A Loveless Economy? Intergenerational Altruism and the Marriage Market in a Tuscan Town, 1415–1436

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This article examines the role of dowries and highlights the variables that affected the size of dowries in fifteenth-century Tuscany. The estimation, which matches the households found in the marriage contracts with the corresponding households in the Florentine *Catasto* of 1427, offers support for the present net value hypothesis and for the altruism model. Results indicate a positive correlation between a bride's dowry size and her age when used as proxy for her contribution to the marital household. Parents also provided their daughters with larger dowries when they married "down" into relatively less wealthy or socially prominent households.

In medieval and Renaissance Italy, marriages in which the bride's household provided the dowry were the norm. Resurfacing in the early Middle Ages, the institution of the dowry survived in Italy for many centuries, disappearing only a few decades ago.[1] The dowry was administered by the groom, or the groom's father, who could use and invest the dowry. However, if the groom died, the dowry returned to the bride. The bride did not control the daily management of her dowry, but retained legal ownership over it.[2] Parents had to provide dowries for all their daughters, even for those

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[1] While an intriguing issue, this article does not aim to explain why medieval and Renaissance Tuscany was characterized by a dowry system, and not by a bride price system. For excellent references on the historical developments of dowries and bride prices, see Boserup, *Women's Role*; Goody, "Bridewealth"; Herlihy, "Medieval Marriage Market"; and Hughes, "Urban Growth" and "From Brideprice to Dowry."

[2] If the dowry consisted of land holdings, the husband had to get his wife's permission before selling any land plots. In contracts drawn up by notaries, in which husbands sold their wives' land plots, there was always a preamble in which the wife agreed to the sale. Historians have strongly debated whether

who entered convents as nuns, although in the latter case the dowries were usually smaller.[3]

The dowry was a *conditio sine qua non* for the marriage. Even orphan girls reared in charities received small dowries when they married.[4] Provisions for these dowries were made either by the charities themselves or by people leaving sums of money in their wills explicitly for the purpose of creating dowry funds.[5] In these wills it was common for money to be bequeathed "to provide dowries for the poor girls of our town."[6] With the *Monte delle Doti* (Dowry Fund), Florence created a public funded debt in which households could invest a share of their wealth, get a good return in terms of interest earnings, and upon maturity obtain a sum of money to provide their daughters with dowries.[7]

Dowries are a worthwhile topic of study for two reasons. First, in medieval and Renaissance Tuscany dowries represented very large transfers of wealth from bride households to groom households. In Cortona between 1415 and 1436 the average dowry amounted to 125.5 florins, with 14 florins being the annual average salary of an urban worker in Florence in 1427. These transfers of wealth must have affected, and must have been affected by, households' savings behavior and wealth accumulation. Moreover, while most studies of dowries, bride price, and marriage markets usually focus on rural and developing regions, Tuscan towns were vibrant commercial centers during the Middle Ages and the Renaissance.[8]

Second, from a theoretical viewpoint the dowry is intriguing because it is both a marriage payment and an intergenerational transfer. The former is the aspect studied more extensively by economists.[9] Dowries are paid by bride households to groom households when daughters marry; without a marriage there is no dowry. If marriage transactions occur in a market setup, the dowry should be the price of the goods being purchased and sold. It is not obvious, however, what exactly is being purchased and sold in the marriage market, nor what the dowry is payment for. When viewed as marriage payments, dowries may greatly affect

women in the Renaissance gained or lost control over wealth and assets—and over their dowries in particular (see, for example, Brown and Goodman, "Women"; Chabot, "La reconnaissance"; Chojnacki, "Dowries," "Marriage Legislation," and " Most Serious Duty"; Cohn, *Women*; Gregory, "Daughters"; Hughes, "Urban Growth" and "From Brideprice"; Kirshner, "Wives' Claims" and "Materials"; Kirshner and Molho, "Dowry Fund"; Klapisch-Zuber, "Cruel Mother" and *Women*; Kuehn, "Cum Consensu Mundualdi" and *Law*; Molho, *Marriage Alliance*; and Riemer, "Women").

[3] Trexler, "Le cèlibat."

[4] Henderson, *Piety*, pp. 316–20.

[5] Cohn, *Women*, pp. 76–97.

[6] See, for example, State Archives of Florence (hereafter ASF), Notarile Antecosimiano 18912, fols. 9r, 48r.

[7] See Kirshner and Molho, "Dowry Fund"; and Molho, *Marriage Alliance*.

[8] For works on India and Africa see Grossbard-Shechtman, *On the Economics*; Jacoby, "Economics"; and Rao, "Rising Price."

[9] See, for example, the work of Becker, *Treatise*; Cigno, *Economics*; Grossbard-Shechtman, *On the Economics*; and Rao, "Rising Price."

the functioning of marriage markets. These markets, together with the institutions and social norms that regulate them, may influence economic growth, consumption smoothing, savings behavior, and female labor supply.[10]

On the other hand, the study of the dowry as an intergenerational transfer from parents to their daughters has been neglected by economists. Intergenerational transfers from parents to children can be either *inter vivos* transfers or bequests. Dowries fall into the first category. The timing of intergenerational transfers can have economic implications in terms of the savings behavior of the parents and the labor supplied by their children. Children receiving *inter vivos* transfers may behave differently than those receiving bequests in terms of the attention and care they are willing and able to provide to their parents as they grow old.

This article analyzes the role of dowries and highlights the variables affecting the size of dowries in fifteenth-century Tuscany. When considering the dowry as a marriage payment, the main issue is the amount the bride's parents are paying in the marriage market. To address this issue, this article describes and tests the present net value hypothesis, according to which the dowry depends upon the value of the bride's contribution to the marital household. *Ceteris paribus*, the larger the contribution of the bride to the marital household, the smaller the dowry her parents will have to pay to convince the groom household to accept their daughter.

When considering the dowry as an intergenerational transfer, the key concern is whether parents are altruistic toward their daughters. In an altruism framework, if parents care about their daughter's well-being they will provide a larger dowry when she marries "down" into a less wealthy or less prominent household than when marrying "up."

The estimation, based on a sample of 224 marriage contracts for the Tuscan town of Cortona between 1415 and 1436, supports both the present net value hypothesis (dowries and the bride's age are positively correlated) and the altruism model (parents provided their daughters with larger dowries when the daughters married down).[11] The latter finding contradicts the bleak picture that the literary evidence provides on parent-child relationships in the Middle Ages.[12] Quite interestingly, this article sheds light on the marriage strategies not only of wealthy and prominent households, but also of very humble peasants, small artisans, and poor urban workers—those groups

[10] See Cole, Mailath, and Postlewaite, "Social Norms" for an intriguing analysis of marriage markets, social norms, savings behavior, and economic growth.

[11] Cortona was no small village in the Florentine territories. Sold in 1411 to Florence by Ladislao D'Angiò for 60,000 gold florins, at the time of the *Catasto* of 1427 Cortona was the sixth most populous town belonging to the Florentine dominion after Florence, Pisa, Arezzo, Pistoia, and Volterra, and it had a large countryside (Herlihy and Klapisch-Zuber, *Les Toscans*; Mancini, *Cortona*; and Uccelli, *Storia di Cortona*). In other words, Cortona offers the perspective of a large town in this region for which numerous notarial contracts survived.

[12] See, for example, Klapisch-Zuber, *Women*.

whose social and economic behavior is challenging to study due to the paucity of memoirs or other records that may document their history.

The article begins with a description of the main features of the Tuscan marriage market. Next it discusses a conceptual framework for understanding dowries and introduces the hypotheses to be tested. The article then describes the sample, presents the estimation, and ends with some directions for future research.

THE TUSCAN MARRIAGE MARKET IN THE FIFTEENTH CENTURY

To formulate hypotheses about the use of dowries, we need to know the basic facts about the Tuscan marriage market. The reading of medieval letters and diaries reveals three aspects about this market. First, parents cared about their future son- or daughter-in-law's personal qualities. Second, the qualities of future in-laws were also of the utmost concern. Besides wealth, parents cared about the prestige, the social and political standing and connections of their future in-laws. Third, providing the dowry was the critical element of the marriage negotiations.[13]

The most striking feature of Tuscan society, as depicted in the *Catasto* of 1427 (a census and property survey of the Florentine territories), is the absence of the so-called European marriage pattern, which has been shown to dominate in modern Western Europe.[14] In late medieval and early Renaissance Tuscany, women married in their late teens while men married much later. Celibacy among women was virtually unknown: 97 percent of Tuscan women were married before the age of 25. Meanwhile, many men, especially those living in towns, delayed getting married, or never married: just 47 percent of Florentine men were married at the time of the *Catasto* of 1427. The mean age for women at their first marriage was 18.8 with a mode at 16, while for men the two values were 27.8 and 25, respectively.[15] The age gap between men and women when marrying for the first time was lower in the countryside, where men married a bit earlier than their urban counterparts.

In Cortona, too, a ten-year gap existed between the age of the bride and the age of the groom (Table 1).

On average, women married in their late teens and men in their late twenties. Bride households were, on average, slightly richer than groom households, and had more children. Assortative mating did not occur according to wealth: the correlation coefficient between the wealth of the bride household and the wealth of the groom household is just 0.14. Meanwhile, there was

[13] Molho, *Marriage Alliance*, pp. 130–32.

[14] Hajnal, "European Marriage Patterns." The European marriage pattern, which uniquely characterizes Western Europe in modern times, presents two key elements: older age of women marrying for their first time and a higher percentage of people who never married.

[15] Herlihy and Klapisch-Zuber, *Les Toscans*, p. 537, fig. 24.

TABLE 1
SUMMARY STATISTICS OF MARRIAGES IN CORTONA, 1415–1436

	Mean	Median	Standard Deviation
Dowry (in florins)	125.5	70	105.9
Groom's age	28.1	27	8.3
Bride's age	18.8	18	4.7
Groom household's wealth (in florins)	609.7	164	1,692.84
Bride household's wealth (in florins)	700.7	196	1,997.66
Number of children in grooms' households	2.25	2	1.87
Percentage of daughters in grooms' households	0.08	0	0.17
Number of children in brides' households	3.14	3	2.33
Percentage of daughters in brides' households	0.65	0.6	0.27
N		224	

Note: The marriages refer both to households living in the town of Cortona and in 44 villages in its countryside.
Sources: Florence, State Archives (hereafter ASF), Catasto 213, 214, 215, 216, 252, 253, and 254; Notarile Antecosimiano 1143, 1144, 1145, 1146, 5441, 10038, 18905, 18906, 18907, 18908, 18909, 18910, 18911, 18912, 18913, and 18914.

a strong assortative mating regarding the place of residence, with households living in the town of Cortona or in the villages in the countryside choosing sons- and daughters-in-law from their respective areas. Assortative mating also occurred with regard to the type of occupation. Out of 224 marriages, 54 percent were between a peasant bride and a peasant groom, and 14 percent between a nonpeasant bride and a nonpeasant groom.

Another striking feature of the marriage market in Cortona is the large number of women who married "down." Marrying down is defined according to two variables: wealth and occupation. This makes sense in societies such as medieval and Renaissance Tuscany, in which the social standing of a household depended on both its wealth and prestige—the latter often being determined by the groom's occupation. A bride from a peasant household could either marry a peasant groom, or marry "up" into a merchant or a notary household. Conversely, a bride from a merchant or notary household could either marry a merchant groom, or marry down into a peasant household. *Ceteris paribus*, both types of brides could marry up or down as far as wealth was concerned. According to these two criteria—wealth and occupation—there are eight possible combinations, as indicated in Tables 2 and 3. A significant proportion of brides from both peasant and nonpeasant households married down.

It may seem odd that so many women married down. According to David Herlihy and Christiane Klapisch-Zuber's study of the Florentine *Catasto* of 1427, women were scarce in Tuscany, and this by itself should have favored women marrying up (see the sex ratios in Tuscan towns displayed in Appendix Table 1). Indeed, the *town* of Cortona was the only Tuscan town with a surplus of women. As Table 2 shows, women marrying down were also common in the *countryside* of Cortona, where women were scarce as in the rest of Tuscany.

TABLE 2
PROPORTION OF WOMEN MARRYING UP OR DOWN IN WEALTH AND OCCUPATION (BRIDES FROM PEASANT HOUSEHOLDS)

	Occupation		
Wealth	Same	Marry Up	Total
Marry down	0.49	0.08	0.57
Marry up	0.31	0.12	0.43
Total	0.8	0.2	

Notes: $N = 152$. The figures represent percentages.
Sources: See Table 1.

The significant proportion of women marrying down can be explained by high wealth concentration in late medieval Tuscany coupled with the *necessity* for women to marry when young. Wealth was highly concentrated: in Florence itself, the wealthiest 1 percent of households owned more than a fourth of the overall wealth of the town.[16] Moreover, while Tuscan men preferred to delay getting married, women *had* to marry when very young.[17] These three factors—wealth concentration, delayed marriages for men, and early marriages for women—along with a less favorable sex ratio for women in the fourteen to twenty-four age cohort made it quite difficult for a bride household to find a "suitable" groom, particularly if the bride household was wealthy or prominent.

THE DOWRY AS MARRIAGE PAYMENT AND INTERGENERATIONAL TRANSFER

Study of the dowry as a marriage payment centers around the amount that the bride's parents pay. This article proposes the present net value hypothesis, which states that the dowry depends upon the value of the bride's contribution to the marital household. The bride's contribution is based on the value of the housework (and possibly farm work) she will perform, the love and pleasure she will bring to her husband, her ability to bear children and to rear and supervise them, minus the value of her lifetime consumption.

While housework has positive value in both the paternal and the marital households, it has greater worth in the marital household because there the bride's housework is regarded as essential, while in the paternal household the bride's mother can perform the same housework. The love and pleasure

[16] Herlihy and Klapisch-Zuber, *Les Toscans*, p. 340.

[17] Various reasons have been offered to explain why men, especially those living in urban centers, often married later in life. Young men, particularly merchants, notaries, artisans, and medical doctors, had to accumulate enough wealth before starting a career on their own. Moreover, to prevent the household's patrimony from becoming too fragmented, sons, especially cadets, remained bachelors, or delayed their marriage until the parents' death.

TABLE 3
PROPORTION OF WOMEN MARRYING UP OR DOWN IN WEALTH AND OCCUPATION (BRIDES FROM NONPEASANT HOUSEHOLDS)

	Occupation		
Wealth	Marry Down	Same	Total
Marry down	0.2	0.32	0.52
Marry up	0.3	0.18	0.48
Total	0.5	0.5	

Note: $N = 72$. The figures represent percentages.
Sources: See Table 1.

a bride brings to her husband and the birth of children have zero, or even negative, value in the paternal household, while they have positive value in the marital household. In the paternal household, the daughter represents a potential financial loss, which includes the monetary valuation of the "shame" that would follow an out-of-wedlock pregnancy.

Consequently, the bride's parents always have an incentive to find a husband for their daughter in order to minimize their financial loss. The older their daughter, however, the greater their financial loss, and the smaller the probability that she can find a husband. An "old" bride will be less attractive, and, more importantly, will not be able to give birth to as many children as a younger bride. A woman waiting too long before marrying will become too expensive to "sell" in the marriage market: her parents will have to pay a larger dowry to compensate the groom's household for the smaller net positive contribution the bride will provide in the marital household.

The present net value hypothesis predicts that the younger the bride, the larger her net positive contribution to the marital household and, therefore, the smaller the dowry her parents have to pay. While the "optimal" age at which a woman should marry is equal to, say, t_1 for all women, it may happen that some women are unable to marry at that age. Parents with unattractive daughters may encounter difficulty finding husbands for them. Poor households may have difficulty providing the dowry when their daughters reach the age of t_1 and may have to delay any marriage. The longer a bride's parents delay, however, the larger the dowry they will have to provide to convince the groom household to accept a "less valuable product." Under the present net value hypothesis, larger dowries are associated with older brides.

The dowry, though, is not only a market price; it also represents a wealth transfer from parents to their daughters. The study of the dowry as an intergenerational transfer is primarily concerned with the altruism shown by parents when making transfers to their daughters. In an altruism framework, parents caring for their children's well-being compensate the "less lucky" children by making larger transfers to them. In the case of dowries, if parents are altruistic toward their daughters, the dowries provided when they marry

down into less wealthy or less prominent households will be larger than those given when marrying up.

Suppose that parents are selfish and use their daughter's marriage to enhance their own social and economic standing. When parents make a daughter marry up, we expect them to pay a high dowry, in order to secure the desirable match. However, what would be the purpose of paying a *higher* dowry in the marrying down case, unless parents are concerned about their daughter's well-being? If parents are altruistic and wish to ensure their daughter, who is marrying down, a standard of living comparable to the one she had in the paternal household, then they would provide a larger dowry than in the marrying up case.

Alternatively, another test of the altruism model consists of checking whether there is fair division of household wealth, with parents bequeathing their children equal shares. If parents are altruistic, two daughters marrying grooms of similar backgrounds will receive equal dowries.

THE SAMPLE

Data to test the present net value hypothesis and the altruism model have been collected from two primary sources. First, information on the size of dowries is available from marriage contracts drawn up by notaries. The parties anticipating marriage appeared before a notary more commonly than before a priest.[18] The notary was needed to record the *instrumentum sponsalitii*, or formal betrothal, and a *confessio dotis*, or dotal agreement.[19] These contracts, written in Latin by notaries using many abbreviations (and often horrible handwriting) have left valuable information on the size of the dowry and the names of the prospective spouses and their respective fathers.[20]

Yet, these names are bound to remain "pure shadows" if researchers have no access to a source shedding light on who these people were. Fortunately, scholars have been blessed with the opportunity to study the census and property survey of 60,000 households known as the Florentine *Catasto* of 1427. In that year the government of Florence, pressed by urgent financial needs due to continuous warfare with other Italian cities, tried to increase its tax revenues. To ascertain the wealth of the citizens living in all its domains, Florence undertook the *Catasto*—a comprehensive census and property survey. Each household head had to declare the houses, lands, and draft animals he owned; the crops grown, and types of agrarian contracts used; the average crop yields of the previous three years; his debts and credits; his shares of commercial

[18] Herlihy, "Medieval Marriage Markets," p. 26.

[19] Herlihy and Klapisch-Zuber, *Les Toscans*.

[20] In the fifteenth century, the use of surnames was not yet widespread, being limited mainly to rich and powerful families. Each individual was identified by first name, father's name, and grandfather's name. Thus, for example, one finds Cristofano, son of Niccolaio of Maso.

partnerships; and his occupation. Furthermore, he had to report the composition of his family by name, age, sex, and relationship to himself.

To create the sample used in this article, I have jointly consulted notarial deeds and the Florentine *Catasto* of 1427 housed at the State Archives of Florence. Marriage contracts written by notaries provided information on the size of the dowry (whether in cash or in land holdings), the names of the bride, the groom, and their respective fathers, and the place of residence. The deeds record marriages in Cortona and forty-four villages in its countryside between 1415 and 1436. The Florentine *Catasto* of 1427 supplied information on the wealth, occupation, number of children, percentage of daughters, and age of the spouses for the households found in the notarial acts. Not included in this sample are dowries given by charities to orphan girls, because these young women did not have a corresponding household in the *Catasto*, and dowries that consisted of land holdings whose monetary value was not provided in the marriage contracts.

Searching the *Catasto* for the names of groom's and bride's fathers given in notarial contracts was not always an easy task. For marriage contracts prior to 1427 the father might have died before that date, so one would have to look for the household under the name of the surviving wife or children. Moreover, households were often formed by two brothers living with their families under one roof, and the household in the *Catasto* might turn out to be recorded under the name of the other brother. Common names like Agnolo, Antonio, or Giovanni—like their modern American counterparts John Smith and Mary Brown—also turned out to be a formidable obstacle to the exact identification of the head of each household.

In creating the sample, a conservative strategy has been adopted: only those households were included for which there was no doubt about identity. Thus, after checking in the *Catasto* to find the corresponding groom and bride households, 224 out of 328 marriage contracts were found for which all information on age, wealth, occupation, land holding, and household structure is complete.[21] Table 4 shows that the sample is representative: the size of dowries in the sample and in all 328 contracts is fairly close. If anything, the bias indicates that the sample tends to represent wealthier households.

THE ESTIMATION

In the ordinary least squares estimation presented in Table 5, the dependent variable is given by the value of the dowry (in florins).[22] This number

[21] These 328 notarial deeds are a complete enumeration of all surviving marriage contracts for Cortona and its countryside between 1415 and 1436 for which the value of the dowry was written in the contract.

[22] One might correctly point out that since the dowry cannot be negative, a more appropriate estimation would be a Tobit estimation. I have also run a Tobit estimation and the results were identical.

TABLE 4
SIZE OF DOWRIES IN CORTONA, 1415–1436

	Number of Contracts	Mean (florins)	Median (florins)	Standard Deviation
Sample	224	125.5	70	105.9
All contracts	328	110.6	60	99.3

Sources: ASF, Notarile Antecosimiano 1143, 1144, 1145, 1146, 5441, 10038, 18905, 18906, 18907, 18908, 18909, 18910, 18911, 18912, 18913, and 18914.

represents the sum of cash plus the monetary valuation of houses and land holdings, if the dowry consisted of these assets.[23] The regression takes into account the ages of the couple and whether the bride, the groom, or both were marrying for the second time.[24]

To capture occurrences of women marrying down, the regression uses dummy variables. There are eight dummy variables corresponding to the eight possible marital combinations described earlier and in Tables 2 and 3. *AgrAgrDown* and *AgrAgrUp* refer, respectively, to those marriages in which an agricultural bride (*Agr*) marries an agricultural groom (*Agr*) with a smaller (*Down*), or larger (*Up*), amount of wealth. In both cases, the bride is matched with an "equal" groom from the viewpoint of occupation, but marries down (or up) according to wealth. The dummy variables *NonagrNonagrDown* and *NonagrNonagrUp* are similarly defined for nonagricultural brides. *NonagrDownDown* considers those marriages in which a nonagricultural bride marries an agricultural groom (*Down*) with a smaller amount of wealth (*Down*). This bride is marrying down both from the viewpoint of occupation and wealth. *NonagrDownUp* refers to marriages in which a nonagricultural bride marries an agricultural groom (*Down*) of greater wealth (*Up*). The variables *AgrUpDown* and *AgrUpUp* are similarly defined for agricultural brides.

Similar to common methods of testing the altruism hypothesis, the regression controls for households' wealth. The wealth assessments are taken from the census declarations. One may raise two objections to this data. While occupations remained fairly stable over years, the wealth of a household was more subject to change. The question is whether the wealth a household had in 1427 was the same as, or at least close to, its wealth ten years earlier, or five years later for marriages not contracted in 1427. Moreover, for households whose children married before 1427, the 1427 wealth assessment of the groom household would be overestimated and the wealth of the bride household would be underreported, given that the amount of the dowry had been transferred from the bride household to the groom household before

[23] If the dowry was partly provided by the parents and partly by a charity, I have disregarded the latter component, since for the hypotheses to be tested here, the dowry provided by the parents is the relevant variable.

[24] Out of 224 marriages, in 11 marriages the groom was marrying for the second time, in 4 marriages the bride was marrying for the second time, and in 5 marriages both spouses were remarrying.

that year. The latter problem has been corrected by adding the amount of the dowry to the wealth of the bride household and subtracting it from the wealth of the groom household. The former problem probably has no solution for this sample. However, to reduce the possible bias of having only the 1427 wealth assessment, a year dummy has been introduced in the regression: for marriages after 1427 this dummy variable takes the value of one.[25]

The total number of children includes all boys and girls, independent of their relationship with the head of the household. In other words, a household head having, say, two daughters, one son, one unmarried brother, two young unmarried sisters, and one unmarried niece is considered to have seven children—of which five are considered daughters and two are considered sons. The rationale for this computation is that the household head had to provide dowries to his female dependents regardless of whether they were his daughters, sisters, or nieces.[26]

TESTING THE PRESENT NET VALUE HYPOTHESIS

The present net value hypothesis predicts a positive relationship between the size of the dowry and the age of the bride. The basic assumption is that the dowry is dependent upon the value of the bride's net contribution to the marital household, and the younger the bride, the greater her expected contribution. Among other things, a younger bride is more attractive and more fertile. It follows that the younger the bride, the smaller the dowry her parents have to pay in the marriage market because the groom household will be more willing to accept a young bride.

The estimation seems to support this hypothesis. The coefficient of the bride's age has the predicted positive sign and is statistically significant when the regression also considers the age difference between the two spouses (Table 5, first column). This coefficient is no longer statistically significant if the regression allows for the groom's age (Table 5, second column). Because the bride's and groom's ages are correlated (0.47), the former specification, which considers the bride's age and the age difference of the two spouses, seems more appropriate.[27]

Moreover, Tuscan parents seem to have provided larger dowries when their daughters married for the second time. Again, this finding seems to support the present net value hypothesis: because brides who remarried were

[25] The correlation coefficient between the year dummy and the wealth of the bride (groom) household is 0.04 (−0.01).

[26] The number of children comes from the census, which in this case may lead to a bias: daughters that have already married and left their paternal household would be undercounted. To account for this possibility, I have included the age of the household head as proxy for the number of children in a given household. None of these variables turned out to be significant nor have they affected the results of the regression.

[27] The correlation coefficient between the bride's age and the age difference of the two spouses is −0.10.

TABLE 5
ESTIMATES OF THE DOWRY FUNCTION (OLS)
DEPENDENT VARIABLE: DOWRY (IN GOLD FLORINS)

	1		2	
	Coefficient	*t*-Statistic	Coefficient	*t*-Statistic
CONSTANT	18.51	(0.32)	5.87	(0.09)
YEAR DUMMY	15.46	(1.46)	15.67	(1.48)
GROOM REMARRIED DUMMY	-14.33	(-0.71)	-15.14	(-0.73)
BRIDE REMARRIED DUMMY	86.75	(3.28)***	86.52	(3.26)***
GROOM'S AGE	—		4.01	(1.3)
(GROOM'S AGE)^2	—		-0.03	(-0.87)
AGE OF THE GROOM'S FATHER	-0.68	(-1.25)	-0.69	(-1.27)
BRIDE'S AGE	8.59	(2.33)**	5.57	(1.39)
(BRIDE'S AGE)^2	-0.19	(-2.45)**	-0.16	(-1.93)*
AGE OF THE BRIDE'S FATHER	-0.09	(-0.2)	-0.05	(-0.12)
AGE DIFFERENCE	3.29	(2.02)**	—	
(AGE DIFFERENCE)^2	-0.06	(-1.46)	—	
GROOM HOUSEHOLD'S WEALTH	0.01	(4.72)***	0.01	(4.71)***
BRIDE HOUSEHOLD'S WEALTH	0.01	(6.14)***	0.02	(6.19)***
AGRAGRUP DUMMY	-0.53	(-0.04)	-0.14	(-0.01)
AGRUPDOWN DUMMY	33.3	(1.51)	33.1	(1.5)
AGRUPUP DUMMY	98.25	(5.26)***	95.7	(5.14)***
NONAGRNONAGRDOWN DUMMY	109.43	(6.12)***	109.59	(6.1)***
NONAGRNONAGRUP DUMMY	75.89	(3.26)***	76.25	(3.25)***
NONAGRDOWNDOWN DUMMY	98.3	(4.9)***	98.51	(4.89)***
NONAGRDOWNUP DUMMY	63.21	(3.69)***	63.78	(3.71)***
NUMBER OF CHILDREN IN GROOM HOUSEHOLD	-4.5	(-1.27)	-4.35	(-1.23)
PERCENTAGE OF DAUGHTERS IN GROOM HOUSEHOLD	45.32	(1.4)	44.48	(1.37)
NUMBER OF CHILDREN IN BRIDE HOUSEHOLD	-8.28	(-2.91)***	-8.43	(-2.95)***
PERCENTAGE OF DAUGHTERS IN BRIDE HOUSEHOLD	-11.05	(-0.59)	-11.72	(-0.62)
RESIDENCE DUMMY	26.36	(2.19)**	25.55	(2.11)**
R^2	0.68		0.68	
ADJUSTED R^2	0.65		0.65	
F-STATISTIC	19.18		18.99	
N			224	

* = Significant at the 10 percent level.
** = Significant at the 5 percent level.
*** = Significant at the 1 percent level.

Notes: *YEAR DUMMY* equals one for marriages after 1427. *AGE DIFFERENCE* is groom's age minus bride's age. The omitted dummy is *AGRAGRDOWN*. *AGRUPDOWN* equals one when a bride from a peasant household (AGR) marries a nonpeasant groom (UP) with lower wealth (DOWN). Analogously, *AGRUPUP* equals one when a bride from a peasant household (AGR) marries a nonpeasant groom (UP) with higher wealth (UP). *NONAGRDOWNDOWN* (*NONAGRDOWNUP*) are similarly defined for nonpeasant brides marrying peasant grooms. Lastly, *NONAGRNONAGRDOWN* (*NONAGRNONAGRUP*) are similarly defined for nonpeasant brides marrying nonpeasant grooms. *RESIDENCE* equals one if the bride and/or the groom households lived in the town of Cortona, zero if both households lived in the countryside.

Source: See Table 1.

likely to be older than those marrying for the first time, parents had to pay larger dowries to find grooms willing to marry them.

TESTING THE ALTRUISM MODEL

Tables 2 and 3 have indicated that women who married down were common both in the agricultural and in the nonagricultural group. The question is, did marrying down influence the size of dowries? The regression in Table 5 indicates that this was indeed the case. Households whose daughters married down seem to have provided larger dowries to their daughters: the coefficients of the "down" dummies are greater than the coefficients of the "up" dummies.[28]

Given that daughters were potentially a financial drain on their families, that any marriage was better than their continuing to stay in the parents' house, and that a dowry was given with each marriage, even if it was down, one might object that this by itself would be evidence of self-interest rather than of altruism. True, a dowry went with each marriage, regardless of whether the marriage was up or down. However, parents' altruism toward their daughters is not determined by the *existence* of the dowry, but by its *size*. In medieval and Renaissance Tuscany, parents did not have a choice of whether or not to provide a dowry for their daughters. They could, and did, decide on the size of the dowry. The data for Cortona in the 1420s reveal that parents cared about their daughters' well-being by providing them with larger dowries when marrying down.

Of course, the provision of the dowry was also affected by factors besides paternal love. As mentioned earlier, the fascinating feature of the dowry is its double nature. On one hand, the dowry was a market price, and from this point of view, brides' parents had to face the reality of a marriage market in which older brides were not highly valued. Therefore, if their daughter married late, parents had to provide a larger dowry to convince the groom to accept an older bride. This outcome is what the present net value hypothesis predicts. On the other hand, the dowry was also a transfer of wealth from parents to their daughters, and it is in this context that parents could show their altruism, if any, toward their daughters. In the Tuscan case, parents seem to have acted altruistically by providing larger dowries for daughters marrying down.

Another way of testing the altruism model consists of checking whether there was a fair division of the households' wealth among children, and, in particular, among daughters. Table 5 indicates that parents were concerned about all their children: the size of the dowry provided for one daughter decreases with an

[28] The only exception is with the *AgrUpUp* (*AgrUpDown*) dummies referred to agricultural brides marrying a wealthier (poorer) merchant groom (though the *AgrUpDown* coefficient is not statistically significant). It might have been the case that, when an agricultural bride married a wealthier merchant groom, the significant improvement both in wealth and status required a very large dowry. A rich merchant groom would have agreed to marry a poorer peasant bride only if the dowry was very large.

TABLE 6
DOWRIES TO SISTERS OF THE SAME HOUSEHOLD MARRYING BROTHERS OF ANOTHER HOUSEHOLD

Bride Household	Sister	Dowry (florins)	Bride Household's Wealth (florins)	Groom Household's Wealth (florins)
1	Bride 1	55	243	8
	Bride 2	55		
2	Bride 1	275	550	454
	Bride 2	275		
3	Bride 1	45	208	67
	Bride 2	45		
4	Bride 1	225	674	1,167
	Bride 2	225		

Source: See Table 1.

increase in the total number of children. More convincingly, when considering 24 marriages of brides belonging to 12 households in which two sisters marry two brothers belonging to the same household, the dowries provided for the two brides were identical. Table 6 shows eight of these 24 marriages.

As for sisters marrying grooms belonging to different households, the case of Giovanni, son of Tommaso, the wealthiest citizen in Cortona, may be cited. In 1421, Giovanni gave a dowry of 420 florins to his daughter Caterina, who was going to marry the *legum doctor* Mariotto, son of another Giovanni, whose wealth was valued at 270 florins.[29] In 1425, the father gave a dowry of 300 florins to his other daughter Isabetta, who was going to marry Lazzaro, son of Francesco, a seller of spices whose wealth was 1,547 florins.[30]

Regardless of whether parents were altruistic or not, one might wonder whether a large dowry would in fact have increased the welfare of the bride during marriage. To address this issue, three observations are offered. First, for marriages before 1427, the fertility rate of the bride can be measured from data detailing the number of children the bride and the groom produced.[31] The surprising finding is that there was a positive correlation (0.24) between the size of the dowry and the number of children a bride had. Even when controlling for wealth, the fertility of the bride seems to have been affected by the size of the dowry she brought to the marital household at the time of her marriage. Of course, fertility is affected by many factors. Brides receiving large dowries probably tended to be better fed and better treated in the marital home than those bringing smaller dowries, and thus were able to produce more children. Literary and anecdotal evidence also suggests that

[29] ASF, Notarile Antecosimiano 18910, c. 172r.
[30] ASF, Notarile Antecosimiano 18911, c. 187v.
[31] Of course, for marriages after 1427 the number of these children is zero simply because the bride and groom were still single at the time of the *Catasto* of 1427.

a bride having a large dowry was more likely to be treated better in the marital household.[32]

A second reason for thinking that larger dowries did improve brides' welfare is that brides' parents sometimes paid dowries in installments. This had two advantages. It ensured that, had the groom predeceased the bride, her parents would easily recover the dowry from the groom's household. Also, by paying the dowry in installments, the bride's parents could control the groom's behavior to a certain extent. Separation and divorce, though not very common, were indeed a possibility in medieval and Renaissance Tuscany (the *Catasto* of 1427 reports separated and divorced women in Florence). Although the husband, or his father, controlled the daily management of the dowry, the bride and her family *owned* the dowry and had a say in the way the dowry was managed.

A final factor connecting larger dowries to bridal welfare is that if the groom died, the dowry returned to the bride. In that case, it was she who could decide whether to go back and live in her paternal household (or with her brothers, had the parents died) or on her own. A large dowry guaranteed that a widow would maintain a decent standard of living after her husband's death, without having to rely on her brothers' hospitality. Thus, parents providing large dowries helped their daughters to sustain a good standard of living even in widowhood.

CONCLUDING REMARKS

By using a sample of 224 marriage contracts for a Tuscan town between 1415 and 1436, this article examines the dowry system from the standpoint of the dowry as a marriage payment and as an intergenerational transfer. The present net value hypothesis is proposed to address the former. The model predicts that, *ceteris paribus*, the larger the contribution of the bride to the marital household, the smaller the dowry her parents have to pay. The altruism model is presented to study the dowry in terms of intergenerational transfers. The altruistic behavior of parents is tested by examining whether larger dowries were provided when daughters married down. Both hypotheses find support in the Tuscan data.

The next step will be to take advantage of notarial records held at the State Archives of Florence to test the models of the dowry in Florence itself as outlined above. The Florentine marriage market constitutes a particularly attractive case study because of the huge sample size available and the great variety of occupations and political standings, which characterized Florentine citizens with respect to people living in the Florentine territories. Anthony Molho shed much light on the marriage strategies of the ruling class

[32] Klapisch-Zuber, *Women*.

of Florence in the second half of the fifteenth century and the first half of the sixteenth century through his impressive study of the Florentine Dowry Fund. Yet, we still lack important information on the marriage strategies and dowry formation of middle- and lower-class households. How large were the dowries of carters, smiths, wine dealers, innkeepers, tanners, beltmakers, key makers, carpenters, wool carders, dyers, peddlers, coppersmiths, weavers, shearers, doublet makers, cutlers, spinners, and other urban workers? What were the marriage strategies and what was the degree of altruism of households that did not invest in the Dowry Fund but formed the vast majority of the Florentine population? In this area, much more work remains to be done.

APPENDIX TABLE 1
SEX RATIOS (MALES/FEMALES) IN TUSCAN TOWNS, 1427

	Town	Countryside
Florence	117.6	108.9
Pisa	112.3	106.9
Pistoia	102.7	112.7
Arezzo	108.1	106.2
Prato	105.7	115.5
Volterra	108.3	118.3
Cortona	97.3	108.9
Montepulciano	110.7	—
Colle	117.8	—
San Gimignano	113.3	121.5
Castiglion Fiorentino	104.2	114.1
Pescia	112.5	104.7

Source: Data from Herlihy and Klapisch-Zuber, *Les Toscans*, p. 472.

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