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*Population, Plague and Social Change in Rural Pistoia, 1201-1430*¹

BY D. HERLIHY

The medieval Tuscan countryside, like the Italian countryside generally, has attracted comparatively little attention from demographic historians.¹ The great and culturally so brilliant Tuscan cities have understandably dominated historical interest, and research in rural matters has been further obstructed by the peculiar elusiveness of the subject. Even in a region as rich in archives as Tuscany, even for a period as late as the thirteenth and fourteenth centuries, the historian of rural population must work within a spotty, often vague and usually discontinuous documentation. A gross picture of population movements in the countryside can still be constructed, as we hope to show. But the historian must then confront an even more difficult problem. He must seek to relate the often shadowy changes in the countryside to the broader trends of Tuscan economic and social history. How and how much, for example, did population factors support the growth and apparent prosperity of the Tuscan cities in the century before the Black Death? And did a population situation prepare the

¹ The research in Italy necessary for the composition of this article was made possible through a fellowship granted by the Guggenheim Foundation, and to the Foundation the author would like to express his gratitude.

For recent comments upon the demographic history of the Italian countryside, see C. M. Cipolla, 'Per la storia delle epidemie in Italia: il caso di una borgata lombarda ai primi del quattrocento', *Rivista Storica Italiana* (henceforth, *R.S.I.*), XXV (1963), 112-19. Substantial bibliographies on the demographic history of the Tuscan cities are available in Roger Mols, S. J., *Introduction à la démographie historique des villes d'Europe du XIV^e au XVIII^e siècle* (3 vols. Louvain, 1954-56) and J. Beloch, *Bevölkerungsgeschichte Italiens* (3 vols. Berlin and Leipzig, 1937-61). The population of Siena before the Black Death has been recently re-examined by William M. Bowsky, 'The Impact of the Black Death upon Sienese Government and Society', *Speculum*, XXXIX (1964), 1-34. For comment upon Pisa's population, see E. Cristiani, *Nobiltà e popolo nel comune di Pisa dalle origini del podestariato alla signoria dei Donoratico* (Naples, 1962), pp. 162-231, and D. Herlihy, *Pisa in the Early Renaissance. A Study of Urban Growth* (New Haven, 1958), pp. 35-53. For E. Fiumi's recent studies on San Gimignano, Volterra and Florence, see below, pp. 226 n. 1, and p. 228 n. 1.

way for the plagues, famines and social troubles which darken the region's annals from the middle fourteenth century?

These are challenging questions, and responses to them have not been lacking. Perhaps the most vigorous of them has been presented in recent years by the Italian scholar Enrico Fiumi. In works distinguished by the author's seemingly indefatigable capacity for archival research, Fiumi has been developing a novel and even audacious explanation for the 'flourishing and decline' of the medieval Tuscan communes.¹ He rejects, to begin with, the older interpretations of Salvemini, Volpe and others, according to which social conflicts, whether in the form of magnates versus *popolani*, new men versus old, merchants versus landlords, or the city versus the countryside, decisively influenced the pattern of urban development.² For Fiumi, the stimulus which promoted the great medieval prosperity of the Tuscan towns was vigorous population growth in the countryside. By the middle and late thirteenth century, an exuberantly expanding rural population was forcing massive immigration into the cities and prompting entrepreneurship, experimentation and novel departures in all phases of urban life. As long as the challenge continued, the Tuscan cities remained large, strong and economically the wonders of Europe. After 1348, however, the demographic crash of the late Middle Ages dissipated that challenge, and decadence settled upon these once so thriving communities. Fiumi is unhesitating in assigning to population movements the decisive role in engendering the prosperity and then provoking the collapse of the medieval Tuscan economy. 'The principal cause [of the decadence of Tuscan towns after 1348]', he writes, '... the exclusive cause, I would dare to say ... lay in the impressive demographic impoverishment of the [Tuscan] cities and countryside.'³

No other economic historian, to my knowledge, is as forthright as Fiumi in linking population growth with prosperity, and population decline with depression, although these equations are viewed with some sympathy by defenders of the thesis of an 'economic depression of the Renaissance'.⁴ Fiumi's reconstruction of the great trends of medieval Tuscany's economic history does, however, show one significant gap. If the economic decline of the late Middle Ages was the result of the demographic reversal of the fourteenth century, what explains the reversal itself? Fiumi does not consider this problem, and his silence implies that he holds the plagues, famines and accompanying demographic decline of the fourteenth century to be fortuitous interventions, pure

¹ See especially his *Storia economica e sociale di San Gimignano* (Florence, 1961), which applies to San Gimignano substantially the same interpretations expressed in regard to Florence in his 'Fioritura e decadenza dell' economia fiorentina', *Archivio Storico Italiano* (henceforth, *A.S.I.*), CXV (1957), 385-439; CXVI (1958), 443-510; CXVII (1959), 427-502.

² 'Sui rapporti economici tra città e contado nell' età comunale', *A.S.I.* CXIV (1956), 18-68. See also the valuable review article by E. Cristiani, 'Città e campagna nell'età comunale in alcune pubblicazioni dell' ultimo decennio', *R.S.I.* XXV (1963), 829-45.

³ *San Gimignano*, p. 224.

⁴ R. S. Lopez and H. A. Miskimin, 'The Economic Depression of the Renaissance', *Economic History Review*, XIV (1962), 408-26, and the vigorous rebuttal by C. M. Cipolla, *Econ. Hist. Rev.* XVI (1964), 519-29. K. Helleiner, 'Population Movement and Agrarian Depression in the Later Middle Ages', *Canadian Journal of Economics and Political Science*, XV (1949), 373-7. M. M. Postan, 'Some Economic Evidence of Declining Population in the Later Middle Ages', *Econ. Hist. Rev.* II (1949-1950), 221-46.

acts of God, to which no social or economic factor substantially contributed.

Not all economic historians are content to write off the great demographic crisis of the late Middle Ages as simple accident, and many now discern a specifically human situation at the core of these catastrophes: excessive population, 'overpopulation', too many people seeking to live on too tenuous means. The distinguished economic historian M. M. Postan has been a leader in advancing, although cautiously and with great concern for terms, the argument that the demographic fall of the fourteenth century was the consequence, even, as he says, the 'nemesis', of the 'inordinate expansion' of the earlier Middle Ages.¹ J. Z. Titow agrees in discerning 'acute land shortage and severe overpopulation' in parts of England before the Black Death.² B. H. Slicher van Bath, in his recent *Agrarian History of Western Europe*, flatly attributes the high mortalities of the Black Death and other epidemics and famines to 'prolonged malnutrition' brought on by excessive population growth.³ Georges Duby includes within his own general agricultural history a section entitled 'overpopulation'.⁴ And numerous studies have recently been calling attention to the high levels of population density reached in many areas of Europe on the eve of the Black Death.⁵

We are, in other words, witnessing the emergence of an essentially Malthusian interpretation of the demographic crisis of the fourteenth century which, while cautiously expressed and far from universally accepted, still promises to remain a major interest of historians in the immediate future.⁶

These then are the distinct and slightly paradoxical interpretations which recent historians of Tuscan and European demography have presented. Vigorous population growth, according to Fiumi, provided the essential stimulus for the expansion and prosperity of the Tuscan economy in the late thirteenth century. But that same population growth, according to Postan and others, eventually outstripped the means of subsistence and brought down upon the medieval community the plagues, famines and awesome demographic collapse of the late Middle Ages.

Do such interpretations really correspond with what can be known of

¹ Cf. Postan's review of Georges Duby, *L'économie rurale et la vie des campagnes dans l'Occident médiéval* (Paris, 1962), in *Econ. Hist. Rev.* XVI (1963), 197, 'The present reviewer [Postan] has been especially gratified to read the passages in the book wherein the depression of the fourteenth century is represented as the consequence, perhaps even the nemesis, of the inordinate expansion of the preceding epoch'.

² 'Some Evidence of the Thirteenth Century Population Increase', *Econ. Hist. Rev.* XIV (1962), 218-23.

³ *The Agrarian History of Western Europe, A.D. 500-1850*, tr. Olive Ordish (New York, 1963), p. 84.

⁴ *L'économie rurale*, II, 216-19, 'Le Surpeuplement'.

⁵ J. R. Strayer, 'Economic Conditions in the County of Beaumont-le-Roger', *Speculum*, XXVI (1951), 277-87, concludes that the population of that Norman county was not greatly inferior in 1313 to what it is today. For bibliographies on recent regional studies, see Duby, *L'économie rurale*, II, 216-19, and E. Carpentier, 'Autour de la peste noire: famines et épidémies dans l'histoire du XIV^e siècle', *Annales: Economies, Sociétés, Civilisations*, XVII (1962), 1062-92. J. C. Russell, *Late Ancient and Medieval Population*, Transactions of the American Philosophical Society, n.s. vol. 48, pt. 3 (Philadelphia, 1958), p. 145, states that 'for the most part' the population of medieval communities remained well within available resources.

⁶ See the criticism of Postan and this theory of over-population made by W. C. Robinson, 'Money, Population and Economic Change in Late Medieval Europe', *Econ. Hist. Rev.* XII (1959), 63-76, with a reply by Postan, pp. 77-82.

demographic movements in medieval Tuscany, and especially in the Tuscan countryside? To answer this is first to reconstruct, as accurately as the sources permit, the movement of Tuscany's rural population before and after the Black Death. For such a reconstruction, the studies of Enrico Fiumi on the rural populations of San Gimignano, Volterra and Florence are invaluable, but none of these regions possesses fully reliable demographic sources for the first half of the thirteenth century.¹ For only one area of Tuscany, the countryside or *contado* of Pistoia, has a comprehensive tax survey survived which antedates the middle thirteenth century. This is the 'Book of Hearths' (*Liber focorum*), which lists the hearths or families and names the family heads for 124 rural communes.² This precious document – Italy's oldest comprehensive tax survey – is unfortunately undated. Lodovico Zdekauer, who first made extensive use of it, attributed it to 1255, because its manuscript was bound together with another, dated survey, the 'Book of Boundaries' (*Liber finium*) of 1255.³ This attribution has since passed into the standard surveys of medieval and Italian population.⁴ But there are 124 communes in the Book of Hearths and only 109 in the Book of Boundaries, and these contrasting territorial divisions make it highly unlikely that both surveys were taken the same year.⁵ Q. Santoli, who in 1956 gave the Book a somewhat shoddy edition, dated the survey 1226, on the slim argument that the redaction of so detailed a document

¹ Besides his *San Gimignano*, see E. Fiumi, 'La popolazione del territorio volterrano-sangimignanese ed il problema demografico dell'età comunale', *Studi in onore di Amintore Fanfani* (Milan, 1962), I, 249–90. *Idem*, 'La demografia fiorentina di Giovanni Villani', *A.S.I. CVIII* (1950), 78–158. For population figures before the late thirteenth century, Fiumi must rely upon oaths, and these are difficult to use for other than gross estimates. Also, his depiction of the movement of Florentine rural population is distorted by the inclusion in his tables of data based upon the survey called 'Tavola antica di tutti i popoli e comunità dello stato fiorentino'. This survey has survived only in a printed edition by Fra Ildefonso di San Luigi, *Delizie degli eruditi toscani*, VII (Florence, 1780), 207–88. The Tavola is undated, but for unexplained reasons Fra Ildefonso attributed it 'perhaps' to 1343. Is the date acceptable? The question is important, as this is the only complete survey of the Florentine countryside which antedates the Black Death, and, if it is reliable, would decisively influence our judgment concerning the impact of the plague in rural Florence. It would in fact show that the Florentine rural population increased between 1343 and 1350. However, the Tavola cannot date from 1343. The figures it gives both for hearths (*poste*) and tax assessments may be compared with those given by surviving surveys (*estimi*) dated near 1343. Such comparisons show wide divergences. According to Archivio di Stato di Firenze (henceforth, A.S.F.), Notarile, A 351, 7 Dec. 1339, the commune of Santa Margherita a Cerchia in 1339 had 26 households and bore an assessment of 48 pounds. According to the Tavola (p. 279, no. 29), it contained only 9 households and bore an assessment of a little more than 5 pounds. In 1331 Santa Maria a Acone had 39 households and bore an assessment of 200 pounds (A.S.F. Not. A 351, 27 Jan. 1331). In the Tavola (p. 279, no. 19) it had only 8 households and was assessed a little more than 6 pounds. In 1340 San Lorenzo a Galiga had 19 households and an assessment of 65 pounds (A.S.F. Not. A 351, 1 Jan. 1340), but according to the Tavola (p. 279, no. 24) it included 17 households and was assessed a little more than 9 pounds. The assessment figures in the Tavola are consistently very low. The rural tax assessment at Florence was falling from the late thirteenth century, but did not reach the low levels of the Tavola until the middle fifteenth century. For this reason the Tavola probably shows Florentine rural population at about 1450, but the subject deserves to be further studied.

² *Liber focorum districtus Pistorii* (a. 1226). *Liber finium districtus Pistorii* (a. 1255), ed. Q. Santoli, *Fonti per la Storia d'Italia*, 93 (Rome, 1956). All figures cited from the Book of Hearths refer to the number of householders actually named, not to the totals which the Book also provides, but which are frequently erroneous.

³ *De ordinamentis populi pistoriensis* (Florence, 1901), pp. lxx–lxxiii.

⁴ J. Beloch, *Bevölkerungsgeschichte Italiens*, II, 186. R. Mols, *Introduction à la démographie historique*, I, 18, n. 7. J. C. Russell, *Ancient and Medieval Population*, p. 110, Table 113, mentions 7,307 hearths in rural Pistoia in 1284. The source must be the Book of Hearths, but the dating is not explained.

⁵ A point justly made by Santoli, *Liber focorum*, p. 14.

required peaceful conditions, and 1226 was a peaceful year.¹ Santoli's date of 1226 must also be rejected. A comparison of persons named in the Book of Hearths with people appearing in parchments dated 1226 shows only a slight correspondence, although many persons mentioned in the Book appear to be the sons of householders alive in 1226.² Moreover, the commune of Monte Castiglione, included in the Book, was not acquired by Pistoia until 1240.³ Comparisons of householders mentioned in the Book with those cited in dated parchments do permit us, however, to date the Book rather firmly between late 1243 and early 1245, or probably in 1244.⁴ While the Book of Hearths is therefore nearly twenty years younger than Santoli believed, it still remains the one complete Italian survey surviving from the first half of the thirteenth century. Its value is the greater since the archives of Pistoia and of Florence have also preserved a rich series of later surveys with which its results may be compared. On the basis of these surveys, Table 1 presents the approximate population of the countryside of Pistoia from c. 1244, the date of the Book of Hearths, through 1427, the date of the great Florentine survey known as the Catasto, which also included the city and countryside of Pistoia. The results are also illustrated in Graph 1.

Some few remarks must be made in explanation of this table. In order to present not only the population movements but also to illustrate changes in settlement in the countryside, the communes in each of these seven surveys have been classified as to whether their territory consisted chiefly of plain and low hills (roughly from 50 to 150 metres in height), of middle hills (from approximately 150 to 500 metres high) or of high hills and mountains (over 500 metres). Pistoia's *contado* in 1244 was about 90,000 hectares in area, and included 17,000 hectares, or a little less than 20 per cent, of plain and low hills; 27,000, or 30 per cent, of middle hills; and 46,000, or fully 50 per cent, of high hills and mountains.

In 1244, however, the territory of Pistoia was somewhat larger than in the later surveys, as in 1329 Pistoia was forced to surrender several communes to

¹ *Ibid.* pp. 14 and 264. The carelessness of Santoli's edition is illustrated by the fact that there are at least 16 mistakes in the transference of figures from the text itself to the table, pp. 25-33, supposed to summarize the results. Santoli's additions are also neither accurate nor consistent, and his tables should be used with caution.

² A partial tax survey of the commune of Piteccio has survived from 1226, A.S.F. Dipl. Comune di Pistoia, 13 Mar. 1226. Only one of ten householders mentioned can be found in the Book of Hearths; although, from the evidence of patronymics, the fathers of three of the householders of the Book of Hearths appear in the survey of 1226 (Sera condam Cipriani in 1226, Salvus Sere in the Book of Hearths; Augustinus filius Malescorti in 1226, Salerno Agustini in the Book; Guidus filius Nepti in 1226, heredes Guidi in the Book, *Liber focorum*, pp. 192-194, nos. 102, and 136-40).

³ *Liber focorum*, pp. 255-6. *Liber censuum comunis Pistorii*, ed. Q. Santoli (Pistoia, 1915), pp. 217-18, no. 323, act dated 16 Sept. 1240, according to which Pistoia purchased the commune of Monte Castiglione.

⁴ A widow, domina Brasta of the commune of Sant'Angelo in Piazza, appeared as a principal in a parchment, A.S.F. Dipl. Città di Pistoia, 10 Oct. 1243. In the Book of Hearths, she was replaced as head of her household by her son, p. 209, no. 32. Either she had died or her son had attained his majority, and so the Book should be dated after 10 Oct. 1243. On the other hand, a Henrigus Bianchi, mentioned in the Book of Hearths (p. 230, no. 239), was dead by 28 May 1245 (*Liber censuum*, p. 230, no. 329, 28 May 1245, 'heredibus Henrigi Bianchi'). The date 28 May 1245 is thus a *terminus ante quem* for the Book.

Florence.¹ The table therefore gives the totals for the entire Book of Hearths, and then for that part of it which is territorially comparable to the later surveys. To estimate total population on the basis of hearths, a multiplier of 4.65 is used. The figure is of course only roughly approximate. It represents the actual ratio between persons and hearths prevailing in rural Pistoia according to the Catasto of 1427, and it seemed preferable to use this rather than one which would be entirely arbitrary.²

Table 1. *The Population of the Pistoiese Countryside, c. 1244-1427*

	(C. = communes, H. = hearths and M. = mouths)														
	c. 1244		1344		1383		1392		1401		1404		1427		
	C.	H.	C.	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.	H.	M.
Plain and low hills	25	2214													
Middle hills	70	3550													
Mountains	29	1548													
Totals	124	7312													
Adjusted to comparable territory:															
Plain and low hills	23	2189	13	7785	15	5180	10	4326	9	3752	13	4199	33	1193	5700
Middle hills	66	2977	27	7086	18	3553	16	2792	15	2368	16	1833	17	734	3009
Mountains	29	1548	24	4772	20	2888	20	2197	20	2099	19	1396	19	609	2928
Totals	118	6714	64	19,643	53	11,621	46	9315	44	8219	48	7368	69	2507	11,637
Adjustments	× 4.65		× 1.22		× 1.22		× 1.22		× 1.22		× 1.22		+ 29		+ 135
Estimated population	31,220		23,964		14,178		11,364		10,027		8989				11,772

Sources. For first column, *Liber focorum*; for middle five columns, Archivio di Stato di Pistoia, Provvisioni, Tomus 12, 13v, Tomus 26, 7v, Tomus 38, 109r, Tomus 43, 29r, Tomus 43, 169r; and for the last column, A.S.F. Catasto, vols. 262, 263, 264, 265 and 283.

The five following surveys are lists of 'mouths' (*bocche*) of the rural communes of Pistoia, recorded within the series *Provvisioni* of the State Archives of that city, on the basis of which a salt tax was imposed. Only salt consumers, considered to be persons four years of age and older, were responsible for this tax and hence included in the lists.³ To estimate the entire population on the basis of these figures, we must know what proportion of it the salt consumers represented. Fortunately, the Florentine Catasto of 1427 lists not only all persons in the Pistoiese countryside, but for most of them also gives their ages. The ratio of the total population to those responsible for the salt tax (persons four years and older) was 1.22.⁴ In Table 1, we have used this ratio to estimate the total

¹ Specifically, Pistoia surrendered the communes of Carmignano, Artimino, Castellina, Vitolini, Baccareto and Capraia on the southern extension of the Monte Albano overlooking the Arno. For the terms of the agreement, see G. Villani, *Cronica*, X, cap. 128 (ed. Magheri, Florence, 1823, V, 170).

² According to the Catasto of 1427, there were 11,637 persons residing in 2,507 households in rural Pistoia, not including the 29 households for which the tax declarations have been lost. See below, p. 231 n. 1.

³ Archivio di Stato di Pistoia (henceforth, A.S.P.), Provvisioni, Tomus 35, 21v, 17 Feb. 1385, refers to the regulation that only persons four years and older were responsible for the tax. Since the tax was linked to salt consumption, the regulation was undoubtedly as old as the tax itself.

⁴ In exact figures, out of 11,456 persons for whom ages are cited in the Catasto, 9,356 were four years of age or older.

population on the basis of the five lists of 'mouths' from 1344 to 1404. The last survey in the table gives the data for the countryside of Pistoia contained in the Florentine Catasto of 1427. From a volume (*Sommario*) summarizing the results of this survey, it is evident that the tax declarations for 29 families have not survived, because of pages lost at the beginning or end of the large Catasto volumes.¹ In compensation for this, we have added 135 persons (29×4.65) to the 11,637 actually named in the survey.

As the table and graph reveal, the population decline in rural Pistoia in the late Middle Ages was of catastrophic dimensions. The population of Pistoia's countryside in 1404 was less than a third, only 29 per cent, of what it had been in 1244. This was also, we must remember, the countryside, supposedly less exposed to the ravages of the plague than the cities. In fact the *contado's* population fell more drastically than the city's, which seems, over a comparable period, to have dropped by a mere 50 per cent.²

Moreover, this catastrophe followed upon a demographic situation in which the population density in the countryside had reached truly extraordinary levels. In 1244 the entire *contado* of Pistoia contained about 34,000 persons, settled within an area of about 900 square kilometres.³ This represents a density of rural settlement of about 38 persons per square kilometre. If we include the approximately 10,000 inhabitants of the city itself, the total population of Pistoia in the first half of the thirteenth century was about 44,000, representing a density of about 49 persons per square kilometre.⁴

This may seem like dense settlement for medieval times, but it is not unusual for Tuscany. According to E. Fiumi's reasonable calculations, the density of settlement, both urban and rural, at San Gimignano had surpassed 50 persons per square kilometre already by 1227.⁵ By 1277-1291 it was more like 74 and by 1332 it had reached 85, making that area more densely settled in the Middle Ages than it is today.

For the Florentine *contado*, the largest in Tuscany, population densities can

¹ A.S.F. Catasto, vols. 262, 263, 264 and 265, contain the fair copy of the actual survey of the Pistoiese countryside. Vol. 283 summarizes the results by naming the family heads and their assessment.

² No complete surveys have survived for the city of Pistoia before 1415, but the city's thirteenth-century population can be estimated from an oath of 1219, in which 3,206 adult male Pistoiesi participated, *Liber censuum*, ed. Santoli, pp. 509-27. On the assumption that absenteeism was minimal and that the adult males constituted about a third of the population, the city must have counted in 1219 at least 10,000 persons. The figure, if anything, is conservative. In 1351 the city of Pistoia had 1500 citizens 'o poco più' able to bear arms, according to Matteo Villani, *Cronica*, I, cap. 97 (ed. Magheri, I, 164). This would mean a population shortly after the Black Death of about 6,000 persons. In the late fourteenth century the city had about 8,000 persons. According to the *Cronache di ser Luca Dominici*, ed. G. C. Gigliotti, *Rerum pistoriensium scriptores*, I (2 vols. Pistoia, 1933-37), I, 233, one-half the population of the city, 'cioè bocche 4000', died in the plague of 1400. In 1415 the city contained 1,090 hearths or about 5,075 persons, on the assumption of approximately 4.65 persons to a hearth. See the *Estimario della Città*, A.S.P. Provvisioni e Statuti, Tomus 699. In 1427 the city contained 1,247 hearths, A.S.F. Catasto, Tomus 282.

³ The medieval *contado* of Pistoia did not include the modern communes of Buggiano, Massa e Cozzile, Monsummano Terme, Montecatini Terme, Pescia, Pieve a Nievole, Ponte Buggianese and Uzzano, although they are today part of the province of Pistoia. On the other hand, the medieval *contado* included in 1244 the approximate areas of the now Florentine communes of Cantagallo, Capraia e Limite and Carmignano.

⁴ For Pistoia's urban population, see above, n. 2.

⁵ *San Gimignano*, p. 153 and ff.

only be roughly estimated for the period before the Black Death. On the basis of salt consumption, Florence in 1318 seems to have counted about 25,000 families in the city and 30,000 in the countryside, exclusive of clergy and the rural nobles.¹ On the assumption that the average household was again 4.65 persons, this would mean a population of about 116,200 for the city and 139,500 for the countryside, or a total of 255,700 persons settled in something like 3,900 square kilometres. This is a density of about 65.5 persons per square kilometre. The density of settlement at Siena may have been even higher.²

It is well to ponder briefly the implication of population densities which, as early as 1250, reached and surpassed 50 persons per square kilometre. If all Tuscany shared the same density of population that Pistoia had attained by 1244 – and since fully one-half of the Pistoiese *contado* was thinly settled high hills and mountains, that is not unlikely – the Tuscan province would have contained an astounding 1,180,000 persons even before 1250. Not until well into the nineteenth century would Tuscany again attain that figure.³

A catastrophic population fall, following upon a remarkable concentration of people – would not these unquestionable facts justify the conclusion that in Tuscany before the plague too many people were indeed trying to live on too little land? Must we not also conclude that the famines, plagues and high mortalities of the fourteenth century were, in essence, Malthusian checks moving to reduce an inordinately swollen population? There can be no doubt that before the plague numerous Tuscans were living on the margin of subsistence. The Florentine chronicler Giovanni Villani was himself shocked to find that in 1330 the paupers of the city of Florence seemed to surpass 17,000.⁴ It is only reasonable to assume that these masses of ill-nourished people fell easy victims to epidemics and famines.

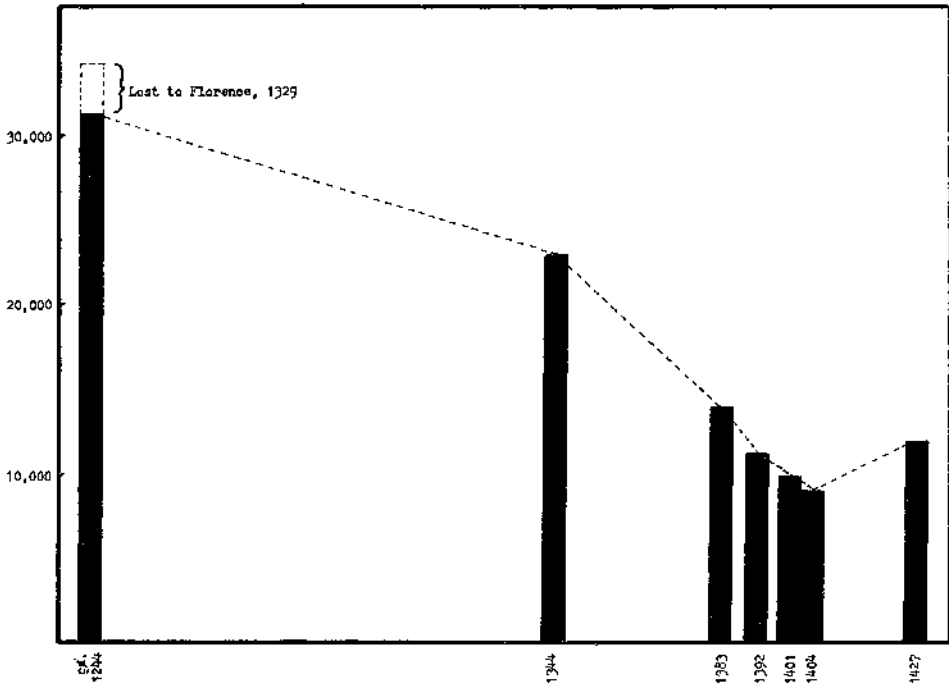
But it is one thing to recognize the existence of a precarious balance between population and resources on the eve of the Black Death, and quite another thing to attribute the behaviour of our curve primarily to the impact of plague and famine upon an excessively swollen population. Rather a careful examination of our data gives several substantial reasons for doubting that our curve

¹ A.S.F. Provv. Registri, Tomus 15, 161–71, mentions that the distribution of salt for 1318 was 60,000 *staia*, 25,000 of which were distributed in the city, 30,000 in the countryside, and 5,000 among the clergy. For non-noble families in the countryside, the distribution seems to have been made on the basis of one *staio* per family, as is explicitly stated for a later year (1323) in A.S.F. Provv. Tomus 20, 73r, 27 Apr. 1324, 'distributionem salis factam pro anno preterito in comitatu Florentie ad rationem unius starii pro qualibet familia ipsorum populorum et communium...'. The rural nobles had to accept 6 *staia* for every 100 pounds of their tax assessment. How the distribution was made in the city is not explained, but the assumption that the urban population consisted of about 25,000 families, or somewhat more than 100,000 persons, corresponds well with what is known concerning Florence's urban population at that time. According to Giovanni Villani's famous description of Florence c. 1336–38 (*Cronica*, X, cap. 94) the population, estimated on the basis of bread consumption, was 90,000 persons. Since this probably did not include babies too young to eat bread, a population even then of over 100,000 is not unreasonable.

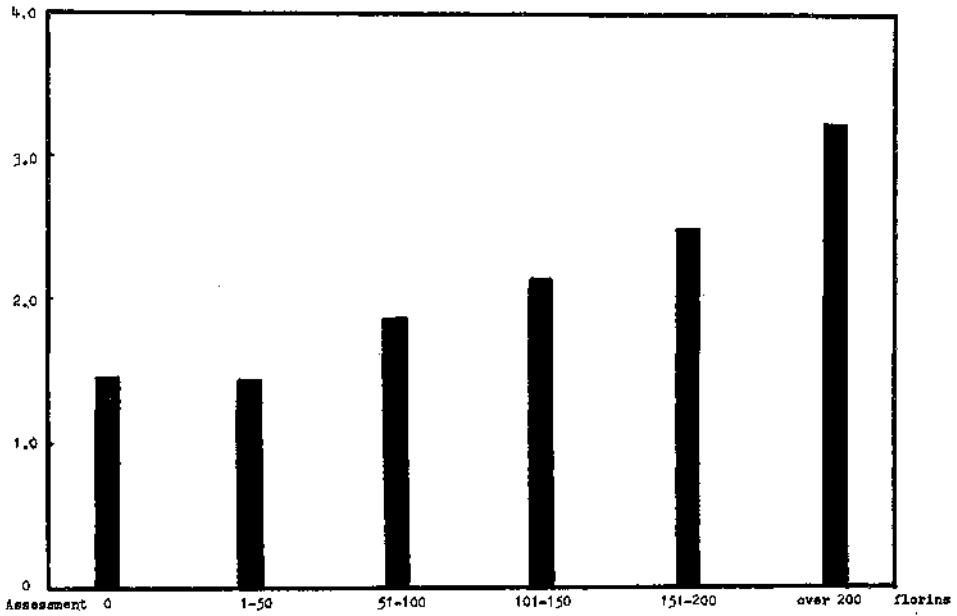
² Bowsky, 'Impact of the Black Death', p. 11, estimates a population of Siena and its countryside of from 100,000 to 150,000, which would mean for an area of about 950 square kilometres a density of well over 100 persons per square kilometre.

³ In 1738 Tuscany had only 890,608 inhabitants. In 1814 the population was 1,154,686 and in 1846, 1,565,751 inhabitants. See A. Zerbi, *Manuale storico di economia toscana* (Florence, 1847), p. 379.

⁴ *Cronica*, X, cap. 122 (ed. Magheri, V, 212).



Graph 1. The Population of the Pistoiese Countryside, c. 1244-1427.



Graph 2. Average Number of Children per Household, according to Tax Assessment in 1427.

does indeed correspond to the simple outlines of a classical Malthusian crisis.

There is, to begin with, the pace and pattern of the population decline. The high mortalities of 1348 may with great plausibility be explained by malnutrition and by the inordinate numbers of consumers which caused it. But if Pistoia was over-populated in 1344, was it still over-populated in 1392, when the population was less than half its former size? Yet its population continued to fall, well beyond the point where one may continue to speak of inadequate resources.

There is this further and, I think, decisive fact for rejecting a simple Malthusian explanation for the depopulations of the fourteenth century. The plague of 1348 did not strike against a population blindly seeking to increase. At Pistoia the rural population had begun to decline at least a century before the Black Death. The rural population of 1344, four years before the plague, had already shrunk by a substantial 23 per cent from what it had been a century before. We have, to be sure, no full surveys of the countryside between 1244 and 1344, but much indirect evidence has survived to indicate that the curve which joins these two figures was sliding downwards. The Book of Hearths itself gives evidence of rural depopulations, in the many comments it offers concerning householders who were listed in an 'Old Book', an earlier survey, but who had since disappeared without heirs or successors.¹ The Book of Boundaries, redacted in 1255, shows that in eleven years the number of rural communes had already fallen from 124 to 109, and these 'lost villages' are certain evidence that the rural population was declining markedly by the middle thirteenth century. The Statutes of the Podestà (1296) required all rural communes to pay taxes for their traditional number of hearths, even though the true number had fallen.² This provision is understandable only in the light of a dwindling rural population.

This rural depopulation one hundred years in advance of the Black Death cannot be explained by the peculiarities of Pistoia's own history. Never before or since was the city to enjoy such importance as a commercial and banking centre as in the late thirteenth century. Moreover, for other Tuscan areas there is evidence that rural population was stagnant or declining well before the Black Death. At San Gimignano the density of rural settlement had apparently reached its height by 1290 and by 1332 had already diminished.³ It is more

¹ The notary who redacted the Book of Hearths provides a total of the non-noble hearths for each commune, and these, when correctly added, equal 7,118. He names, however, only 7,049 non-noble householders. This discrepancy does not seem attributable to a consistent inability to count. The notary errs in the totals of 36 out of 124 communes, and in 32 of the 36 errors he totals more than the hearths he actually lists. If errors in counting explain these many mistakes, there should be a more even division between over-shooting and under-shooting the mark. Indeed, in totalling long lists of names, far the more natural error is to skip, and calculate totals less than the true. Why does the notary usually total more hearths than he actually names? He seems to have been given a set quota of hearths for each commune, based on an older survey, and it was his responsibility to find enough households to equal it. This was the method of redacting the survey used later in the century, when the city fathers decreed that '[for each commune] the total of the hearths is not to be lowered', *Statutum potestatis comunis Pistorii anni mcdlxxxvi*, ed. L. Zdekauer (Milan, 1888), p. 212. In 1244 the notary apparently could not find enough householders to equal his quota in 32 communes. This strongly suggests that Pistoia's rural population was already declining at the time of the redaction of the Book of Hearths, in c. 1244.

² See above, n. 1.

³ *San Gimignano*, pp. 154-5.

difficult to judge population movements in the Florentine countryside, for which surveys for only a few scattered rural communes have survived. But such surveys still convey the strong impression that the rural population was stable or even declining for at least a half-century before the Black Death.¹

Was rural Pistoia – and Tuscany – ‘over-populated’ on the eve of the Black Death? Perhaps so, but it had been even more ‘over-populated’ a century before. A precarious balance between population and resources, in other words, was a constant fact of Tuscan rural life for as far back into the thirteenth century as our sources permit us to discern. The plagues and famines of the fourteenth century cannot therefore be considered Malthusian checks brought into play by and operating against a vigorously expanding population. These blows, for all their ferocity, only accelerated a movement of rural depopulation long in operation.

But if external checks through plague and famine did not initiate this rural depopulation, how are we to explain it? The answer would seem to lie in an examination of the reproductive rate of Pistoia’s rural population, and the impact upon it of the changing economic and social conditions in the countryside. This is an elusive but not unapproachable subject, thanks to the extraordinary wealth of Tuscany’s magnificent archives.

It is sometimes assumed that the reproductive rate of pre-industrial agricultural communities was characteristically high, approaching the biological maximum, relatively stable and largely insensitive to economic and social influences.² The Florentine Catasto of 1427 shows that this was hardly true in rural Pistoia. Because the Catasto gives the ages of most of the residents of Pistoia’s *contado*, we can calculate the number of children fifteen years or under in Pistoia’s households. We can further examine what relation, if any, existed

Table 2. *Wealth and Child Support in Rural Pistoia, 1427*

(The table shows for each assessment group the number of households and the number of children 15 years of age and under within them. Hh. = households, Ch. = children, and Av. = average number of children per household.)

Assessment (in florins)	Plain			Middle hills			Mountains			Totals		
	Hh.	Ch.	Av.	Hh.	Ch.	Av.	Hh.	Ch.	Av.	Hh.	Ch.	Av.
0	199	302	1.52	46	51	1.11	30	51	1.70	275	404	1.47
1-50	536	832	1.55	289	317	1.10	283	432	1.52	1108	1581	1.43
51-100	193	387	2.00	151	224	1.48	154	313	2.03	498	924	1.85
101-150	113	263	2.32	97	184	1.90	64	141	2.20	274	588	2.14
151-200	53	141	2.66	58	123	2.12	30	80	2.67	141	344	2.44
201-250	25	70	2.80	33	61	1.85	14	46	3.28	72	177	2.46
Over 250	59	191	3.24	49	135	2.76	28	113	4.04	136	439	3.21
Totals	1178	2186	1.85	723	1095	1.52	603	1176	1.90	2504	4457	1.78

Source. A.S.F. Catasto, 262, 263, 264 and 265.

¹ Quarantoina (‘populus sancti Michaelis castri Quarantule’) had 69 households in 1307 (A.S.F. Not. B 1263, 55v) and only 65 in 1340 (A.S.F. Estimo, Vol. 55, 1340). Santa Maria Impruneta had 122 households in 1307 (A.S.F. Not. B 1340, 234v-235r), 115 in 1319 (F 308, 24 Aug. 1319), and 122 in 1330 (B 1345, 154v). San Lorenzo a Galiga, in the *pieve* of Sant’ Andrea a Doccia, had 21 households in 1330 (A 351, 29 Aug. 1330) and 19 in 1340 (*ibid.* 1 Jan. 1340). San Martino in Petroio had 42 households in 1332 (*ibid.* 29 Mar. 1332) and 39 in 1339 (A 352, 11 Oct. 1339).

² Carlo M. Cipolla, *The Economic History of World Population* (Baltimore, 1962), p. 76.

between the wealth of a household as revealed by its tax assessment and the number of children it was supporting. The correlation between wealth and child support is presented in Table 2 and illustrated in Graph 2 based upon it.

In interpreting this table, it must first be recognized that it is not strictly indicative of birth-rates. Infant mortality, too, which was probably higher in poorer houses than in the richer, would have influenced the distribution of children. Then, too, richer families sometimes accepted poor children into their households, whether ultimately to work as servants or simply 'for the love of God'.¹ Moreover, the figures show the number of children per household, not per family. The large number of children in richer households to some extent reflects a tendency for the sons of richer families to keep their inheritance undivided and to raise their children together.

But even with these qualifications, this conclusion is certain. A social group which was supporting substantially fewer than two children per household was inevitably breeding itself out of existence. Geographically considered, the table shows that the region of the middle hills possessed the fewest children per household, averaging only 1.52. In the middle hills also depopulations since the thirteenth century had been most pronounced. Inhabitants of that area comprised 44.5 per cent of the rural population in c. 1244, and only 26 per cent in 1427. Fewest children, highest rate of population decline – is there not a causal connexion between these two phenomena?

Equally revealing is the pronounced relationship between the wealth of these households and the number of children they were supporting. With an average of less than 1.5 children each, the poorer households of rural Pistoia were clearly not supporting enough children, and probably not producing enough, to maintain their numbers. Comments in the Catasto itself partially explain why this was so. Daughters of the poorest families apparently had no hope of marriage.² Those from slightly more prosperous backgrounds had to await a turn in their father's fortunes, perhaps a good harvest, before their dowries could be paid and they could join their husbands.³ In 1425 St Bernardino attributed the dwindling population of Siena and Milan specifically to the failure of thousands of young people to marry, and in this reluctance economic factors were undoubtedly a consideration.⁴

And hard economic conditions seem to have forced married couples to refrain from having children. A Pistoiese chronicler even remarks how, for 'a long time' before 1399 the women of Florence had been barren. Then in the plague years of 1399–1400 many became pregnant, presumably because

¹ A.S.F. Catasto, 265, 296r, a girl is identified as 'fanciulla per lavorare' although she was only six years old. The family which supported her had the substantial assessment of 156 florins. *Ibid.* 532v, another six-year-old girl was kept by the household 'per l'amore di Dio'. *Ibid.* 534v, '[the head of the household] la Margherita tiene per l'amore di Dio'.

² Cf. A.S.F. Catasto, 307 (Santa Maria Impruneta in the Florentine *contado*), 409r, 'Nicholosa sua figliuola d'età 18. Nolla può maritare perchè è povero'.

³ A.S.F. Catasto, 265, 306r, 'Avvisovi chello maritata e non la mando perchè non o da me la dota'.

⁴ S. Bernardino da Siena, *Le prediche volgari*, ed. C. Cannarozzi, O.F.M. (Florence, 1958), II, 107, 'Non vedi tu che Siena viene meno, che in Milano, quando frate Bernardino tornò, li fu detto che venti milia fanciulle v'erano da maritare, senza le maritate e quelle che non avevano tempo; e più fanciulli che in tutta Italia?'

the death of so many men had enhanced the economic opportunities of the survivors and the families they supported.¹

The Catasto of 1427 thus shows a close link between relative reproductive rates and the pattern of rural depopulation at Pistoia. It also leaves no doubt of the high sensitivity of those rates to adverse social and economic conditions. We have, unfortunately, no source of comparable explicitness for the thirteenth century. But it seems a safe assumption that reproductive rates in that century were every bit as sensitive to adverse social conditions as they were in 1427. And we can illustrate, precisely and statistically, what the lot of Pistoia's rural population was in the thirteenth century, at the time when this wave of massive depopulation was just beginning its chilling course.

In *c.* 1244, as the Book of Hearths shows, nearly a half of Pistoia's rural population (44.5 per cent) was settled not upon the *contado's* best lands – the plain and low hills – but upon the steep, dry and unpromising slopes between 500 and 1,500 metres in altitude – the area we are calling the 'middle hills'. According to a recent census – that of 1951 – the region of the modern province comparable to the middle hills supported only 22 per cent of the agricultural population, while the plain and low hills accounted for 63 per cent – a division which would illustrate the true distribution of agricultural resources in rural Pistoia and how little the settlement pattern of *c.* 1244 corresponded with it.²

It is sometimes assumed that, in the history of medieval settlement, the best lands were the first and the most intensely cultivated, and that only with population growth were the poorer soils sown. In fact, in the early Middle Ages other considerations – protection, for example, health conditions or ease of cultivation without substantial investments in time or effort – had primarily determined the choice of soils, and these factors had concentrated Pistoiese and Tuscan settlement upon the hills.³ For well into the thirteenth century, settlement upon the plain was obstructed by swamps and flooding, and poor drainage delayed the full agricultural exploitation of the fertile lowlands. The high mountains too were an area which the settlers of the early Middle Ages had largely avoided, but they also offered still substantial resources in chestnuts, wood, water and pastures.

Still largely concentrated upon the middle hills, Pistoia's peasants in the middle thirteenth century inhabited numerous, characteristically small villages (over 70 in the middle hills alone). As can be discerned in many surviving leases, they worked many small plots often scattered widely over the infertile slopes. They apparently made little use of cattle, or of the other aids in tools, fertilizers, seeds or outside labour which high capital investment might have

¹ *Cronache di ser Luca Dominici*, I, 197, 'In questo tempo sono ingrossate molte donne, che é gran tempo non ne faceno fanciulli e similmente fatti molti fanciulli da donne [che] non ne feceno mai gran tempo é'.

² Calculated on the basis of the data given concerning those engaged in agriculture, hunting and fishing in the *Istituto Centrale di Statistica. IX Censimento Generale della Popolazione*, I, fasc. 48, *Provincia di Pistoia* (Rome, 1954).

³ Cf. the instructive anecdote concerning the hill dwellers of San Miniato del Tedesco in Giovanni Villani, *Cronica*, V, cap. 21 (ed. Magheri, I, 240). In 1197 they left their hill-top castle to found a settlement upon the plain 'per essere più all' agio del piano e dell' acqua'. The settlement failed, but their late preference for the plain is revealing.

secured for them.¹ The land was typically leased for fixed rents usually for long terms, although, as we shall see, in the late thirteenth century the terms were getting shorter and the rents higher.

Largely concentrated upon the poor slopes and relying upon techniques which even in the thirteenth century were primitive, the peasants were nonetheless supporting a staggering level of rents. Pistoia's rich archives have preserved hundreds of leases, through which the level of rents and changes in it can be precisely investigated. Table 3 gives the median rent, in *staia* of wheat, for one *stioro* of land at Pistoia, from 1201 to 1425.²

Table 3. *Median Rent per Stioro of Land at Pistoia, 1201-1425*

(Rents are given in terms of Pistoiese *staia* or *omine*, one of which was equivalent to 25.92 litres or about 0.74 bushels. A *stioro* of land was equivalent to 12.65 *ore*, or about 0.31 acres.)

	Leases	Rent		Leases	Rent
1201-1225	9	1.50	1326-1350	66	2.50
1226-1250	5	2.30	1351-1375	230	1.60
1251-1275	10	2.67	1376-1400	269	1.50
1276-1300	14	2.50	1401-1425	394	1.40
1301-1325	15	2.50			

Sources. Compiled from leases dated from 1201 to 1425 inclusively and contained in the following archival deposits:

Archivio di Stato di Pistoia, Dipl. San Michele in Forcole and Badia a Taona; and Notarile, Spedali Riuniti, Imbreviature di ser Antonio di Pucchetto Spada.

Archivio di Stato di Firenze, dipl. Potesterie di Pistoia, Città di P. Vescovado di P. Olivetani di P. S. Gregorio di P. S. Bartolommeo di P. Monache da Sala di P. S. Chiara di P. S. Mercuriale di P. Ss. Michele e Niccolao di P. Domenicani di P. Patrimonio Ecclesiastico di P. Capitolo della Cattedrale di P. S. Francesco di P. S. Lorenzo di P. and Not. M 47, A 634, S 78-79, A 794, A 808-815, V 380, B 368, T 279, B 796-800, F 333-334, F 266, B 2305, C 364, B 2807-2811, C 712, V 360, A 64-65, F 306-307, F 309, F 320, F 571, C 535-537, G 354, G 375, B 804, G 440, T 29-90, G 602, G 512, A 347, I 20, I 37, I 70, I 85, L 102, R 67, L 307-313, Z 80, N 101-106, N 128, S 125-126, N 144-146, P 107-108, C 371, P 365, P 83, T 230-234, S 722-723, A 867-877, T 765, L 101, V 360. Z 92.

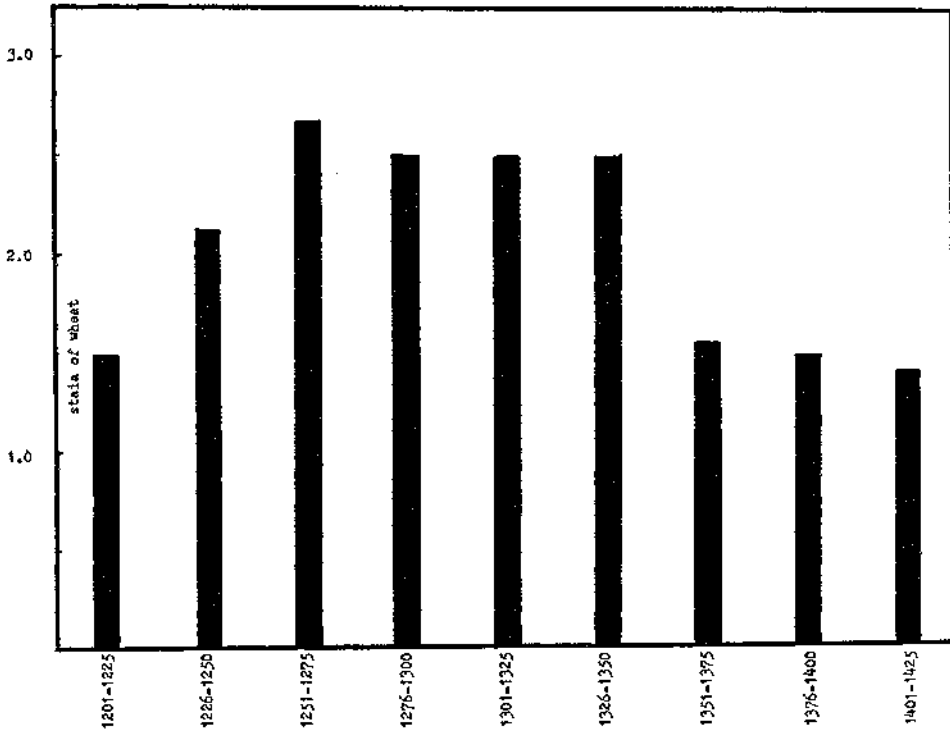
As the table shows, rents for a century before the Black Death were averaging two and one-half *staia* of wheat for each *stioro* of rented land. To support such a rent with any equity for the peasants would have required a harvest for him of five *staia* per *stioro* of land, or about ten to one on his seed.³ Ten to one on the

¹ Cf. I. Imberciadori, *Mezzadria classica toscana con documentazione inedita dal IX al XIV secolo* (Florence, 1951), who discerns a growing use of cattle in the thirteenth century in Tuscany and attributes the appearance and spread of the *mezzadria* (share-cropping arrangement) to the demand for capital which this created. At Pistoia the earliest surviving record of the sale of a cow and calf is A.S.F. Dipl. S. Lorenzo di Pistoia, 11 Mar. 1301, and of an ass, A.S.F. Olivetani di P. 3 Dec. 1299.

² Because the quality of land and the rents collected can vary so greatly, median rather than average figures better illustrate the prevailing level of rents and are used here. The rent per *stioro* was calculated for each lease, the leases for each period were arranged in ascending order according to the rent per *stioro*, and the rent in the median lease cited in the table.

In the thirteenth century the unit of measurement for wheat was called at Pistoia the *omina*, *emina* or *mina*, and consisted of two *quartine*. In the late fourteenth and fifteenth centuries, undoubtedly under Florentine influence, *staia* became the most common term, though the measurement itself remained the same. See A. Dei, 'Lo "staio di grano" pistoiese', *Bullettino Storico Pistoiese*, XXXI (1929), 119-21.

³ We are assuming that an even division of the harvest between landlord and peasant was, for most of Pistoia's lands, the highest possible equitable rent. One-half *staia* of seed per *stioro* of land is the usual seeding ratio encountered at Pistoia. Cf. A.S.F. Dipl. Città di P. 4 Nov. 1392, a piece of land 7 *coltre* (28 *stiora*) large was to be sown in 12 days with 14 *omine* (*staia*) of seed.



Graph 3. Median Rent per *Stora* of Land at Pistoia, 1201-1425.

seed was not beyond the technical capacity of the peasant working the good lower lands, aided by animals, utilizing the most intensive techniques and perhaps buying additional fertilizer outside his farm.¹ But it can hardly have represented the average yields of all the cultivated lands of Pistoia's countryside, many of which were poor and poorly cultivated. These high rents may reflect partially the spread of better techniques and the better exploitation of better lands. But they primarily indicate widespread rent gouging in the countryside.

This situation is understandable enough. The peasants, crowded into their poor communes, desperate for land, had little choice but to take land on virtually any terms the owner might demand. Their negotiating position was weak, and it was made so by their own great numbers.

Much the same pattern is evident in regard to agricultural investments. The Pistoiese peasant who needed capital frequently established and sold a perpetual rent upon his land. Because this transaction did not violate the ecclesiastical prohibitions against usury, it was a common form of credit instrument at Pistoia, and a full series of such sales has survived in the parchment collections and notarial cartularies. Table 4 gives the cost of a perpetual rent of one *staia*

¹ A return of five *staia* per *stora* (or about ten to one on the seed) is fairly commonly mentioned in the tax declarations of the Catasto of 1427. A.S.F. Catasto, 262, 432r. 8 *stora* in the commune of Bonnella on the plain returns yearly 40 *mine* of wheat.

of wheat per year, expressed first in pounds of petty *denarii* and then in stable florins, from 1201 to 1430.

Table 4. *Cost of a Perpetual Rent of one Stajo of Wheat at Pistoia, 1201-1430*

(The table shows the median price of an annual rent of one *stajo* or *omina* of wheat, expressed first in pounds of petty *denarii* (Pisan up to 1283, Florentine thereafter), then in gold florins.)

	Sales	Price (pounds)	Price (florins)		Sales	Price (pounds)	Price (florins)
1201-1210	6	2.80	—	1321-1330	19	8	2.50
1211-1220	13	2.75	—	1331-1340	31	8	2.67
1221-1230	17	2.60	—	1341-1350	60	9	2.80
1231-1240	28	2.80	—	1351-1360	62	10.30	3.00
1241-1250	13	3.00	—	1361-1370	52	12.80	3.90
1251-1260	6	3.00	3.00	1371-1380	56	15.00	4.05
1261-1270	19	4.00	3.20	1381-1390	58	16.00	4.20
1271-1280	33	6.67	4.50	1391-1400	90	20.00	5.15
1281-1290	37	10.00	5.70	1401-1410	90	14.00	3.50
1291-1300	41	9.00	4.50	1411-1420	121	15.50	3.90
1301-1310	17	8.20	3.00	1421-1430	37	13.33	2.32
1311-1320	28	8.00	2.90				

Sources. Compiled from sales of perpetual rents dated from 1201 to 1430 inclusively and contained in the parchment deposits and notarial chartularies listed in Table 3.

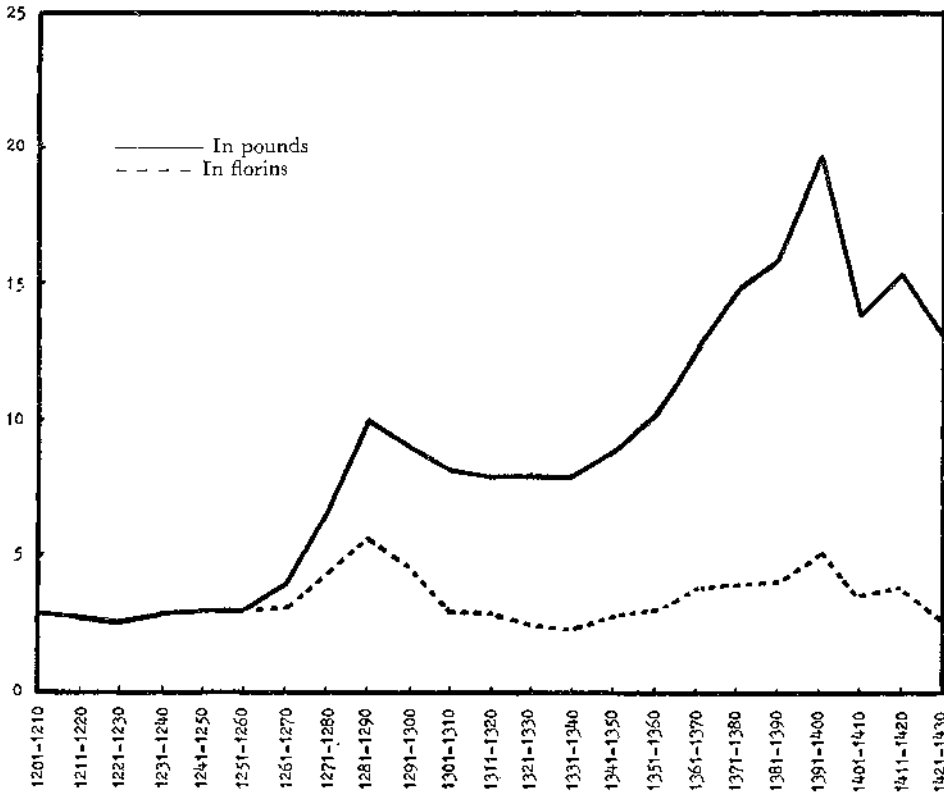
In the first half of the thirteenth century, with wheat costing about 5 *solidi* per *stajo*, investors were already gaining the substantial return of 9 per cent.¹ After 1250, with debasement of the coinage and a rapidly rising price of wheat, the value of perpetual rents also spurted, reaching their peak in the 1280's. Because of highly fluid grain prices and unstable coinage, it is difficult to assess accurately interest returns for these years, but they seem to have fallen off in this time of growing prices.² The best years for investors were, however, those between 1290 and the onslaught of the Black Death in 1348. The cost of perpetual rents actually fell by 50 per cent in real value, while the cost of wheat was frequently at about 20 *solidi* per *stajo* or better.³ The investors were regularly gaining 12.5 per cent and more upon their investments. This they received without sharing any of the peasants' risks.

Undoubtedly, the principal explanation for these large profits was the peasants' acute hunger for capital. Thus, the needs and even the plight of the countryside contributed substantially to the prosperity of the investor, who was characteristically becoming a city dweller. But it is undeniable that this system had some thoroughly unfortunate results. The peasant bore the entire risk of

¹ A.S.F. Dipl. S. Bartolommeo di P. 28 May 1212, wheat estimated at 5.9 *solidi* per *omina* (*stajo*). *Statutum Potestatis*, ed. Zdekauer, document dated 15 May 1213, 6.5 *solidi*. *Ibid.* document dated 1237, 5 *solidi*. *Liber censuum*, no. 93, 6 Mar. 1220, 4.27 *solidi*. A.S.F. Dipl. S. Bartolommeo di P. 9 Mar. 1332, 5.4 *solidi*. A.S.P. Dipl. San Michele in Forcole, 13 Sept. 1233, 4.67 *solidi*.

² *Liber censuum*, no. 345, 1257, wheat prices estimated at about 9 *solidi* on the average. A.S.F. Dipl. Patrimonio Ecclesiastico di P. 22 Apr. 1258, 12 *solidi*. Vescovado di P. 7 Apr. 1273, 7 *solidi*. A.S.P. Dipl. S. Michele in Forcole, 18 Jan. 1275, 7.5 *solidi*.

³ A.S.P. Dipl. S. Michele in Forcole, 20 Feb. 1305, gives estimated values for a *stajo* of wheat: in 1301, 35 *solidi*; in 1302, 35 *solidi*; in 1303, 30 *solidi*; and in 1304, 20 *solidi*. A.S.F. Dipl. Patrimonio Ecclesiastico di P. 7 Dec. 1330, 20 *solidi*. A.S.P. Provv. Tomus 8, 95v, 18 Nov. 1333, 20 *solidi*. A.S.F. Dipl. Città di P. 3 June 1335, 18 *solidi*. A.S.F. Not. F 571, 6 May 1346, 27 *solidi*.



Graph 4. Cost of a Perpetual Rent of one *Stajo* in Wheat, 1201-1430.

these investments, and agriculture in Tuscany is a peculiarly risky business. Some of these loans aided productive improvements in agriculture, but many others were purely consumption loans, which tided the peasant over one bad year, only to leave him weaker than ever in facing the next.

This was also fertile ground for the practice of usury on a massive scale. It is possible to find notaries whose business consisted in little else but redacting thinly disguised usurious contracts, which wrung from the peasant rates usually as high as 20 per cent and sometimes as high as 50.¹ In his study of San Gimignano, Enrico Fiumi has concluded that usury more than any other economic activity contributed to 'the development of the capitalistic economy and to the rise of the great private fortunes' in that city.² Much the same may be said of Pistoia.

If the peasant suffered such harsh terms from the landlord and investor, he was similarly oppressed by the weight of city taxes. In spite of recent efforts to

¹ A.S.F. Not. I 29-30, Iacopo di Dino da Carmignano. Iacopo's work consisted largely of drawing up contracts in which peasants 'sold' their land with a right to repurchase it after a fixed number of years. They then leased it from the new owners for the same term. The sum for which the land was sold was the loan, the rent paid the interest, and the land the security.

² *San Gimignano*, p. 86.

exonerate the town government of the charge of exploiting its rural citizens, it can be estimated that, in the 1280's, the countryside of Pistoia was supporting a tax six times as high as that paid by the city.¹

The Tuscan economy before the Black Death is full of paradoxes. The landlords and investors, city dwellers mostly, enjoyed high rents and high interest rates – a brilliant prosperity in sum, which in turn fed them the profits for use in other economic ventures. By measure of their size, wealth and splendour, the Tuscan cities, Pistoia among them, then indeed enjoyed their peak *floritura*.

But the Tuscan economic and social system as it had evolved by the late thirteenth century was already carrying the seeds of future trouble. The high rents and rates of interest were based to a critical degree on the oppression of the poorer segments of the population, especially in the countryside. The peasant, forced to meet high rents from his landlord and stiff rates from the money-lender, was prone to seek the highest, quickest return from the land. The prevailing system of high fixed rents unsupported by real productivity was an invitation to soil exhaustion and famine. Famines visited the Tuscan countryside with dismaying frequency in advance of the plague, and they introduce a note of high instability into the apparently so prosperous pre-plague economy.

Destructive of the land, this social oppression of the countryside seems to have been destructive of people too. Poor people had difficulty supporting children in 1427. Undoubtedly, they could no more easily support them in the thirteenth century. The deteriorating social position of the rural population, in other words, more apparently than any other factor, seems to have launched the horrendous depopulations of the period 1244–1404.

Giovanni Villani once tried to explain the serried disasters which had struck the Florence of his day.² Should they be attributed to blind chance, or to inexorable natural forces, set in motion by celestial conjunctures? Or were they divine retributions for the sins of the Florentines, among which figured prominently their avarice, greed and usury which oppressed the poor? He concluded that the sins of his contemporaries were responsible. Villani's society was indeed suffering from an acute imbalance in the distribution of its benefits, and on this basis at least the modern historian may agree with the chronicler's judgment.

And as long as these bad social conditions prevailed, so the reaction to them was depopulation. This would explain why the period of population decline was so extraordinarily protracted. Not until the early fifteenth century did the rural population at Pistoia begin again, although very slowly, to grow, after nearly two centuries of unrelieved decline.

But inevitably, these same depopulations were slowly bringing improved conditions for the peasant, whose labour grew more valuable as his numbers

¹ In 1287 the town government imposed on the city a tax of 3.5 per cent of its assessment, which in 1284 had been 200,000 pounds and could not have been much different in 1287. Cf. *Statutum Potestatis*, ed. Zdekauer, p. xlvi. This impost probably returned about 7,000 pounds. In the same year the commune imposed a tax of 5 pounds 15 *solidi* upon each rural hearth. If the number of hearths had remained at about 7,300, this would have netted 42,000 pounds.

² *Cronica*, XI, cap. 11 (ed. Magheri, VI, 5).

declined. The Catasto of 1427 is filled with references to farms and fields for which no tenants could be found.¹ As Table 3 illustrates, rents tumbled by more than 40 per cent after the Black Death, as landlords had to compete in a depopulated countryside to gain labourers for their land. And with the high rents went also the *rentier's* former great prosperity. The cost of perpetual rents, on the other hand, soared after the Black Death, as investors had to compete with good terms and low interest for takers of their capital. With grain prices sluggishly resting at 20 and finally 15 *solidi* per *staio*, the investor was lucky to receive 5 per cent upon his money.² For him, too, the great prosperity of the thirteenth century had ended. The usurer also entered on bad times, at least in the countryside. Before the Black Death, notarial cartularies from everywhere in the Florentine and Pistoiese *contados* are packed with usurious transactions: fictitious sales of land and leases, and particularly sales of grain well in advance of the harvest for artificially low prices. In later cartularies, such transactions diminish to the point of disappearing; in the countryside, the reign of usury was ending.

Simultaneously after the Black Death, the *mezzadria* or share-cropping was spreading in the countryside, and this too was all to the favour of the labourers. In 1349, for example, the monastery of Forcole, fearful 'because of the plague' that a piece of its property would remain uncultivated, converted the rent due from it from 12 *staia* of wheat to one-half the produce.³ Several other similar conversions followed, as the monastery shifted its rent basis from high and fixed to flexible payments. One such abolition of a high, fixed rent is explained expressly, 'because of the deadly pestilence which was and raged in the year of the Lord 1348 in the city of Pistoia and its *contado* and in very many other cities and *contados* of the province of Tuscany, because of which many places, possessions and properties have remained and continuously remain uncultivated'.⁴

Flexible rents would serve for this: 'that [the labourers] may be more eager and efficient in working and cultivating'.⁵

The *mezzadria* committed the landlord to heavy investments, not only for the land and improvements upon it but for cattle, tools, seeds, additional purchased fertilizers and loans, interest-free and often in fact uncollectable, which the peasant needed for his labours.⁶ The landlord also assumed the chief burden of risk for bad harvests, and he also had to pay the direct taxes upon the land. His rent of one-half the harvest was still high, though he sometimes had diffi-

¹ Cf. A.S.F. Catasto, 264, 236v, commune of Castra e Conio, 'El sopradetto podere è ghuasto e anche silvastre . . . e non vi si truova lavoratore per l'operare . . .' *Ibid.* 263, 18v, commune of Larciano, 'tiene a sue mani perchè è manchamento di lavoratori'.

² Estimated values of a *staio* of wheat for the period are as follows: A.S.F. Not. I 85, 21 Jan. 1360, 18 *solidi*. *Ibid.* 118r, 6 Mar. 1361, 22 *solidi*. A.S.F. Not. G 440, 19 July 1375, 32 *solidi*. N 128, 25 May 1377, 20 *solidi*. A.S.P. Not. 11 May 1377, 15 *solidi*. *Ibid.* 29 Mar. 1382, 24.5 *solidi*. A.S.F. Not. C 371, 5 Jan. 1391, 20 *solidi*. P 383, 11 Nov. 1395, 15 *solidi*. L 308 (1), 17 June 1396, 18 *solidi*.

³ A.S.P. Dipl. S. Michele in Forcole, 25 Mar. 1349.

⁴ *Ibid.* 26 May 1351.

⁵ *Loc. cit.* ' . . . ad hoc ut magis sint pronti et efficientes ad laborandum et colendum . . . '.

⁶ In the Catasto of 1427, both in Pistoia and Florence, loans extended by a landlord to his *mezzadria* were not admitted as true assets or liabilities, probably for the reason that repayment was never really expected.

culty getting his fair share. According to a *novella* of Franco Sacchetti, the wife of a goldsmith took as her lover her husband's *mezzadro*. 'I did it', she explained to her irrate husband, 'for the good of the household . . . in order that he would make for us an accurate measure, and give us honest *staia*.'¹

The Tuscan economy after the Black Death is full of paradoxes. The propertied classes, committed under the *mezzadria* system to high investment in the land, gained in return rents and profits which had shrunken by probably 40 per cent from what they had been in the thirteenth century. Their commitment to large agricultural investments also drained capital from other economic activities, and in those sectors of the economy there is an unmistakable aura of 'depression' or at least of a dearth of enterprise and innovation. But in compensation, the new system of rents and tenurial relations was fairer to the land and to the people, and for this reason provided Tuscany's Renaissance society with a firm and stable basis for its political life and for its cultural growth. Indeed, to our own generation most Tuscan peasants have continued to live and work under an agricultural system which is essentially the product of the late Middle Ages.

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¹ Franco Sacchetti, *Il trecentonovelle*, ed. V. Pernicone (Florence, 1946), no. 106, p. 237.