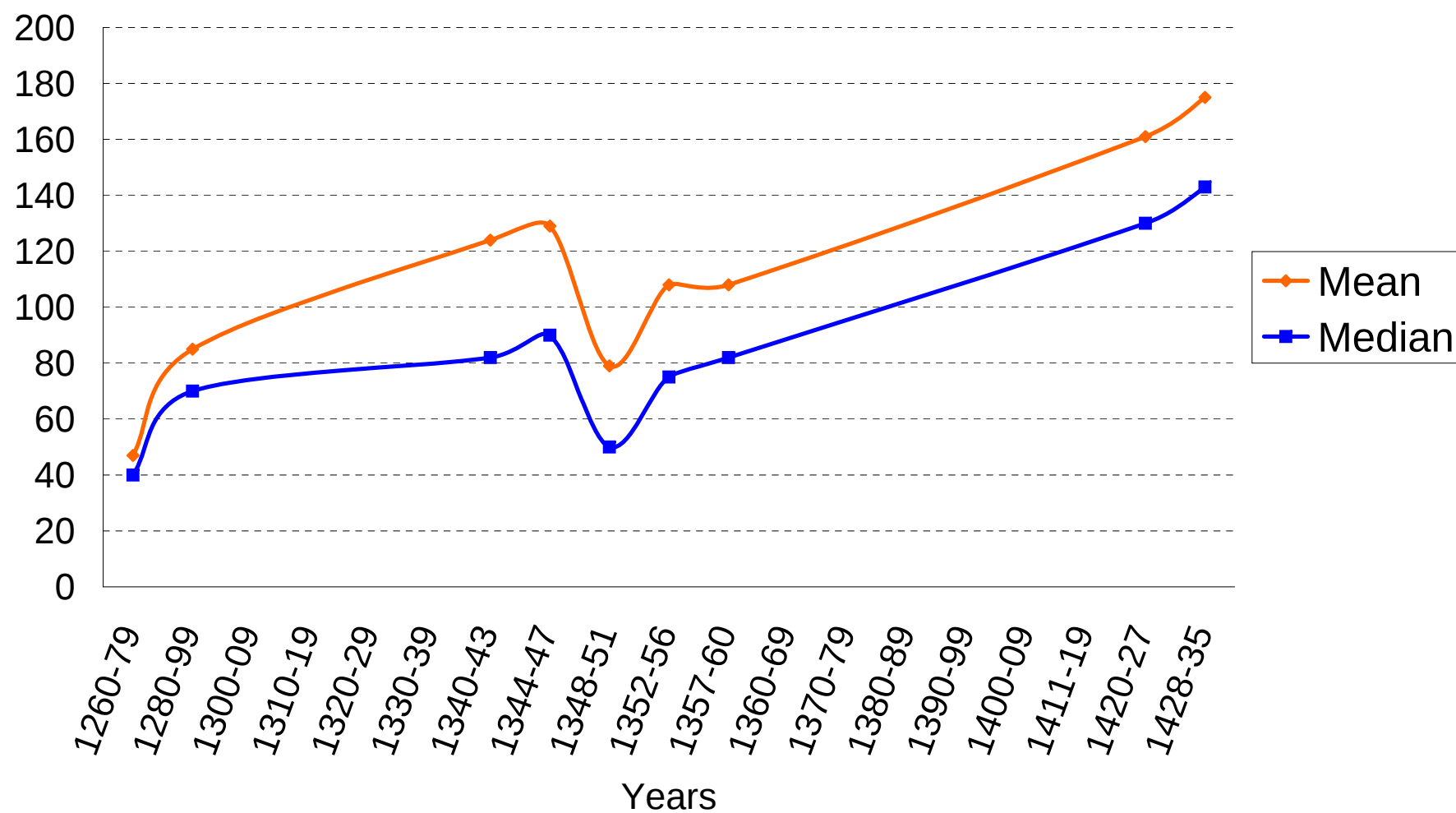


Figure 1D: Rural Dowries (constant lire)

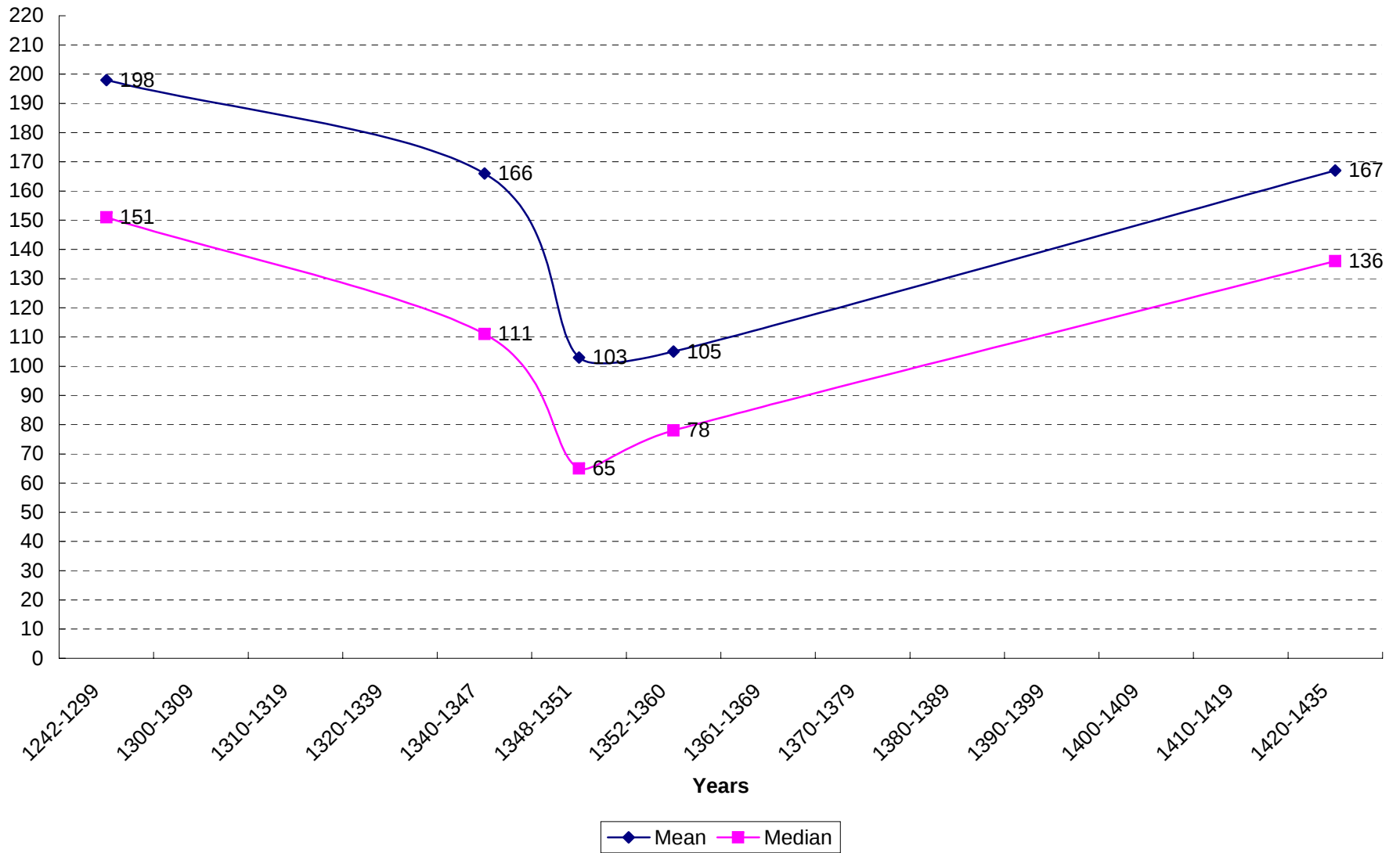


Figure 2

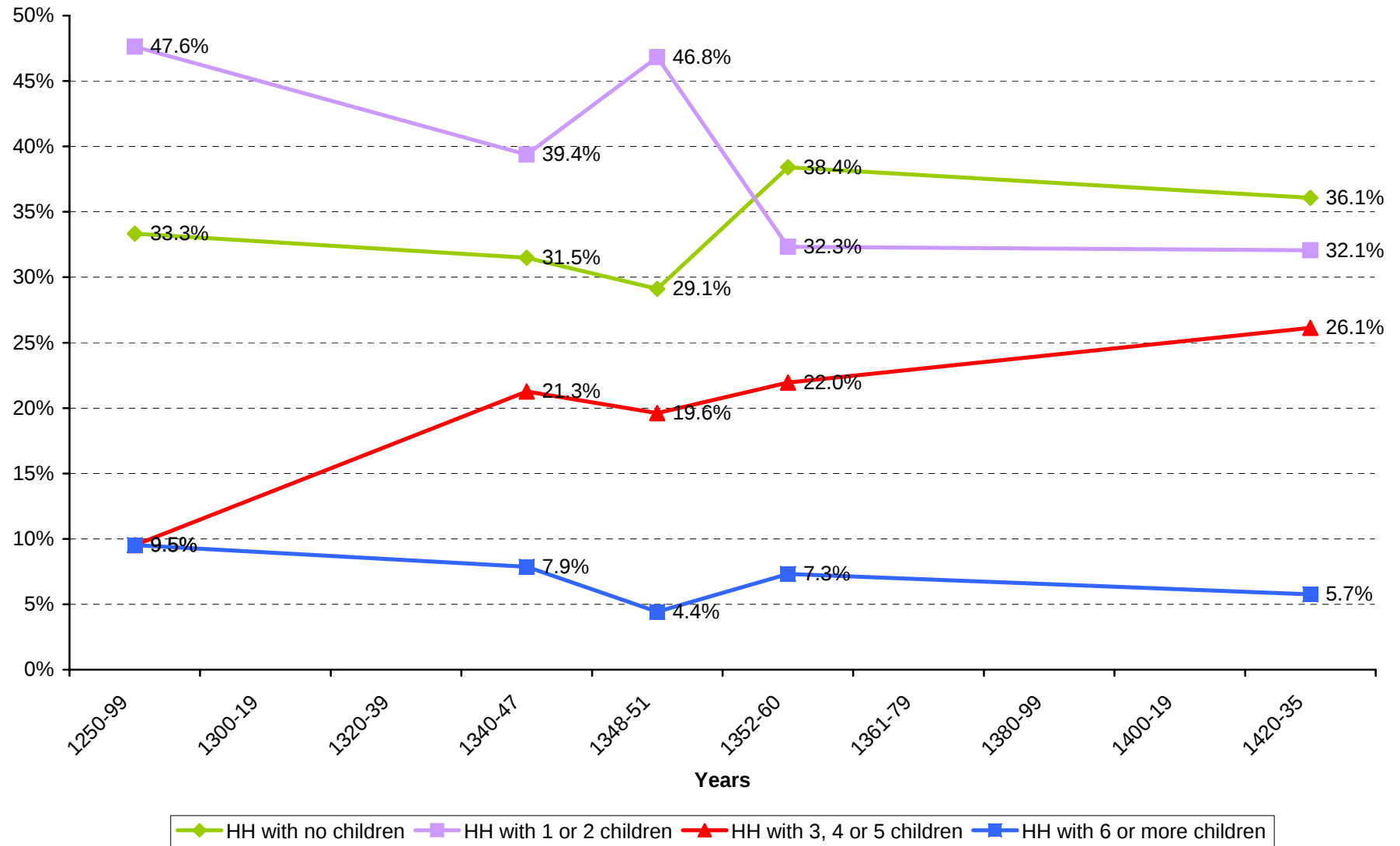
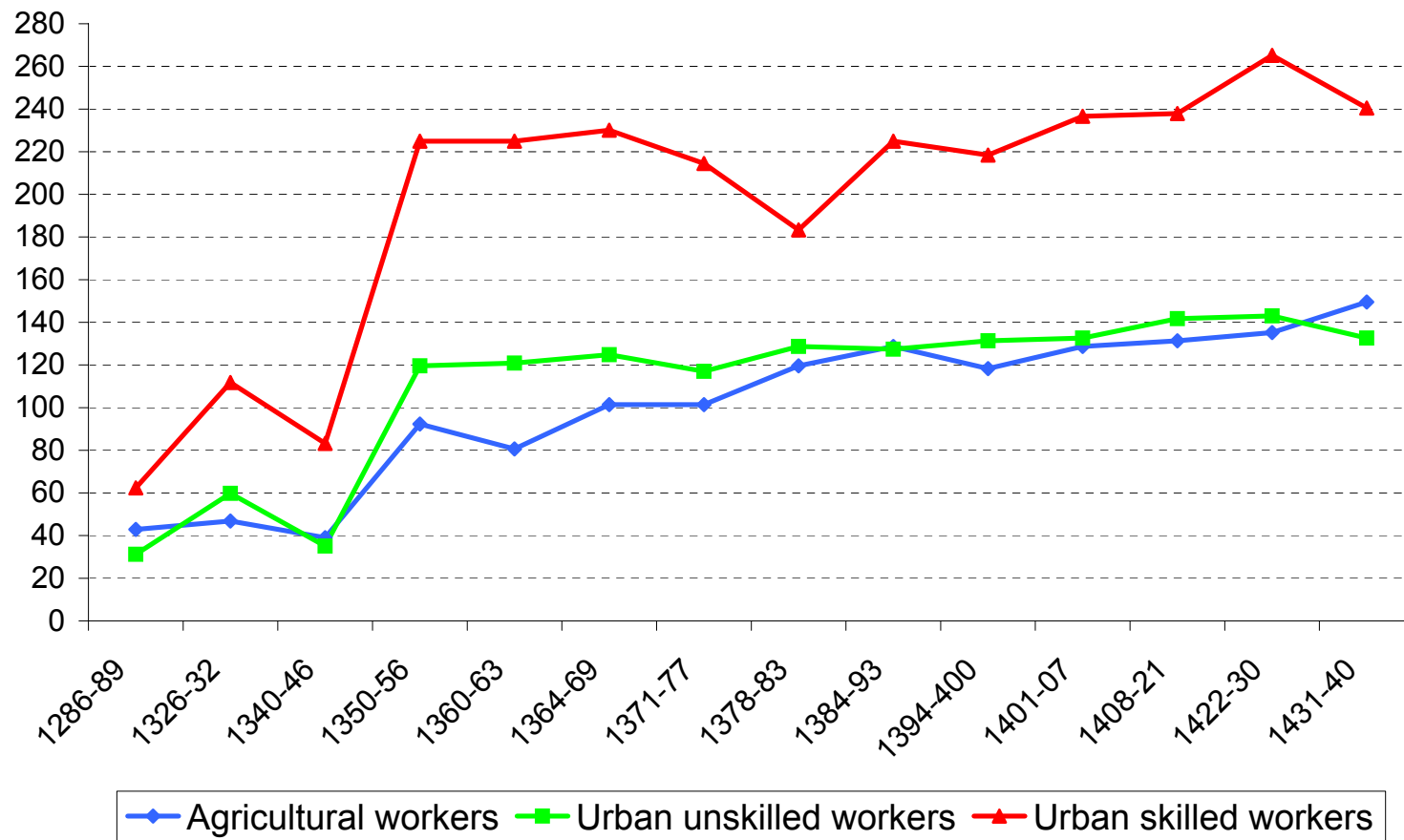


Figure 3 Annual Average Wages in Florence,
1285-1440 (current lire)



**Figure 4 Annual Average Wages of Skilled Workers in Florence,
1285-1450 (current and constant lire)**

