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Florentine Wages at the Time of the Black Death*

This paper represents a work in progress that raises more questions than it answers. It is part of a broader study of war and economy in fourteenth century Florence (1337-1402). The purpose is to gain new insight into an old problem, that is, the nature of the Florentine economy during the era of plague, famine and the so-called *crisi of del trecento*. The city, and the peninsula more generally, has been the focal point of a great deal of economic study, of debate over “hard times” and “prosperity,” and more recently, and more optimistically, notions of “conspicuous consumption,” which stand as a metaphor for the Renaissance itself. I’m neither Guelf nor Ghibelline with regard to these issues. My basic purpose has been to add warfare in a rigorous manner to the economic portrait. There have been excellent recent studies of Italian war, particularly in Italy and Germany.¹ But the Anglophone scholarship, despite the seminal work of John Hale and Michael Mallet, has moved forward slowly, above all in America, where the study of war occupies the lonely subfield of “military history,” which functions as a species of scholarly pejorative. As a result, scholars have grafted Italian warfare out of its societal milieu, treated it in moral terms, emphasizing the use of mercenaries, “external” men, and the concomitant loss of native Italian martial spirit. This is particularly true of the fourteenth century, when states relied on foreigners from outside the peninsula (Germans, Hungarians, Bretons, Englishmen), who were inadequate and indifferent in the field. The era was not only one of moral decay, but, as a recent Italian scholar wrote, “the lowest point,” in the history of Italian military organization. That is quite a

*This paper represents the starting point of my research (or how my original project became diverted by unexpected archival material). My presentation will extend the examination of nominal wage to 1345-1354, and look at the whole Florentine public work force. It will raise still more question that I do not have answers for.

¹ Stephan Selzer, *Deutsche Söldner im Italien des Trecento* (Tübingen, 2001); G.M Varanini, *Castellani e governo del territorio nei distretti delle città venete (XIII-XV sec)* (Paris, 2006). Most studies have focused on the communal period and the *quattrocento*. A. A. Settia, *Comuni in guerra: Armi ed eserciti nell'Italia delle città* (Bologna, 1993) and Jean-Claude Maire Vigueur, *Cavaliers et citoyens. Guerre et société dans l'Italie communale, XIIe-XIIIe siècles*, Paris, 2003); Maria Nadia Covini, *L'esercito del duca. Organizzazione militare e istituzioni al tempo degli Sforza, 1450-1480* (Rome, 1998)

statement (given the twentieth century military history of Italy), and I ultimately blame Niccolò Machiavelli.²

Warfare was nevertheless frequent in the fourteenth century and impossible to separate from the cycle of plague and famine, with which it often directly coincided. Medieval society knew little distinction between a military and pacific sphere. Indeed, as I've argued elsewhere, the participation of foreign mercenaries made war still more intriguing from a cultural and social perspective. It rendered Italian armies among the most diverse, heterogeneous spaces in all of Europe, bringing men together of various background and languages. Armies were sites of vertical social exchange across class barriers and of self-definition in terms of ethnicity and nation, understood here in a Burckhardtian or Lacanian sense, the latter in opposition to an "other." Armies were also sites of ritual practices, performed outside of traditional urban spaces, often at the gates of an opponent. These provide insight into the ways in which cities presented themselves externally to opponents, and help connect individual communal traditions to a broader interurban context.³

The above subjects deserve more study. Most of all, scholars must address the lacuna regarding the economy of war. The subject is a notoriously difficult one. J. M. Winter spoke of "intractable problems" presented by the study of pre-modern war, including uneven evidence, ideological bias and, paraphrasing Fernand Braudel, the tendency of each generation to construct its own understanding of war.⁴ The obstacles are still more stubborn for Italy, where a tradition of debate on the overall performance of the economy

² Machiavelli famously condemned mercenaries as "useless," "unreliable," and "dangerous." See *The Prince* (bks. 12, 13), *The Art of War* (bk. 1), and *The Discourses* (bk. 2, discourse 20). Machiavelli's views shaped nineteenth- and early twentieth-century Italian scholarship, which remains influential. Ercole Ricotti, *Storia delle compagnie di ventura in Italia*, 4 vols. (Turin: Pomba, 1844–45); Giuseppe Canestrini, "Documenti per servire alla storia della milizia italiana dal XIII secolo al XVI," *Archivio storico italiano* 15 (1851); Piero Pieri, "Alcune quistioni sopra fanterie in Italia nel periodo comunale," *Rivista storica italiana* (1933): 561–614 and *Il Rinascimento e la crisi militare italiana* (Turin: Einaudi, 1952). Paolo Grillo's recent survey of medieval Italian warfare follows Michael Mallett and long-standing tradition in identifying fourteenth-century warfare with the "Age of the Companies." Paolo Grillo, *Cavalieri e popoli in armi: Le istituzioni militari nell'Italia medievale* (Bari: Laterza, 2008), 148–70

³ William Caferro, "Travel, Economy, and Identity in Fourteenth-Century Italy: An Alternate Interpretation of the 'Mercenary System,'" in *From Florence to the Mediterranean and Beyond*, ed. by D. Ramada Curto, E.R. Dursteler, J. Kirshner, and F. Trivellato (Florence: Leo S. Olschi, 2009), 363–80

⁴ J. M. Winter, ed. *War and Economic Development: Essays in Memory of David Joslin* (Cambridge, 1975), 2

has given rise to a penchant to generalize about war: to view it *a priori* as having either positive or negative effects.⁵

II

What are needed at this point are detailed studies, and this paper is a pedestrian attempt to do that. It will look at wages of soldiers at time of plague, a largest part of Florentine workforce, but also the most ignored. This paper deals with a specific Florentine war that began in June 1349 and ended in September 1350. It has received scant attention from scholars, obscured by the Black Death (1348) that preceded it, and by the fact that it was not waged against another city but a local feudatory, the Ghibelline Ubaldini clan, that inhabited the border region north of Florence in the hills of the Mugello, where Florentine territory gave way to that of Bologna. Such “intramural” wars were common, even if they raise uncomfortable questions about the coherence and “modernity” of the Florentine state.⁶ The Ubaldini patrimony lay on important trade routes through the Appenine mountains. The same roads were a focal point of the more well-known interstate wars at the end of the century with the Milan (1390-1392, 1402), which attempted to cut off Florence’s access to them.⁷

What commends this war for study is the excellent documentary evidence that has survived for it in the Florentine State Archives.⁸ These include records of balie, ad hoc committees that oversaw management of the war, as well as budgets of the “camera del commune,” which handled the city’s revenue. There exist detailed accounts of payments, including salaries of a wide range of personnel and the cost of supplies (from which we may deduce, for example, that the salary of a German mercenary cavalryman was equivalent to the price of 5,000 iron crossbow bolts in May 1350). The sources allow a sense of the financial parameters of war. They are particularly rich were regard to

⁵ William Caferro, “Warfare and Economy of Renaissance Italy, 1350-1450,” *Journal of Interdisciplinary History* 39 (2008): 169, 171-172

⁶ On the Ubaldini, see Laura Magna, ‘Gli Ubaldini del Mugello: una signoria feudale nel contado fiorentino’ in *I ceti dirigenti del eta comunale nei secoli xii e xiii* (Pisa, 1982), 13-66; Samuel K. Cohn, *Creating the Florentine State: Peasants and Rebellion*, (Cambridge, 1999), 19-22

⁷ John Lerner, “Crossing the Romagnol Appenines in the Renaissance” in *City and Countryside in late Medieval and Renaissance Italy: Essays Presented to Philip Jones*, edited by Trevor Dean and Chris Wickham (London, 1990), 147-170; Daniele Sterpos, “Evoluzione delle comunicazioni transappenniniche attraverso tre passi del Mugello” in *Percorsi e valichi dell’Appennino fra storia e leggenda* (Florence, 1985); Gene Brucker, *Civic World*, 136-144; 174-186

⁸ The sources for study in the ASF include Balie 6, 7; Camera del comune, scrivano di camera uscita 5, 6, 7, 8, 9, 10 and Provvisioni, registri 36, 37, 38 and Signori, Missive I Cancelleria 10

soldiers' salaries and provide a glimpse of these at precisely the time that Florence was enduring the aftershocks of the Black Death and the demographic contraction that affected the price of labor. The evidence provides important perspective on the overall Florentine labor force in the immediate aftermath of the Black Death, the study of which war has not been accounted for.

The lacuna here is striking given the many studies devoted to wages and labor for plague-era Europe more generally. Scholars have examined long-term trends, assessed nominal and real wages and standards of living, and in wage data even sought the origins of the “great divergence” that separated the economies of the West and East prior to the Industrial Revolution.⁹ The literature has drawn on Annales and Cliometric methodologies that advocate quantitative inquiry as a means of getting “beyond standard narratives” to broader historical processes.¹⁰ The city of Florence is the subject of excellent, if more circumscribed, studies (La Roncière, Goldthwaite, Pinto, Tognetti). Scholars have traced dramatic increases in nominal wages in Florence in the immediate aftermath of the plague. Tognetti spoke of “forte ascesa,” La Roncière of a “spectaculaire montée salariale” and Goldthwaite of a “sharp rise” in money wages.¹¹

⁹ Robert C. Allen, “The Great Divergence in European Wages and Prices from the Middle Ages to the First World War,” *Explorations in Economic History* 38 (2001): 411–47; Sevket Pamuk, “The Black Death and the Origins of the ‘Great Divergence’ across Europe, 1300–1600,” *European Review of Economic History* 11 (2007): 289–317. See also Jan L. Van Zanden, “Wages and the Standards of Living in Europe, 1500–1800,” *European Review of Economic History* 2 (1991): 75–95

¹⁰ The Annales method took on its quantitative coloring in the work of François Simiand and Ernest Labrousse. François Simiand, *Le salaire, l'évolution sociale et la monnaie*, 3 vols. (Paris: Felix Alcan, 1932); Ernest Labrousse, *Esquisse du mouvement des prix et des revenus en France au XVIIIe siècle*, 2 vols. (Paris: Librairie Dalloz, 1933). A spirited endorsement of quantification is in Emmanuel Le Roy Ladurie, “Motionless History,” *Social Science History* 1, no. 2 (Winter 1977), 135, and David Hackett Fischer, *The Great Wave: Price Revolutions and the Rhythm of History* (Oxford: Oxford University Press, 1996), xiii. On the cliometric “revolution,” see Naomi R. Lamoreaux, “Economic History and the Cliometric Revolution,” in *Imagined Histories*, ed. by Anthony Molho and Gordon S. Wood (Princeton: Princeton University Press, 1998), 59–84

¹¹ Charles M. de La Roncière dealt with the period from 1280–1380. Giuliano Pinto treated the years 1380–1430. Richard Goldthwaite focused on the fourteenth and fifteenth centuries. Sergio Tognetti brought together the work of the other scholars and extended it to 1500. The wage data is taken from account books of the hospitals of Santa Maria Nuova and San Gallo and the monasteries of Santissima Annunziata and Carmine. Charles M. de La Roncière, *Prix et salaires à Florence au XIVe siècle, 1280–1380* (Rome: École française de Rome, 1982); Giuliano Pinto, *Toscana medievale: Paesaggi e realtà sociali* (Florence: Le lettere, 1993); Richard A. Goldthwaite, *The Building of Renaissance Florence* (Baltimore: Johns Hopkins University Press, 1980); Sergio Tognetti, “Prezzi e salari nella Firenze tardomedievale: Un profilo,” *Archivio storico italiano* 153 (1995): 263–333. See also Franco Franceschi, *Oltre il ‘Tumulto’: I lavoratori fiorentini del Arte della lana fra tre e quattrocento* (Florence: L.S. Olschki, 1993) and Carlo M. Cipolla, *The Monetary Policy of Fourteenth-Century Florence* (Berkeley and Los Angeles: University of California Press, 1982); Gene Brucker, *Florentine Politics and Society, 1343–1378* (Princeton: Princeton University

Paolo Malanima extended the conclusions to Tuscany and the rest of Italy, noting a “sharp and undeniable rise” in nominal wages.¹² To the extent that there has been scholarly debate, it has (like elsewhere) centered on real wages and on the nature of the basket of goods used to determine them.¹³

The methodology is, however, curiously derivative. It follows closely the researches for England of Phelps Brown and Sheila V. Hopkins, focusing on day laborers of the construction industry employed by private institutions for which there are figures over the long run.¹⁴ “All the work on the history of salaries and prices,” Tognetti affirmed, “owes its existence to books of administration of religious entities and or agencies of assistance.”¹⁵ Florentinists have used the records of the hospitals of Santa Maria Nuova and San Gallo and the monasteries of Santissima Annunziata and Carmine. Completely lacking from the discourse is consideration of military personnel and wages. Indeed, the current consensus ignores all state employees. The omission is noteworthy because we possess for Florence cameral budgets, which bear not only on the military, but on the entire public Florentine work force, encompassing many jobs.*

Our evidence reveals diverse trends that are not easily reconciled. The essay will attempt to assess anomalies against a literature that has placed too much faith in the “empirical” quality of numbers. It takes as its point of departure Marc Bloch’s advice, in his critique of François Simiand’s “science” of quantification, that careful consideration of short-term trends exposes variables often obscured by long-term studies.¹⁶ When war

Press, 1962), 9–27. On the economic conditions of workers, see John M. Najemy, *A History of Florence, 1200–1575* (Oxford: Blackwell Press, 2006), 157–60

*This is the subject of my current research, and presentation.

¹² Paolo Malanima, *L’economia italiana: della crescita medievale all’ crescita contemporanea* (Bologna, 2002), 238–240. Malanima adds numerous qualifications and notes the overall difficulty dealing with figures for preindustrial period. He estimated that artisans made up only 4–8 percent of urban populations, but sees them as a useful paradigm for the whole. “Se i salari dei manovali e muratori crescono, anche le altre retribuzioni aumentano.”

¹³ For the factors that go into assessment of real wages and cost of living see Goldthwaite, *Building of Florence*, 342–50; De La Roncière, *Prix et salaires*, 381–96; Pinto, *Toscana medievale*, 129–30; and Tognetti, “Prezzi e salari,” 298–300

¹⁴ James E. Thorold Rogers, *Six Centuries of Work and Wages: The History of English Labour*, 2 vols. (London: Fisher Unwin, 1884); E.H. Phelps Brown and Sheila V. Hopkins, “Seven Centuries of Building Wages,” *Economica*, n.s. 22 (August 1955): 195–206 and “Seven Centuries of the Prices of Consumables, Compared with Builders’ Wage-Rates,” *Economica*, n.s. 23 (November 1956): 195–206

¹⁵ Tognetti, “Prezzi,” 270

¹⁶ Marc Bloch, “Le salaire et les fluctuations économiques a longue période,” *Revue historique* 173 (January 1934): 30

is added to our analysis, the analysis changes.

III

Florence's war lasted from the beginning of June 1349 to September 1350.¹⁷ The formal declaration of war against the Ubaldini makes clear the economic aspect of the conflict. The city council declared the family "outlaws," a sentence that made their possessions subject to confiscation. Florence forbade its own citizens to provide aid and assistance to the enemy and granted tax breaks to allies and subjects of the Ubaldini who abjured their loyalty and settled in the Florentine state. At the end of the war, Florence took possession of Ubaldini tolls in towns and fortresses along the Bolognese border.

The extant documents provide detailed information about the army employed by Florence during the war, a subject about which little is known for the entire fourteenth century. The force consisted of cavalry and infantry units as its basic components. The cavalry was made up wholly of German and Italian mercenaries, arranged according to "language" (*lingua*)—German soldiers grouped with Germans; Italians with Italians. Each unit was commanded by a captain or *conestabile*. Florentine officials appear to have chosen proven captains who had previously worked for the city. The Germans Burkhardt "de Toro" and Jakob "di Fiore" had served Florence since the war against Pisa in 1341 and were now placed in the vanguard of the army with the so-called *feditori*, or "wounders," who led the charge against the Ubaldini.¹⁸ The Italian mercenaries were "faithful Guelfs," an apparent requisite for fighting against the Ghibelline Ubaldini clan. The captain, Andrea Salmoncelli, a Guelf exile from the city of Lucca, led Florentine forces at the siege at Montegemoli in June 1350 and, like his German counterparts, had previously fought for the city.

The infantry was subdivided into three units: those consisting of shield bearers, those made up of crossbowmen and "mixed" contingents with both shield bearers and crossbowmen together. The manner in which infantry units were integrated with the cavalry units and deployed in the field is not clear; nor do we know the overall size of the army. A partial troop list (ASF, Miscellanea repubblicana, no. 120) indicates that

¹⁷ A *balia* of eight men was selected to manage the war in June 1349 ASF, Provvisioni, registri 36, fols. 141r-141v; Signori Missive I Cancelleria 10 #160

¹⁸ On the continuity of service of these and other soldiers, see Caferro, "Continuity," 311–14

Florence had 400 horsemen and 600 infantrymen on the payroll at the end of 1348. Consulte e pratiche records show that at the start of the war in 1349 officials aimed to recruit 150 horsemen and 400 infantrymen.¹⁹ Balie 6 indicates that in 1350 Florence hired, for the second phase of the war (27 March to 7 April), 185 German cavalymen and 499 infantrymen (326 of whom were crossbowmen).²⁰ The numbers are modest in comparison to the several thousands of cavalry and infantrymen usually employed for interstate wars. But they are substantial with respect to the rest of Florence's work force, and indeed make clear that the army was a significant component of the labor force in the plague years.

Cameral budgets give the provenience of the infantrymen and show that, in contrast to the cavalry, they came largely from within the Florentine state. Many were from mountainous regions: the hills above Pistoia, the Casentino, and, above all, the Upper Mugello (the towns of Firenzuola, Tirli, and Montecarelli), near the theater of warfare. Florentine officials thus appear to have sought men adapted to the type of warfare needed against the Ubaldini in the Apennines and perhaps even to deny the family access to its own recruiting grounds. The crossbowmen in Florentine service came both from within the state and from outside it. Florence hired contingents from the nearby towns of Bibbiena and Modena and from Liguria, including the cities of Genoa, Spezia, Sarzana, and Lunigiana. The Ligurian crossbowmen served in units of set size, usually between twenty-three and twenty-five men.

Florence also employed sappers to destroy roads and set fire to houses and fields. According to Balie 6, the sappers were arranged in 1350 in their own contingent, along with masons (*maestri di lapide e legname*) who aided in the destruction of fortifications and who serviced trebuchets in the field.²¹ The size of the unit is unknown. The Florentine army also had a separate contingents of fifty *barattieri*, or ribalds, whose job it was to mock the enemy through acts of *infamia*, an important aspect of Tuscan warfare at this time.

Balie records reveal that Florence's military work force included an array of noncombatants. The town of Scarperia, at the foot of the Appenines at the Ubaldini

¹⁹ ASF, CP, 1, fol. 4v

²⁰ ASF, Balie, 6, fols. 38v–39r, 45v, 52v, 60v, 61v, 62r, 98r, 118r

²¹ ASF, Balie, 6, fols. 5v, 61r, 69r

frontier (built in 1306 to defend against the clan), was turned into a construction site for building trebuchets and field fortifications and for the collection of supplies for the army. In April 1350, the city employed twenty-three masons, six sawyers (*segatores*), six carpenters (*maestri di legname*), and two blacksmiths (*fabbri*) at Scarperia. Their labor was carefully organized. A separate accountant and notary was hired to oversee their pay and to keep precise record of the materials they used. Florence sent both raw materials (wood, wire, hemp, and iron) to Scarperia and finished goods and weapons (tools, bells, lanterns, crossbows, and arrows). The raw materials were purchased from the same artisans who worked in the town. For example, the blacksmith Azzino Gualberti, employed at Scarperia to build trebuchets, also sold iron and wire worth 214 florins, a large sum of money.²²

Such evidence indicates that artisans stood to gain substantial profits from war, in addition to their wages. The artisans at Scarperia came from that town and its environs and thus their employment likely provided a stimulus to the local economy. Conversely, however, the documents show that the state paid for food and weapons and the transport of them to the army. This limited the potential for market interaction between soldiers and merchants. The grain used to feed the army was purchased in Romagna, outside of Florentine territory.

The labor force also included couriers, who carried instructions from city officials to the army; *vetturali*, who transported food and supplies; *rassegnatori*, who inspected soldiers in the field; paymasters, who brought money to troops; spies, who sought out information; and at least one doctor, who traveled with the army to “help heal the wounded.” Florentine officials took especial care with provisioning. They appointed a series of “committees,” both at Scarperia and in the field, to organize distribution of supplies to workers and soldiers.

The overall number of employees is unclear. Balie 6 lacks precision. It does provide, however, partial wage data for the men, allowing a sense of the distribution of pay in 1350. Paymasters, for example, received a salary of 90 soldi a day, officials in charge of supplies earned 70 soldi a day, *rassegnatori* were paid 40 soldi a day, blacksmiths between 50 and 25 soldi a day, a doctor 30 soldi a day, and masons at Scarperia received

²² ASF, Balie, 6, fols. 66r, 93r

18 soldi a day.²³ The masons' wages at Scarperia are comparable to those calculated by Goldthwaite (16.8 soldi a day) for those in the "pacific" sphere.²⁴

What is most noteworthy, however, about the work force is its temporary nature. The military personnel was not composed of "professionals," but of short-term employees who worked for the war effort in addition to their usual "pacific" occupations. The position of paymaster was, for example, not an independent job, but was performed by men who were listed in the budgets as accountants and notaries. The *rassegnatori*, who reviewed troops, consisted of an array of men, including town criers, accountants, and members of the *balia* that managed the war. The masons at Scarperia were hired for only two weeks at a time, as were the blacksmiths. We will return to this important point later.

IV

Records of the wages of the above workers are available only for 1350, thus it is not possible to trace the impact of the Black Death on wages. The sources do, however, permit close comparison of the salaries of cavalrymen and infantrymen from 1349 to 1350. The evidence provides insight not only into the effects of the Black Death but also into the structure of soldiers' wages more generally

Florentine soldiers were paid monthly. Captains received the money directly and then distributed it to their men according to rates set by the city and recorded in budgets. Table 1 lists the salaries of Florentine soldiers in 1349.

Mercenary cavalrymen earned the highest wages, and the German cavalry captain was the highest paid soldier of all. His wage was sixteen times greater than that of a shield bearer, the lowest-paid soldier. The next-highest salary was that of the Italian mercenary cavalry captain, who earned about half of his German counterpart. The Italian captain's wage was, however, variable. He received a quarter more if he were a knight, a distinction that did not apply to German captains, whose wages were the same whether knighted or not. The ordinary German cavalryman came next, followed by Ligurian crossbow captains, Italian cavalrymen, and crossbow captains from Bibbiena and Modena. At the bottom of the scale were the rank-and-file infantrymen. Crossbowmen in

²³ ASF, Balie, 6, fols. 85v–86r, 109v

²⁴ Goldthwaite, *Building of Florence*, 436, 437

units from Bibbiena and Modena earned only slightly more (15 percent) than shield bearers. The salaries of shield bearers remained the same whether they served in their own contingents or in mixed units.

Table 1. Rank Order (Highest to Lowest) of Nominal Monthly Wages of Florentine Soldiers in 1349 (in *soldi di piccioli*; 1 florin=64 soldi)

Occupation (unit size)	Wage (Soldi)
Captain German Mercenary Cavalry Unit (13-20 men)	1920
Captain Italian Mercenary Cavalry (15-20 men)	1000-800
German Mercenary Cavalryman	522
Captain Crossbow Unit from Liguria (23-25 men)	448
Italian Mercenary Cavalryman	400
Crossbowman from Liguria	207
Captain Crossbow Unit from Bibbiena/Modena (10-18 men)	202
Captain Mixed Infantry Unit (10-23 men)	202/150
Captain Shield Bearer Unit (4-12 men)	150
Crossbowman from Bibbiena/Modena	138
Crossbowman in Mixed Unit	138
Shield Bearer	120

Source: ASF, Camera del comune, Scrivano di camera uscita 6, fols. 17–41r; 7, fols. 17r–60r; 8, fols. 17r–36r.

Note on money: Communal budgets were, however, kept in money of account, based on lira—a “ghost” currency, figured at 1 lira = 20 soldi = 240 denari. An exchange existed between the gold currency and money of account (which was raised on silver). Exchange rate: 1 florin = 64 soldi.

That Florence’s pay scale favored cavalry over infantry is perhaps predictable in this “age of the horse,” as Philippe Contamine called the era. Contamine argued that the infantry had lost both “its quantitative and qualitative importance.”²⁵ Nevertheless, Ligurian crossbowmen were well compensated. Indeed, a Ligurian captain earned higher pay than an Italian mercenary cavalryman and twice the salary of his non-Ligurian crossbow counterpart. Our evidence suggests that Ligurian units enjoyed considerable status and reputation. Balie 6 shows that they were in fact recruited in a manner similar to that of mercenary cavalrymen, through merchant bankers who served as intermediaries,

²⁵ Philippe Contamine, *War in the Middle Ages*, trans. Michael Jones (Oxford: Oxford University Press, 1984), 126

advancing funds to the soldiers in anticipation of their service.²⁶

It is not clear what coins were actually used to pay the troops, a problem that, as Goldthwaite has recently pointed out, applies to Florentine wages more generally. For the sake of comparison, the salaries in Table 1 have been rendered in *soldi di piccioli*, based on money of account, linked to the silver currency (see note in Table 1).²⁷ In using silver values, this essay follows the long tradition of wage studies (Rogers, Beveridge, Abel) and of Florentine budgetary practice during the period of the Black Death.²⁸ The salaries of German cavalrymen and Ligurian crossbowmen are, however, first listed in budgets as gold florins. The salaries of Italian mercenary cavalrymen are always cited in lire, as are the wages of shield bearers and the military laborers noted above. The differences reflect the bimetallic system in use in Florence at the time, which consisted of gold coins (florins) and silver coins (*grossi*, *quattrini*, *denari*). It is reasonable to assume that those soldiers whose wages were cited initially in gold were paid in that currency. But it does not necessarily follow that the salaries cited in silver were always paid in that currency. The issue is an important one. The choice of currency had economic and social implications. The gold florin was most desirable—stable in value, widely accepted throughout Italy and Europe. It escaped the debasement suffered by lesser silver coins used in the market place.²⁹ This fact makes it still less clear why Italian mercenaries would accept silver rather than gold.

²⁶ ASF, Balie, 6, fols. 40v, 59r

²⁷ The budgets for expenditure of the Camera del comune, Scrivano di camera uscita, are summed at the end of each section. The exchange rate between the florin and lira/soldi is given in the budgets, sometimes monthly or even daily. On the Florentine monetary system and monies of account, see Raymond de Roover, *The Rise and Decline of the Medici Bank, 1397–1494* (Cambridge: Harvard University Press, 1963), 31–34; Cipolla, *Monetary Policy*, 20–29; Anthony Molho, *Florentine Public Finances* (Cambridge: Harvard University Press, 1971), xiv; Goldthwaite, *Building of Florence*, 301–17, and *The Economy of Renaissance Florence*, 609–14; and, with Giulio Mandich, *Studi sulla moneta fiorentina (secoli XIII–XVI)* (Florence: L.S. Olschki, 1994). Goldthwaite, *The Economy of Renaissance Florence*, xvi– xvii, has argued that citation in lire/soldi is the most precise measure.

²⁸ W.H. Beveridge, “Wages in the Winchester Manors,” *Economic History Review* 7 (1936): 22– 43; Wilhelm Abel, *Agrarian Fluctuations in Europe from the Thirteenth to the Twentieth Century*, trans. Olive Ordish (New York: Columbia University Press, 1966)

²⁹ Tognetti, has stressed this, “Prezzi e salari,” 268–70, See also Pinto, *Toscana medievale*, 115; La Roncière, *Prix et salaires*, 469–518

Table 2. Rank Order and Comparison of Nominal Monthly Wages of Florentine Soldiers 1349-1350 (in *soldi di piccioli*)

Occupation (unit size)	Wage 1350	Wage 1349	Percentage Increase 1349-1350
Captain German Cavalry Unit (20-25 men)	1920	1920	0
Captain Italian Mercenary Cavalry Unit (20-25 men)	1000-800	1000-800	0
German Mercenary Cavalryman	522	522	0
Captain Crossbow Unit from Liguria (23-25 men)	512	448	14
Italian Mercenary Cavalryman	400	400	0
*Captain Shield Bearer Unit (20-25 men)	340	150	227
*Captain Crossbow Unit (Bibbiena, 25 men)	280	138	37
Crossbowman from Liguria	256	207	24
Captain Crossbow Unit (Bibbiena, 10-18 men)	230	202	14
Captain Mixed Infantry Unit (10-23 men)	230/170	202/150	14/13
Captain Shield Bearer Unit (4-12 men)	170	150	13
Crossbowman (Bibbiena)	180	138	37
Crossbowman in Mixed Unit	180	138	37
*Shield Bearer (20-25 men)	170	120	42
Shield Bearer (4-12 men)	140	120	13

Source: Camera del comune, scrivano di camera uscita 9 fols. 17r-45r; scrivano di camera uscita 10 fols. 17r-59r

Exchange rate 1349-50: 1 florin=64 soldi

*Change in rank order

Table 2 lists soldiers' wages in 1350 during the second phase of the war, alongside those of 1349. The effects of the Black Death and demographic crisis are apparent. The salaries of infantrymen rose across the board. The most dramatic change occurred in shield-bearer units of twenty to twenty-five men. The wages of captains increased 227 percent from 1349 levels, placing the men in the upper ranks of the pay scale, above Ligurian crossbowmen and just below Italian cavalrymen. The salaries of members of their units rose 42 percent. Crossbowmen also benefited significantly. Captains from Bibbiena (there were no longer units from Modena, as in the first phase) of units of 25 men saw their wages increase 37 percent, the same as bowmen in their units. The salaries of Ligurian crossbow rose more modestly, by 14 percent for captains and 24 percent for their men.

Changes in unit size were a factor in pay increases. The greatest wage movement occurred in shield-bearer bands of twenty to twenty-five men. In those contingents that remained the same size (four to twelve men), as in 1349, however, salaries rose more

modestly, by 13 percent for both the captain and members of his unit. The wages of crossbow captains from Bibbiena behaved similarly, increasing by 14 percent in bands that remained the same in size (ten to eighteen men) as in 1349. The salaries of the rank-and-file crossbowmen in these units rose, however, by 37 percent, the same as in units of twenty-five men. This was true also of crossbowmen in mixed units, who salaries increased 37 percent regardless of the size of their contingent. The evidence would seem to suggest that local bowmen were in especially high demand.

In any case, it is clear that in the immediate aftermath of the plague, the nominal wages of infantrymen changed significantly, altering their rank order and structure. Shield bearer units of twenty to twenty-five men now resembled Italian cavalry units, with captains earning exactly twice the salary of their men. The gap in pay between a captain and his men in crossbow units from Bibbiena narrowed, while the pay structure of Ligurian units stayed the same, as did the size of these units.

The most striking pattern from our data is, however, with regard to the cavalry. The nominal wages of these soldiers did not change at all from 1349 to 1350 (Table 2). They remained the same despite the fact that their units, like those of the shield bearers, grew in the size, from between thirteen to twenty men in German units and fifteen men in Italian units in 1349, to banners of twenty to twenty-five men in 1350. The increase in size did not drive up wages.

The trend is unexpected and difficult to explain. All studies of Florence argue for substantial increases in nominal wages for workers immediately after the plague. La Roncière called the evidence “inconsistabile” and cited rises of 160 per cent in the nominal wages of masons and 354 percent for unskilled laborers in the three years after the plague, and increases of 200 percent and higher for gardeners from 1350–56.³⁰ Goldthwaite’s figures for construction workers show increases from 1349 to 1350 of 25 percent (13.4 soldi to 16.8 soldi) in the nominal wages of masons and 19 percent (8.4 soldi to 10 soldi) for unskilled workers. The patterns resemble in basic outline those for contemporary Florentine infantrymen.

The discrepancy between the changes in infantry and cavalry wages is still more curious when we examine contemporary legislation. Unlike elsewhere in Europe,

³⁰ La Roncière, *Prix et salaires*, 348, 457

Florence did not enact laws seeking to control wages in the aftermath of the plague. There is no Florentine equivalent of the English Statute of Laborers or the French *Grande Ordonnance*. Instead, officials, in July 1349, passed a law explicitly allowing wage increases for infantrymen, citing “inopiam personarum” and dearth of men-at-arms.³¹ Cameral budgets show that Florentine officials had in fact begun increasing infantry wages already in June 1349, allowing a special “accrescimento,” to respond to the rapidly changing market conditions. In February 1350, Florence issued legislation further increasing wages of infantrymen, stating openly its rationale, that “for smaller pay we do not believe that we can find men.”³² City officials took no action, however, to increase cavalry wages, nor did they impose restrictions on those wages. The sources are silent on the issue.

The preferential treatment allowed the infantry is odd, particularly in light of Samuel K. Cohn’s recent study that has argued that Florence treated its rural work force harshly in the immediate aftermath of the plague, seeking in that sector alone to prohibit wage increases. The legislation of July 1349 may perhaps be interpreted as an attempt to place ceilings on infantry wages. But the rates suggested by city officials exceeded the actual level that they reached and clearly appear aimed at attracting men. Conversely, it is possible that officials froze cavalry wages in legislation as yet undiscovered, but the prospect is unlikely given the pressing need for men to fight the Ubaldini as well as concerns with the overall security of the Florentine state.

The divergent patterns beg for an explanation. We may begin with classical economic notions of supply and demand and hypothesize that the differences between cavalry and infantry wages reflect differences in the sizes of the respective labor forces. Was there a shortage of infantrymen and a glut of cavalymen in the immediate aftermath of the plague? The prospect seems *prima facie* plausible. Despite the lack of precise figures for the size of the army, Florence, as we have seen, recruited more infantrymen than cavalymen. In addition, Florence drew its cavalry from a wider pool, from elsewhere in Italy and also from beyond the Alps. Medieval cavalymen were by definition aristocrats

³¹ ASF, CC, 6, fols. 30v, 33r–v, 37r

³² ASF, Balie, 6, fol. 38v

and landholders, the class that suffered most from the demographic contraction attendant on the plague. The value of land decreased and aristocrats bore the brunt of the increased price of the labor. The stability of cavalry wages may perhaps then be read as evidence that in the face of the economic challenge, men from this sector sold their labor as soldiers to make up their losses, increasing the number of available cavalymen seeking employment in communal armies. Shield bearers, on the other hand, were primarily recruited locally, from the much-depleted Florentine population. The pool was thus considerably smaller, which allowed the infantry to demand higher wages, so high, in fact, that service as a shield bearer may be said to have become a good way to make a living in difficult times.

The thesis has a cause and effect appeal and, extended further, may perhaps allow us to connect the cycle of plague to the increased incidence of warfare that historians have long observed for the second half of the fourteenth century. War served as a means of sustenance and profit for both aristocrats and laborers at a time of plague. Men willing and eager to earn profits gave impetus to war.

It is, however, the cause-and-effect nature of the interpretation that evokes discomfort with it. Although mercenaries did not represent the “dregs of society,” as scholars once claimed, and many of the Germans and Italian cavalry captains were indeed from the aristocracy, it remains unknown what the social backgrounds of most of the men were. More importantly, the same cameral budgets that list the wages of soldiers contain the wages of a range of communal employees that provide an important perspective on the issue.

The wages of government employees in Florence have not been the subject of study. For the purposes of this essay and for a workable comparison, I drew from three admittedly debatable categories of wages: 1) those of lower-level employees comparable to infantry, including bell ringers (*campanari*) of the Palazzo dei Priori, servants (*famigliari*) of the priors, and the cook of the *Signoria*; 2) wages for more skilled jobs, such as notaries, town criers (*banditori*), and accountants; and 3) the wages for prestigious positions, such as the *podestà*, chancellor of the *comune*, chamberlain of the *condotta*, and chamberlain (lay and clerical) of the camera del comune.

Table 3. Nominal Monthly Salaries of Florentine Government Employees, 1349-1350
(in *soldi di piccioli*)

Occupation	Wage 1349	Wage 1350
Podestà*	26,667	26,667
Executor of Justice	6,667	6,667
Chancellor**	533	533
Notary of Expenditure of Camera	400	400
Notary of Priors	400	400
Notary of Income of Camera	200	200
Accountant of Camera	200	200
Public Doctor	200	200
Monk, Chamberlain of Camera*	166.7	166.7
Lay, Chamberlain of Camera	140	140
Town Crier	121	121
Famigliari (donzelli, domestics)	80	80
Bell ringer (palazzo priori)	80	80
Cook	80	80
Judge	60	60

Exchange rate: 1 florin=64 soldi

*Paid by semester (6 months). The salary of the podestà was intended also for his entourage or family, which consisted of 38 men at this time.

** Paid yearly

Source: Camera del comune, scrivano di camera uscita 6 fols. 2r-10r; scrivano di camera uscita 7 fols. 2r-11r; scrivano di camera uscita 8 fols. 2r-7v; scrivano di camera uscita 9 fols. 2r-9v; scrivano di camera uscita 10 fols. 2r-9v

Table 3 lists in rank order (highest to lowest) the nominal wages of the stipendiaries. The data raise their own set of questions about the structure of communal wages. The schedule of payment of salaries varied: some officials were paid by the month, others by semester (6 months), others' yearly. A notary who recorded the expenditure of the *camera* received twice the salary of the notary who recorded income. The chamberlains in charge of the *camera* earned less than notaries who worked under them, and the chamberlain of the *condotta*, the office that hired troops, earned less than the lowest-paid soldier in the Florentine army.

For purposes of this essay, however, the most salient fact is that the nominal wages of all the employees remained the same from 1349 to 1350. We do not find a “forte ascesa” in money wages, as predicted in current studies. There is instead “wage stickiness,” a phenomenon predicted by Adam Smith and John Maynard Keynes and studied most

rigorously and over the long term for the Middle Ages (England and the Low Countries) by John Munro.³³ Keynes cited stickiness as evidence against the tendency of classical economic theorists to minimize anomaly.³⁴ Taken together with cavalry wages, our data demonstrate that a variety of Florentine employees did not see an immediate boost to their money wages after the plague, and that wage patterns do not correspond to current models.

Such evidence renders problematic any simple macroeconomic interpretation of the movement of Florentine salaries. Similarly, it emphasizes the dangers inherent in extrapolating overall patterns from a single set of data. Paolo Malanima justified his use of craftsmen wages to establish long-term wage trends in Italy on the grounds that they represented, more or less, the pattern of other wages. But this sector, which Malanima estimated as consisting of only 4–8 percent of the urban population, was not representative of the overall Florentine workforce. There is clearly a need to examine a broad range of salaries and to take careful note of an array of factors that may have affected their rates. It is necessary to consider distinctions within the labor force: whether workers belonged to guilds; and whether they were employed by the state, by local institutions, or by fellow citizens. Medievalists do well in this regard to follow the lead of modern labor economists, who have stressed the importance of treating labor forces as representing many markets at once, even for workers of similar skills.³⁵

More pointedly, scholars need to better contextualize wage data and understand it in its own terms. In advocating the *Annales* method and the emerging Cliometric school, Emmanuel Le Roy Ladurie stated strongly his faith in numbers, arguing that they represented “not merely the sulky handmaidens of a concept” but “evidence from which

³³ Adam Smith, *The Wealth of Nations*, ed. Edwin Cannan (New York: Modern Library, 1937), 74–75; John Maynard Keynes, *The General Theory of Employment, Interest and Money* (London: MacMillan, 1936), 257–60; John Munro, “Wage-Stickiness, Monetary Changes and Real Incomes in Late-Medieval England and the Low Countries, 1300–1450: Did Money Really Matter?,” *Research in Economic History*, ed. Alexander J. Field, Gregory Clark, and William A. Sundstrom, vol. 21 (Amsterdam and London: JAI, 2003), 185–297; John Munro, “Urban Wage Structures in Late-Medieval England and the Low Countries: Work Time and Seasonal Wages,” in *Labour and Leisure in Historical Perspective, Thirteenth to Twentieth Centuries*, ed. Ian Blanchard (Stuttgart: Franz Steiner, 1994), 65–78

³⁴ On Keynes and stickiness, see Robert M. Solow, “Another Possible Source of Wage Stickiness,” *Journal of Macroeconomics* 1, no. 1 (Winter 1979): 79–82 and Robert J. Gordon, “A Century of Evidence on Wage and Price Stickiness in the United States, the United Kingdom, and Japan,” in *Macroeconomics, Prices, and Quantities*, ed. James Tobin (Washington, DC: Brookings Institute, 1983), 85–133

³⁵ George J. Borjas, *Labor Economics* (New York: Irwin/MacGraw Hill, 2008), 166, 473–78

the concept itself emerges.” David Hackett Fischer, echoing these sentiments, spoke of numbers as “empirical indicators” that “tell us the way the world is moving.”³⁶ But numbers, to coopt the language of literary critics, may represent several narratives at once.

With respect to the war of 1349-50 and the distinction between infantry and cavalry wages, it is necessary to include in our analysis contemplation also of notions of honor and social distinction embedded in such service, which may have brought their own rewards, apart from money, and may thus account for some unexpectedly low wage rates. Such notions translate well also to Florentine government jobs characterized by social distinction and low pay, such as those of the chamberlain of the *condotta* and chamberlain of the camera del comune (Table 3). The nineteenth-century Italian scholar Demetrio Marzi argued that Florentine government jobs constituted more of an obligation than an economic opportunity for employees, who were generally assigned “base salaries” that encouraged them to avoid appointment. In his extant *ricordanze*, Niccolò di Ser Ventura Monachi, the chancellor of Florence from 1349–50, complained of precisely this issue—that his salary was too low to make the job worthwhile.³⁷

Indeed, consideration of government employees makes clear the contrasting market forces that operated in Florence. Wage data for construction and day laborers is taken primarily from large institutions—hospitals, churches, convents and monasteries—which in the immediate aftermath of the plague often gained revenue from bequests of victims of the contagion. State stipendiaries were, however, paid, by the city government, whose revenue depended on communal taxes. Tax returns were greatly diminished after the plague, owing to decreased population, and were difficult to collect on account of lack of personnel. The Black Death disrupted the whole mechanism of public finance, including the assignment of tax farms, an important means of streamlining the system and assuring the type of quick turnover of funds needed during war.³⁸ As in modern America, public jobs were the first to feel the effects of economic change and, indeed, Bruno Casini’s brief but important analysis of Pisa shows that, immediately after the Black Death,

³⁶ Le Roy Ladurie, “Motionless History,” 135; Fischer, *The Great Wave*, xiii

³⁷ Demetrio Marzi, *La cancelleria della repubblica fiorentina* (Rocca S. Casciano: Capelli, 1910), 95–96. See also Falsini, “Firenze dopo il 1348,” 440

³⁸ Florentine city council legislation from 1349–50 contains ample evidence of such difficulties. ASF, PR, 36, fols. 65r, 133v–134v; 37, fol. 45v. See also Falsini, “Firenze dopo il 1348,” 443–45

officials in that city consolidated government offices, eliminating some, suspending others, and even reducing wages. This occurred while city artisans and agricultural workers saw their nominal wages increase.³⁹ In Florence, the first notice of Ubaldini misdeeds coincided directly with city council legislation complaining that the state had no money to pay stipendiaries and saw “little hope for improvement in the future.”⁴⁰

A critical factor therefore in understanding wages is to avoid equating them with compensation. As Simon A.C. Penn and Christopher Dyer warned about plague-era England, nominal rates cast only an indirect light on overall earnings.⁴¹ This is true also of Florence, and it is here that our war assumes its most important meaning. We have already seen how blacksmiths at Scarperia earned substantial income apart from their salaries from the sale of goods to the city, and how those who worked for the war effort often did so in addition to their stated occupations. The degree of the latter phenomenon was substantial. For example, Simon Schutiggi, listed on budgets as “an accountant of the *camera*” at a monthly rate of 10 lire, served as a paymaster, *rassegnatore* of troops, and an ambassador sent to negotiate with the Ubaldini after the battle of Montegemoli. Simone Lapi, a notary of the *camera* earning 20 lire a month, worked as a *rassegnatore* and ambassador; while Niccolò di Messer Bencivenni, chamberlain of the *condotta* (at 6 lire a month) served as an ambassador, paymaster, and overseer of supplies in the late stages of the war, for which he was paid daily wages. Martino Lapi, a town crier, rode with the army in June 1349 in an unspecified capacity, for which he earned 20 soldi a day. Musicians employed by the city to play at civic feasts also rode with the army in 1349, earning 4 soldi per day. And for all his complaints about his low salary, the Florentine chancellor, Niccolò di Ser Ventura Monachi, earned an additional 2 florins in 1350 for letters he wrote relating specifically to the war.⁴²

The overlapping responsibilities allowed for a considerable gap between nominal “occupational” wages and actual compensation. Schutiggi worked three days as paymaster, five as *rassegnatore*, and four as ambassador, during which he earned 35.5

³⁹ Bruno Casini, “Note sul potere di acquisto dei salari a Pisa nei primi anni della signoria gamicortiana,” *Studi in onore di Leopoldo Sandri*, ed. (Rome: Ministero per i beni culturali e ambientali, 1983), 1:227–75

⁴⁰ ASF, PR, 36, fol. 81r

⁴¹ Simon A.C. Penn and Christopher Dyer, “Wages and Earnings in Late Medieval England: Evidence from the Enforcement of the Labour Laws,” *The Economic History Review* 43, no. 3 (August 1990): 356–76

⁴² ASF, Balie, 6, fol. 114v

lire, or three and a half times more than his stated monthly salary as an accountant. Niccolò Bencivenni's various jobs earned him an additional 170 lire, dwarfing his monthly pay. The most egregious instance of wage discrepancy is perhaps that of the bell ringer Giovanni Paoli. Giovanni earned 4 lire a month for ringing the bell at the Palazzo dei Priori, the seat of Florentine government. During the second phase of the Ubaldini war, Giovanni went on embassy to Milan for 60 days, for which he was paid 3 lire a day, earning him an additional 180 lire, bringing his overall compensation in line with the wage of a German cavalry captain.

The examples may be multiplied and support Bronislaw Geremek's famous statement regarding the "caractère hétérogène" of medieval wages.⁴³ Our evidence not only calls into question the reliability of nominal wages, but also the medieval conception of "occupation." Florence's day-labor force was clearly not distinct from its monthly labor force, nor was military labor separate from the pacific labor. And as Geremek pointed out for construction workers at the hospital of Saint-Jacques in Paris, assessment of compensation is further complicated by additional variables, such as the receipt of food, clothes, and gratuities. Florentine town criers received payment for each announcement they made, in addition to their monthly salaries. Communal musicians were given new clothes every six months. And, in what may have been a distinctly Florentine tradition, the city held poetic contests among government officials for an award of precious cloth.⁴⁴ Working for the state held the possibility of rewards apart from money and goods. The nearness to power may have been its own form of compensation, in terms of influence, which is impossible to quantify.

These caveats apply also to soldiers in Florentine service, the issue with which we began this essay and with which it is well to end it. For all our discussion of cavalry wages, we do not in fact know precisely what cavalry units looked like: how many horses a captain supported and how many assistants, and whether these numbers changed from 1349 to 1350. And if indeed we contextualize wages, we must consider the possibility that soldiers, like other government employees, had access to additional sources of

⁴³ Bronislaw Geremek, *Le salariat dans l'artisanat parisien aux XIIIe–XVe siècles* (Paris: La Haye Mouton, 1968), 85. For Spain, see Charles Verlinden, "La grande peste de 1348 en Espagne: Contribution à l'étude de ses conséquences économiques et sociales," *Revue Belge de Philologie et d'Histoire* 17 (1938): 17–25

⁴⁴ William Robins, "Poetic Rivalry: Antonio Pucci, Jacopo Salimbeni and Antonio Beccari da Ferrara," in *Firenze alla vigilia del Rinascimento*, ed. Maria Bendinelli Predelli (Fiesole: Cadmo, 2006), 319–22

revenue. They stood to gain, for example, from ransoms and war booty, as well as from bonuses of double pay for success in the field, and from reparation for injured horses. Such perks were common and often spelled out in *condotta* contracts, agreed upon by cavalymen and their employers.⁴⁵ The contracts were what we would call today “incentive laden,” and thus the base salary of cavalry constituted perhaps a rough guideline to earnings that were expected to be augmented by the spoils of war. No *condotte* have survived from 1349–50. But the balie records indicate that some German and Italian cavalymen received bonuses after the capture of Montegemoli. The German captains Burckhardt de Toro and Jacopo da Fiore and the Italian Andrea Salamoncelli were each paid 50 florins. The documents also show that cavalry- men were compensated (*menda*) for horses injured in battle. Such payments were not available to the infantrymen, whose reward most likely rested primarily on their nominal wage.

These hypotheses offer guidelines for future study, but do not resolve the many questions and ambiguities raised in this paper. What is, however, clear is that there is a need for more research and that scholars must proceed with caution when dealing with nominal wages, following Keynes’ lead in acknowledging anomaly and avoiding assuming more order in the system than there actually was. Contemplation of war and soldiers’ wages emphasizes the fact that the pre-modern market place, whatever the details of its functioning, was not a modern one and needs to be understood on its own terms.

⁴⁵ On *condotte*, see Daniel P. Waley, “Condotte and Condottieri in the Thirteenth Century,” *Proceedings of the British Academy* 61 (1975): 337–71; Mallett, *Mercenaries and Their Masters*, 80– 106; Caferro, *John Hawkwood*, 71–79

