European Review of Economic History, **25**, 429–446
doi:10.1093/ereh/heaa020 Advance Access Publication Date: October 17, 2020

The golden age of mercenaries

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Between the mid-thirteenth and mid-fifteenth centuries, Italian city-states abandoned citizen militaries for militaries composed of mercenaries: foreign soldiers for hire. So dramatic was the switch that this epoch has been called "the golden age of mercenaries," and so treacherous did the mercenaries prove that Niccolò Machiavelli would later denounce them as "useless and dangerous." Italian rulers knew of mercenaries' infamous reputation when they hired them. To explain the puzzling fact that rulers hired mercenaries anyway, we develop a theory of military composition in which political circumstance constrains ruler choice. Comparative analysis of Venice and Florence provides evidence for our explanation.

1. Introduction

Between the mid-thirteenth and mid-fifteenth centuries, Italian city-states abandoned their citizen militaries for militaries composed of mercenaries: foreign soldiers for hire. So dramatic was the switch that this epoch has been called "the golden age of mercenaries" (Gilman et al. 1907: 331). And so troublesome did the mercenaries prove that Niccolò Machiavelli described them with this (1920: 98):

> they have neither the fear of God nor fidelity to men, and destruction is deferred only so long as the attack is; for in peace one is robbed by them, and in war by the enemy. The fact is, they have no other attraction or reason for keeping the field than a trifle of stipend, which is not sufficient to make them willing to die for you. They are ready enough to be your soldiers whilst you do not make war, but if war comes they take themselves off or run from the foe.

The substitution of mercenaries for citizen soldiers would seem to have been a serious error indeed. But besides the fact that few errors go uncorrected for hundreds of years, by the mid-thirteenth century, mercenaries' infamous reputation was already ancient. Late medieval Italian rulers who swapped citizen soldiers for mercenaries thus knew exactly what they were getting. "The classical authorities most revered by late medieval thought . . . exhibited a strong prejudice against the employment of foreign mercenaries" (Bayley 1961: 181). Circa 150 BC, Polybius, for example, warned of the grave "dangers those who employ mercenary forces should foresee" (2010: 9193). More than a thousand years of experience later, surely they did. So why did rulers in late medieval Italy replace their citizen soldiers with mercenaries?

To answer this question, we develop a theory of military composition in which political circumstance constrains ruler choice. Unlike foreign transients, citizens have local political-economic knowledge that makes ruling their polity valuable and local political-economic agendas that may include ruling their polity. A ruler who turns his citizens into soldiers therefore risks his deposition and confronts a tradeoff in composing his military. Mercenaries are likely to plunder or desert the ruler's polity but are unlikely to try to depose the ruler.

Citizen soldiers are unlikely to plunder or desert the ruler's polity but may try to unseat the ruler. Optimal negotiation of this tradeoff delivers a simple prediction: the less secure the ruler is politically, the more he will rely on mercenaries relative to citizens to compose his military, and vice versa.

We apply this theory to the choice of military composition before and during the golden age of mercenaries in Italy's foremost city-states: Venice and Florence. At the turn of the thirteenth century, both republics enjoyed similar levels of political stability. In the middle of the century, however, their political stability diverged sharply. Whereas Venice remained a model "of apparent stagnation and of political secrecy," Florence became "the city of incessant movement" politically (Burckhardt 1914: 63). As our theory predicts, leading up to the mid-thirteenth century, both republics thus composed their militaries of citizens; but after, Venice alone continued to do so. Florence, in contrast, followed the trend in other Italian city-states, which also became unstable politically in the mid-thirteenth century: it composed its military of mercenaries instead.

Historical information that can test our theory is available for Venice and Florence only and is, moreover, qualitative. Causal identification of political (in)stability's effect on mercenary employment in an econometric framework, therefore, is not an option. Our empirical analysis is accordingly limited. Still, it is instructive. Venice and Florence are particularly well suited to a comparative analysis of our theory that is limited by qualitative evidence. A fortuitous combination of shared political-economic conditions in Venice and Florence before the golden age of mercenaries began and sharply dissimilar political conditions thereafter provides a plausible basis for testing our hypothesis. Equally important, while definitive conclusions are beyond reach, the historical record suggests that our theory is robust to the consideration of issues of reverse causality, omitted variables, and alternative hypotheses.

2. Mercenaries in late medieval Italy

In late medieval Italy, a "foreigner" was anyone who called another polity home. "[T]o a Florentine, for example, foreigners were not only non-Italians, but also Genoese, Venetians or any other non-Florentine Italians" (Mallett 2009: 13). Mercenaries thus included soldiers recruited from other parts of Italy and from other parts of Europe: Spain, France, and England; Hungary, Switzerland, and Scotland; and Germany and Wales.

Before turning professional, these soldiers served in the armies of their polities. After turning professional, they worked for *compagnie*, or mercenary companies, such as the Catalan Great Company, which could mobilize 6,000 soldiers, and the English White Company led by John Hawkwood, which could mobilize 10,000 (Mallett 1999: 217; Caferro 1996: 797). A mercenary company mostly represented soldiers of one nationality, but because of the practice of employing several mercenary companies at once, a commune's mercenary army often "represent[ed] a veritable Babel of tongues" (Schevill 1963: 201).

Atop each mercenary company's chain of command was a *condottiere*, or captain—his *compagnia*'s chief military strategist—who coordinated with the hiring commune to serve its military goals. Next came the marshals, who tended to the company's everyday activities and addressed intra-*compagnia* disputes. Beneath them were corporals, who administered the company's fighting units. And at the bottom of the chain of command were the fighting men who filled those units (Caferro 2006: 66-67). A few hundred of the fighting men plus the officers formed the company's core. The remaining soldiers were recruited by the captain

as required after he signed a contract to provide the commune service (Del Treppo 1973: 256-257).

That contract was called a *condotta*, and the service it provided for was brief. "[T]he condottiere was employed for a short period," usually two to six months, "and rarely served the same masters for two contracts in succession" (Mallett 2009: 87). Contracts also covered the number of mercenaries to be provided, their arms, and their compensation. For example, a *condotta* from 1363 between Florence and mercenary captains Ugo di Melichin and Ermanno di Vinden agreed that the captains would recruit and command 1,000 mounted men on the commune's behalf, all with a horse worth at least eight florins, 800 of whom should be "well armed." In return, Florence would pay Ugo and Ermanno 150 florins per month (Ricotti 1893: xli).

Non-officers' wages skewed lower, on average between six and fifteen florins per month (Waley and Dean 2013: 344). But wages were not the only compensation for which *condotte* might provide. Payments in kind were possible, as were performance bonuses and even subsidized loans. For most mercenaries, though, the most significant non-wage compensation was the spoils-of-war. There was a rule of thumb: if you can pick it up and take it, you may pick it up and take it—even people, who could be taken for ransom. Communes could contractually reserve rights to certain portables, and various people were often the subjects of such reservations. Enforcing these and most other terms of *condotte* against mercenaries, however, was another matter.

Reputational enforcement was weakened by the short-time horizons that most mercenaries had and the difficult time their employers had monitoring them, exacerbated by the fact that in "fraud and deception . . . *condottieri* had always displayed great ingenuity" (Bayley 1961: 11). Coercive enforcement was problematic because "the employers of condottieri were at a considerable disadvantage" in the violence department (Murphy 2007: 48). Namely, *condottieri* were the violence department. "[M]ercenaries" therefore "took little heed of their contracts and regularly returned for more loot" (Caferro 1996: 796).

Some *condotta* provisions were easier to enforce. Communal administrators mustered mercenaries weekly or biweekly to see that they had the correct number of soldiers with the correct arms (Waley 1968; Brauer and Van Tuyll 2008). And the interests of mercenaries and their employers did not always diverge. Still, "discipline and control were extremely hard to impose" (Mallett 2003: 69). And "there was little an employer could do to prevent soldiers from seizing what they wanted" (Caferro 2006: 78).

That included their employer's wealth. Mercenaries had a "habit of dispersing on predatory raids conducted on a basis of private enterprise," marauding the *contado*, or countryside, of the communes that hired them (Bayley 1961: 10). In this, they proved "one of the most severe scourges of the era," on par with the Black Death (Caferro 1996: 795). During "peace the companies became a veritable marching plague as they rolled irresistibly from one region to another and left in their wake a dismal trail of devastation, plunder, and blackmail" (Bayley 1961: 36). Contemporaries described them as "brigands and outlaws, roving in ill-disciplined bands to despoil the countryside and brutalize the population" (Mallett 1999: 213).

If a commune could do little to prevent mercenaries from seizing what they wanted, it could do nothing to prevent them from deserting its defense. "Despite the formal and rigid nature of the *condotte* that the mercenaries signed," which included promises to inform their employers before accepting other offers and to refrain from working for their foes, "many condottieri showed no scruples when it came to taking payment from a supposed enemy in order to betray their employers . . . and there seem to have been as many ways for a condottieri to betray his employers as there were for him to serve them" (Murphy 2007: 48).

Mercenaries "contrived to elicit offers from the enemy, and to encourage competitive bidding between their present and prospective employers" (Bayley 1961: 14). They "seldom earned their wages at the cost of shedding their own blood, preferring battles that were easily won or, if necessary, quickly lost with minimal losses" (Ruggiero 2014: 177). And when that was not in the cards, "most soldiers would flee the battlefield and often joined the enemy in order to avoid being taken prisoners after a defeat" (Del Treppo 1973: 274). The "unreliability of . . . condottieri" meant that they "could, and often did, pick up and leave when it suited them" (Najemy 2006: 410). To employ mercenaries in late medieval Italy was to accept the fact that "In times of war, they sold their services to the highest bidder; in times of peace, they became marauders, raiding and ravaging the countryside" (Caferro 1996: 795). Mercenaries "acknowledged no loyalties, even to their temporary employers" (Mallett 2003: 69).

3. An institutional theory of mercenary employment

Of this fact, their employers were well aware. The "dangers those who employ mercenary forces should foresee" had been warned of since antiquity (Polybius 2010: 193). Even if rulers in late medieval Italy somehow missed these warnings, they could not have missed the damage mercenaries inflicted on their own communes, which were for decades "the prey of companies of mercenaries, ready to be hired by whatever prince or republic could afford the largest pay, or to fall upon whatever city seemed most likely to yield the heaviest ransom" (Gardner 1903: 61). Nor could rulers in late medieval Italy have missed the incredible sums they paid mercenaries, which were often the largest outlays their communes would make (Jones 1997: 389; Caferro 1994: 230; Caferro 1998: 173). Still, in the late Middle Ages, nearly all Italian communes chose to abandon their citizen militaries for militaries composed of mercenaries.

The key to resolving this puzzle is recognizing the effect that military composition may have on a ruler's political position. An army of soldiers who are dependable militarily but pose a threat to its ruler's power is unlikely to be relied on by a ruler who wants to retain his position. Citizen armies pose such a dilemma.[1]

Citizens are invested in their polity literally and figuratively; the polity is their home. That is why citizens can be counted on to defend their polity in war and to abstain from wantonly plundering it in peace, and why, traditionally, rulers in Italian city-states used their citizens to satisfy military needs (Showalter 1993: 411).[2] But it is also why citizens may seek to undermine their polity's ruler. Because the polity is their home, citizens have local knowledge about its political economy. They understand its governance institutions, commercial institutions, and how those spheres do and could interact. Such knowledge makes it possible to wield the polity's political machinery in furtherance of one's political-economic ends and thus makes ruling the polity valuable to citizens. Further, because citizens have a strong interest in their polity, they have a strong interest in how it is ruled and who rules it. Citizens have local political-economic agendas, which may involve a different ruler, perhaps even oneself.

These attributes of the citizenry have an important implication for a ruler deciding how to compose his military. Turning his citizens into soldiers can be very risky, a fact which some Italian rulers learned the hard way. Beginning in the mid-thirteenth century, citizen armies in Italian city-states were used as paramilitary branches of rising *societas populi*—coalitions of

[1] Moreover, a regime facing rising domestic opposition may find it harder to compel its citizens to serve in its army.
[2] These "civic militias" were temporary forces of part-time amateurs and lacked professional military leadership.

the communes' most influential guilds—which violently wrested political control from ruling elites (Zorzi 2004: 14; Martines 1988: 67; Schevill 1909: 132, 164). In 1250, Florence's citizen militia, for example, deposed the commune's incumbent rulers and installed its first popular government. In 1257, Genoa's citizen militia did so too. In 1318, citizens soldiers in Siena attempted the same (Schevill 1909: 205).

In this regard, mercenaries offered rulers a crucial advantage. For what better way to avoid being deposed by an army of locals with hostile political-economic agendas than "hiring foreign soldiers with no political or social agenda of their own" (Caferro 2006: 337)? Unlike citizens, mercenaries were "foreigners in a strange land" (Mallett 2009: 27). They lacked the local political-economic knowledge that makes ruling valuable; often they did not even know the local language. Also unlike citizens, "Foreigners . . . had little stake locally" and "were uninterested in local politics" (Caferro 2006: 71). Mercenaries were transients "hired for the occasion"; their only interest was getting as much as they could before they moved on (Brauer and van Tuyll 2008: 113). Although Italian rulers expected mercenaries to desert or despoil them, they could therefore be confident that mercenaries would not try to depose them—an enormous benefit for Italian rulers in the late Middle Ages, whose polities swarmed with plotting rivals, conspiring enemies, and uncertain friends.[3]

3.1. Model

To see this tradeoff explicitly, consider a risk-neutral Italian ruler c.1300, Cosimo, who requires a fixed number of soldiers to meet his city-state's military needs. There are two types of soldiers Cosimo can use to fill the army's ranks: mercenaries, who he hires externally, and citizens, who he conscripts from his polity by lot. Whatever type of soldiers Cosimo employs, he employs them on a short-term basis. Standing armies did not become feasible for Italian rulers until the fifteenth century, when city-states' fiscal and administrative capacities finally became large enough to permit the large upfront investments that permanent militaries require. Technologically, mercenaries and citizen soldiers are perfect substitutes: they have the same weaponry and fighting skills, and their employment requires the same financial outlay. Let $c \in [0, 1]$ be the share of his army that Cosimo mans with citizens and $1 - c$ be the share that he mans with mercenaries.

Mercenaries are ignorant of and uninterested in the political-economic workings, intrigues, or fate of Cosimo's polity, which preoccupies his citizens. Political control of the polity has no value to them, so Cosimo can be sure that any mercenaries he hires will not try to take the polity for themselves. But mercenaries are opportunistic rogues certain to exploit Cosimo when the opportunity appears, extorting him under threat of marauding his polity's countryside or deserting him in war. Mercenary opportunism robs Cosimo of wealth he otherwise enjoys as ruler, $w > 0$, and the more mercenaries he hires, the more wealth it robs him of such that mercenary opportunism costs Cosimo $wv(1 - c)$, where $v \in [0, 1]$.

Citizen soldiers present Cosimo with the opposite dilemma. The city-state is their home, so they would never threaten to raid its countryside or desert its defense. Citizen soldiers, therefore, do not rob Cosimo of any wealth he enjoys when he is the ruler. But citizens have

[3] Our theory of mercenary employment is therefore akin to Allen and Leeson's (2015) theory of institutionally constrained technology adoption, according to which a ruler may rationally refuse to embrace a superior military technology if it will facilitate a domestic rebellion.

local political-economic knowledge that makes ruling the polity valuable and local political-economic agendas interested in whether Cosimo remains the polity's ruler. Let $g \in [0, 1]$ be the share of Cosimo's citizens, and thus of any soldiers he conscripts that support his regime and $1 - g$ be the share that opposes it. Citizens who are not soldiers cannot depose Cosimo, which requires a militarily prosecuted coup. But citizens who are soldiers can do so, and those who oppose Cosimo's regime will try. The chance they succeed depends on the share of the army they compose such that Cosimo is deposed with probability $c(1 - g)$, in which case he earns zero.

Cosimo's optimization problem is straightforward. He maximizes

$$\max_{c} \; [1 - c + cg] \, [w – wv \, (1 - c)] \, . \tag{1}$$

So he chooses

$$c* = \frac{g \, (v - 1) + 1 - 2v}{2v \, (g - 1)}. \tag{2}$$

$c*$ is increasing in g: the more secure Cosimo is politically, the more he relies on citizens relative to mercenaries to compose his army and vice versa. When $g \geq 1/(v + 1)$, $c* = 1$; Cosimo uses an all-citizen army. As $g \to (2v - 1)/(v - 1)$, $c* \to 0$; Cosimo increasingly replaces citizen soldiers with mercenaries. When $g \leq (2v - 1)/(v - 1)$, $c* = 0$; Cosimo uses an all-mercenary army. Our theory thus predicts a negative relationship between the ruler's political security and mercenaries' share of his military. Comparative analysis of Venice and Florence during the golden age of mercenaries tests this prediction.

4. Comparative analysis

The ideal test of our prediction would consider many Italian city-states over multiple periods, with political stability in a random subset of communes being subjected to an exogenous shock. If the shock increased political instability in the "treated" communes, which afterward relied more heavily on mercenaries relative to citizens than "non-treated" communes, a causal relationship between political stability and mercenary employment supportive of our theory would be established. The data this test demands, however, far exceed the historical information available for late medieval Italy, which is, moreover, qualitative.

We must therefore rely on an alternative strategy to test our prediction. Our empirical approach considers two Italian city-states for which historical information before and during the golden age of mercenaries is relatively more abundant: Venice and Florence. Given the data limitations, this approach has several advantages. First, in the late Middle Ages, Venice and Florence were comparable polities in terms of population, wealth, and political institutions. Both cities counted among the largest urban centers in Western Europe (Bairoch 1991: 160). Both enjoyed higher living standards than any other city in the continent (Malanima 2011). And by the early thirteenth century, both were governed by relatively democratic, republican institutions (Martines 1988; Lane 1973; Schevill 1963).

Second, in the thirteenth century, political stability in Venice and Florence diverged sharply. Whereas Venice continued to enjoy political stability, Florence became highly unstable politically. This difference in political stability persisted until the sixteenth century.

Finally, because Venice and Florence belonged to the same geo-economic network and region—the Italian center-north—apart from factors that affected their domestic political

situations differently, they experienced similar political-economic shocks during the golden age of mercenaries. Both polities were affected similarly by the rise of regional warfare in the second half of the thirteenth century. Both benefited from the boom in interregional trade facilitated by the Commercial Revolution. And both suffered similarly from the Black Death in the mid-fourteenth century, which killed an estimated 60 percent of the population in Venice and in Florence (Bairoch 1991).

This fortuitous combination of similarities and crucial difference in late medieval Venice and Florence renders these city-states unusually fruitful ones in which to test our theory. It aids us in addressing the possibility of omitted variables, reverse causality, and, together with other information in the historical record, alternative hypotheses for the golden age of mercenaries, which we consider at length in Section 4.3.

4.1. Venice

At the turn of the thirteenth century, the Republic of Venice had three chief political institutions: the *doge*, an elected executive head; the *Maggior Consiglio*, or Great Council, an elected legislature that chose the members of legislative sub-organs (such as the Senate) and the *doge*'s electors; and the *Minor Consiglio*, or Ducal Council, an elected executive-supervisory body with veto power over the *doge*. Political offices were neither hereditary nor restricted to particular families, but election to them required a certain amount of wealth and prestige. Venetian rulers thus came from the commune's mercantile elite, an informal oligarchy.

At the turn of the fourteenth century, Venice's oligarchy became formal. In 1297, the *Serrata del Maggior Consiglio*, or Great Council Lockout, legally restricted office in that body to prior officeholders or their descendants, and in 1310, Venice created a new institution of oligarchic control: the Council of Ten. In a kind of secret police in its remit, except not secret, the Council of Ten was composed of patrician magistrates selected by the Great Council whose collective officeholders, along with the *doge*, formed a de facto "hereditary political caste" of Venice's wealthy mercantile families (McNeill 2009: 60).

This political arrangement "provided better government than was generally found elsewhere, and all signs indicate that it enjoyed popular support." Indeed, in Venice, "the common people never tried to throw off the rule of the nobles" (Lane 1973: 271). They had little reason to. By the early thirteenth century, Venice had monopolized a large share of markets in Byzantium, and by the early fourteenth century, it was on its way to becoming a central node in European trade (Norwich 2003: 202). Almost to a man, Venetians—high and low alike—were involved in international trade. Hence, the mercantile elite's oligarchic rule benefited nearly all.

Economic unity in Venice precluded parochial corporate associations, such as guilds, and popular parties based on them, such as *societas populi*, which in the mid-thirteenth century sprouted like weeds in other Italian city-states, upending their political scenes. "Venetian merchants engaged in international trade felt no need" for such organizations, since "their Communal government made that its chief concern" (Lane 1973: 104).[4] Thus, Venice avoided

[4] Still, governmental discouragement could not hurt. Thus, in the 1260s, the Great Council "strictly forbade, under threat of banishment or death, any craft to form any sworn association against the honor of the doge and his council or against the honor of the Commune" (Lane 1973: 106).

one of the two most politically destabilizing forces in late medieval Italy. And by geographic circumstance, it avoided the other: the conflict between the Holy Roman Empire and the Papacy. That conflict began in the twelfth century but renewed with vigor in the thirteenth when it split communal citizens into competing political factions: pro-papal Guelfs and pro-imperial Ghibellines. This rise in factionalism led communes to import chief magistrates from elsewhere in Italy so their polities would not explode in the civil war. Such magistrates, whose terms typically lasted a year or less, were called *podestà*, and the logic behind their employment was similar to the logic behind our theory of mercenary employment. Because they were "foreigners," *podestà* "were expected to be free from entanglements with local interests" (Nicolle 2002: 14).

Podesterial government proliferated in late medieval Italy, but not in Venice. Instead of importing its chief magistrates, Venice actually exported them, its citizens being popular choices for *podestà* in other communes due to Venetians' distance from imperial-papal factionalism. The issues that divided citizens in Italy's other communes were therefore of little interest to Venetians, among whom Guelfs and Ghibellines were unknown. Instead, Venice's internal political situation exhibited "greater unity and solidity of allegiance" (Lane 1973: 98; Mallett 1998: 554).

Save for two episodes, the first occurred in the early fourteenth century on the heels of the Great Council Lockout. In 1301, a group of wealthy Venetians who the *Serrata* excluded from holding office tried but failed to assassinate the *doge*, and in 1310, some disgruntled citizens tried the same but also failed, prompting the creation of the Council of Ten, which subsequently arrested the malefactors. The second episode of disruption occurred in the 1360s when Venice suffered insurrections in several of its colonies, such as in 1362 when Venetian merchants in Crete took to the streets demanding representation in the Great Council.

These unusual episodes of Venetian political turmoil notwithstanding, Venice's "lower classes were never incited to revolt, or given the opportunity to revolt, by vengeful nobles offering to be their leaders." And while "personal ambitions" still competed among the Venetian elite, they "were blunted and contained within the network of councils and magistracies," whose officeholders were more united than divided (Lane 1973: 271). Leading up to and throughout most of the golden age of mercenaries, therefore, Venice's rulers were very secure politically. Our theory, therefore, predicts that mercenaries' share of Venice's military would be very low.

And it was. Like the militaries of Italy's other communes at the turn of the thirteenth century, Venice's military at that time—but uniquely after—was composed overwhelmingly of its citizens (McNeill 2009: 70). "[T]he term 'citizen' was only applied to those who had a permanent stake in the community. Long residence, ownership of property, and reasonable affluence entitled one not only to the privilege of some measure of participation in communal government, but also to the obligation to pay taxes and render military service." Citizen militaries were thus raised by mass levies and composed of a commune's "'political' class, the citizens who played an active part in running the city" (Mallett 2009: 11).

Venice's rulers chose to stick with such militaries through the thirteenth and most of the fourteenth centuries when rulers in Italy's other city-states chose to abandon citizen armies for mercenaries. In the 1320s, for example, Venice found itself surrounded by territories newly controlled by its communal rival, Verona. Fearing that Verona would block its access to the markets of central and northern Europe, Venice waged war. To do so, it raised an army of 3,300 soldiers—all of them citizens (Norwich 2003: 206). Throughout the golden age of

mercenaries, that was the Venetian rule: "the ranks and files of the Venetian armies came mainly from within the Venetian territories" (McNeill 2009: 70).[5]

Notable exceptions to this rule are few and furnish an additional test of our theory. The first instance of significant Venetian reliance on mercenaries was in the commune's war with Genoa in 1299, two years after the *Serrata* (Norwich 2003: 180).[6] The second was in 1311, a year after the failed attempt to assassinate the *doge*, when Venice hired an army of mercenaries to engage Hungary in Zara (Mallett and Hale 2006: 10-11). The third instance was in 1362, when Venice employed an army of mercenaries to put down a rebellion in Crete.[7] The fourth was in 1369, when the commune used an army composed partly of mercenaries to suppress an insurrection in Trieste (Norwich 2003: 240-241).

Our theory implies that these unusual episodes of Venetian mercenary employment should correspond to unusual episodes of Venetian political instability. They do the very episodes of political instability considered above. When Venice became less stable politically and its rulers less secure in their positions, they substituted mercenaries for citizen soldiers. When political stability returned and rulers regained confidence in their political security, they switched back. The changing calculus of balancing soldier reliability against the risk of deposition resulted in changing ruler choices about how to compose the military.

From the late fourteenth century onward, Venetian military campaigns became larger and longer, requiring larger, and longer-serving armies that contained more specialized soldiers. "[D]espite Venice's many skirmishes, its use of mercenaries in the 1400s tended to be sparse. It preferred to learn new methods of warfare, for example, from Swiss pikemen and German handgunmen, and to train locally available men in these new methods" (Brauer and van Tuyll 2008: 111). Still, the sheer number of soldiers Venice required meant that a growing balance had to be procured externally. Unable in this situation to avoid employing *condottieri*, Venetian rulers adopted a remarkable policy—and one consistent with our theory: they "domesticated their condottieri with rewards, enfeudations and grants of citizenship" that "served to blur distinctions between subjects and soldiers" (Mallett 2009: 216).

The typical term of mercenary service was extended from a few months to a few years, and contract renewal became perfunctory. Mercenaries were given pensions that covered their heirs and family members, who might also be given bureaucratic communal posts. Mercenaries were encouraged to settle down in Venetian territory as permanent residents and given land for the purpose. Soon, "Citizenship, a seat on the governing council," even "enrolment in the Venetian nobility, were in a sense something of formalities" (Mallett 2009: 93). In short, when the Venetian citizenry fell short of soldiering needs, Venice's politically secure rulers made foreign soldiers their citizens.

[5] However, "Venetians preferred to find their army commanders abroad." Unlike soldiers, "a victorious . . . general who was also eligible for membership on the councils . . . constituted an obvious threat" to the ruling elite (McNeill 2009: 70). Recruiting generals from abroad was thus a good idea even when relying on citizen troops. This practice became popular throughout Europe in the following centuries.

[6] Over a century and a half earlier, the republic employed two *condottieri* from Verona to address a "trivial incident" with the commune of Padua. According to Norwich (2003: 18), this was Venice's very first war on land, and the *condottieri*'s employment reflected "Venetians's lack of experience" in landed warfare.

[7] Also, in 1355, the newly elected *doge* attempted an internal coup that would have made him a prince. Alas, the government's highly effective intelligence apparatus foiled his plot (Norwich 2003: 226).

4.2. Florence

In sharp contrast to Venice during the golden age of mercenaries, in Florence, "The civic body of the commune was not only at war with rival communes but it was constantly at war with itself" (Harrison 2005: 125). It was easy to see why. Whereas Venice's intense focus on international trade meant that its citizens and, still more so, its rulers largely shared economic interests, Florence's equally impressive but diverse economy—some citizens earning income mostly from land, others from trade, others from artisanal production of all sorts, and still others from banking—meant that even its rulers had different, often competing, economic interests. The result was political "faction among the well-to-do" in Florence, "to a point that destroyed class coherence and brought them to the verge of ruin" (Schevill 1963: 104). Further, whereas Venice, a territory of Byzantium, was removed from Guelf-Ghibelline factionalism, Florence, a territory of the Holy Roman Empire, was engulfed in it. In both these ways and thus also in terms of political (in)stability, Florence was like other Italian city-states, albeit a polar specimen, and Venice the exception.

Already in the early thirteenth century, Florence's rulers—elected consuls—reflected a diversity of competing interest groups. There were consuls representing landed nobles; merchants; each of the commune's original seven *arti*, or guilds; and money changers. Disagreement was inevitable and frequent, making for tendentious consular elections that signaled the potential for worse. To forestall worse, in 1207, Florence imported a *podestà*, but even that was not enough to prevent growing factionalism, which soon took on new dimensions. Guelf and Ghibelline parties emerged in the commune. So did the *societas populi*—literally a society of the people but practically a political coalition of the commune's most influential guilds. The *popolo* often found allies in the Guelfs against the traditional land-owning nobles, who formed the local Ghibelline faction.

"In the second half of the thirteenth century, this tenuous political order broke down and the city suffered intermittent civil war as the Guelfs and Ghibellines competed with one another and the new corporate groups—the popular associations and the guilds—for control of Florence" (Lansing 2014: 11). The regime turnover that ensued is dizzying. In 1250, the *societas populi* violently seized political control of Florence. In 1260, the Ghibellines seized power from them. In 1266, the *societas populi* wrested it back. In 1267, the *popolo* was deprived of power in favor of the Guelfs. And, in 1282, a union of guilds that would become the *priorato delle arti* replaced a tenuously reconciled Guelf-Ghibelline government. "The fundamental problem for Florence in the thirteenth century was that political continuity and order were always temporary" (Harrison 2005: 131).

As the thirteenth century gave way to the fourteenth, temporary political stability in Florence gave way again too. Divisions among Florence's Guelfs split the party into two new factions: the Whites, who supported the *priorato*, and the Blacks, who did not. In 1301, they descended into civil war, and in 1302, the Blacks prevailed. But "Instability and factional strife continued to mark Florence" (Kuehn 2008: 512). The "Black leaders over the next decade . . . turned on one another and indulged yet again in the elite's historic weakness of factional splinter" (Najemy 2006: 93). That weakness endured for most of the remaining fourteenth century through the fifteenth, when "factional bipolarity" thrived in Florence, and "attempted coups were still a threat" (Kuehn 2008: 512). Hence, in terms of political stability, for virtually the entire 200-year period encompassing the golden age of mercenaries, Florence's experience was nearly the opposite of Venice's. Our theory thus predicts that, in contrast to Venice, mercenaries' share of the military in Florence would be substantial.

It was. At the turn of the thirteenth century, Florence's military was composed of its citizens who were obliged to serve, just as in Venice. "Even so, Florence would change from a city in arms to one that relied on 'foreign'—i.e. non-Florentine—mercenaries" (Nicolle 2002: 7). Presaging that change, in 1208, Florence hired a small cavalry contingent from Umbria, the commune's first foray into importing foreign soldiers (Waley 1968: 7). This move followed the commune's first foray into importing foreign magistrates—*podestà*—the first of whom, recall, was imported by Florence's consuls in 1207 amid rising political tension.

Mercenaries, however, did not acquire a meaningful role in the militaries of Florence or other Italian communes until the second half of the thirteenth century, when factional strife erupted in civil wars and one coup after another led to alternating rule by Guelfs and Ghibellines or their respective allies. "As the political life of these cities became increasingly disturbed by factional fighting, it became necessary to entrust the state's defence to someone else and to effectively disarm the local population" (Murphy 2007: 4).[8] That someone else was the *condottiere*, producing the "spectacular rise of mercenary armies" (Martines 1988: 52).

And so it went in Florence. After seizing power in 1250, the *primo popolo* banned military participation by citizens whose "loyalties were suspect" and hired mercenaries from Emilia and Romagna to compose the cavalry (Caferro 2017: 133; Waley 1968: 77). Between 1261 and 1266, mercenaries from Provence formed "the strong pillar on which the whole Ghibelline superstructure rested" (Schevill 1963: 136). In 1280, Florentines were prohibited from owning swords, as "Governments were anxiously concerned to keep arms out of the homes and hands of citizens" (Martines 1988: 108; Diacciati 2011: 365; see also, Najemy 2006: 85). And in 1305, the Black government hired 800 mercenary soldiers from Catalan.

As foreigners were added to Florentine armies, Florentines were subtracted. "[T]he muster roll of fully armed and equipped *militi di cavallate* dwindled inexorably from 800 in 1260 to 600 in 1289, and to a mere 300 in 1325" (Bayley 1961: 8). In such steps, "The citizen-soldiers of the thirteenth century were gradually replaced by mercenaries" (Zorzi 2004: 159).

That replacement "holds for both infantry and cavalry" (Schevill 1963: 202). But it does not hold for them equally across Florentine regimes, which provides another opportunity to test our theory. In the days of Florence's citizen militias, its landed nobles were *milites*, or knights, who served as the commune's cavalry. In the thirteenth century, they formed the Ghibelline party. In contrast, Florence's non-noble artisans and merchants historically served as the commune's infantry. In the late thirteenth century, they often became Guelfs/*popolo* and, when the Guelfs split in the early fourteenth century, the Whites.

Our theory of mercenary employment thus implies that it would have been especially important for the *primo popolo*, which had power between 1250 and 1260, to satisfy its army's *cavalry* needs with mercenaries, citizen infantry being more sympathetic to its rule and so posing less of a threat. Conversely, our theory implies that it would have been especially important for the Black government, which had power in the first decade of the fourteenth century, to satisfy its army's *infantry* needs with mercenaries, citizen horsemen being more sympathetic to that regime's rule and so posing it less of a threat.

Data on mercenaries' relative share of cavalry versus infantry are available for only two campaigns under the *primo popolo* and the Black regimes, the former in 1260 and the latter in 1302. Still, in both cases, they are consistent with our theory. In 1260, the *primo popolo*

[8] This phenomenon was not unique to Florence. During the second half of the thirteenth century, governments throughout northern Italy grew "anxiously concerned" with the disarmament of their own citizens (Martines 1988: 108).

sent an army of more than 18,000 men to the Battle of Montaperti against Siena. One hundred percent of its mercenaries were cavalry; zero percent were infantry (Waley 1968: 77). Oppositely, in 1302, the Black regime sent an army of 7,500 men to war with Pistoia. One hundred percent of that army's mercenaries were infantry; zero percent were cavalry (Waley 1968: 97).

As Florence's political instability increased in the fourteenth century, so did its rulers' reliance on mercenaries, who soon "formed the nucleus of the city's military establishment" (Schevill 1963: 187). Eighty-four percent of the 2,500 cavalrymen recruited in 1325 by Florence's *capitano di guerra*, himself a Catalan import, were mercenaries (Schevill 1963: 201). Ninety-eight percent of the 2,040 cavalrymen Florence sent to war against Pisa in 1341 were mercenaries too (Caferro 2017: 141). Florentine rulers had no trouble exceeding the mercenary-to-citizen-soldier minimum legislated by the commune in 1337, which required at least 20 of every 50-ft soldiers to be foreign and decreed that "officials might not recruit any citizens or *contadini*, or indeed any Italian, without the approval of [Florence's] high magistrates" (Bayley 1961: 9).

By the early fourteenth century, "the employment of mercenary companies had become a matter of administrative routine" in Florence (Waley 1968: 106). And not just there. "The core of the Florentine army, as that of every other town, was by now the body of heavily armored horsemen recruited on the open market at a wage determined by the law of supply and demand" (Schevill 1963: 201). With the exception of Venice, recall, political instability surged in Italian city-states circa 1300. "Given the riots, conspiracies and assassinations that characterised communal politics, it was hardly surprising that a ruling group felt disinclined to arm a city's population" (Nicolle 1983: 6). Consistent with our theory, the historical record evidences a general "transformation in the Italian military scene round about 1300 when professional mercenaries replaced largely native troops . . . as the main components of Italian armies" (Mallett 2009: 15-16).

Over "the course of the next few decades the native horsemen" in Florence "dropped completely out of sight" (Schevill 1963: 202), but not without reappearing briefly before the fourteenth century's end. In 1356, "Florence put into operation a militia ordinance" that reintroduced citizens into its military—a practice recovered under the commune's guild controlled regime, which ruled between 1343 and 1377 (Bayley 1961: 24-25). Florentine armies of this era continued to make significant use of mercenaries; communal codes of 1363 and 1369 provided for them explicitly. Still, the re-inclusion of citizen soldiers in the army alongside mercenaries provides yet another test of our theory: in the 1350s and 1360s, Florence should have exhibited improved political stability.

And it did. During those decades, Florence's guild regime "coincided with a period of peace and stability. Judicial records for these years contain no references to conspiracies or demonstrations against the regime, or any signs of serious discontent" (Brucker 2015: 123). Any lingering peace and stability, however, was extinguished with a popular rebellion in 1378—the Revolt of the *Ciompi*—which recrudesced Florentine political tumult. Consistent with our theory, recrudescence coincides with Florentine rulers' "decision in 1378 to keep the premier condottiere of the day, John Hawkwood, on permanent retainer" (Caferro 1998: 174). Thus, for Florence as for Venice, but in reverse, the changing calculus of balancing soldier reliability against the risk of deposition resulted in changing ruler choices about how to compose the military.

"A century later the fears, suspicions, conspiracies, and mob actions had not abated" in Florence (Wolfgang 1954: 574), and neither had Florence's reliance mercenaries: "it was by them"—now mostly non-Florentine Italians—"that Florence got its fighting done in the

oligarchic, and in the subsequent Medicean, period as well" (Schevill 1963: 338). De facto rule by the Medici family after 1434, and even the Albizzi controlled government that immediately preceded it, exhibited much more continuity than previous Florentine regimes. But it would be wrong to identify this reduction in ruler turnover with increased political stability, for what turned out a Medici dynasty nearly did not wrought precariously amid dangerous political opposition and persistent insecurity.

For example, "In 1478 one of the most famous and infamous conspiracies in Florentine annals occurred": the Pazzi conspiracy, whereby the Florentine family of that name and chief political rival of the Medici attempted and half succeeded in the assassination of Lorenzo de' Medici, who the coup plotters injured, and his brother Giuliano, who they managed to kill (Wolfgang 1954: 574). "The last two centuries of [republican] Florentine history are charged with plots and counter-plots, revolutions and restorations" (Marks 1963: 77). Thus, not until the first decade of the sixteenth century, under the direction of then manager of military affairs Niccolò Machiavelli, did Florence reestablish a citizen militia.

After being exiled from Florence in 1494, the House Medici returned to rule it in 1512. Within two decades, the Republic became a duchy, its rule hereditary and its rulers politically secure. "Cosimo [de' Medici] and his advisers inherited a precarious and detested regime, stabilized it, consolidated ducal power, and founded a dynasty that lasted two hundred years" (Najemy 2006: 482). Florence "remained substantially loyal and disciplined under the government of princes" (Cardini 1999: 90). Hence, as our theory predicts, the princes "turned over the control of military power in Florence from an army of occupation to the native militia" (Cochrane 2013: 43).

Cosimo continued to use foreign soldiers for his personal bodyguard, and some mercenaries could still be found in the army. But "there were no revolts or widespread movements of opposition within Florence or the dominion" (Najemy 2006: 482). Hence, "after ten years of perfecting the project he had inherited from Machiavelli," Cosimo "ended up with an efficient and effective corps of volunteers. The captains were drawn from the ranks. The soldiers had a stake in preserving the regime" (Cochrane 2013: 59).

4.3. Endogeneity and alternative hypotheses

In Venice and Florence, mercenaries' share of the military varied inversely with political stability. One concern with interpreting this relationship as evidence for our theory is the possibility of reverse causality: reliance on mercenaries in Florence may have caused its political instability rather than political instability in Florence causing its reliance on mercenaries. For example, since mercenary militaries were very expensive; hiring mercenaries could create fiscal pressures that might upset the domestic political equilibrium.

It is straightforward to evaluate the possibility of reverse causality. If mercenary employment in Florence was responsible for the commune's political instability, then its employment of mercenaries must have preceded its political instability. According to our theory, in contrast, political instability comes first, followed by mercenary employment. The timing of these phenomena in the historical record is consistent with our theory and inconsistent with reverse causality. As discussed above, political stability in Florence began eroding in the earliest years of the thirteenth century, when the Guelf, the Ghibelline, and the *popolo* factions emerged, and the commune, to forestall civil war, imported its first *podestà* in 1207. Also, as discussed above, Florence did not make its initial foray into hiring mercenaries until a year later, in 1208, and did not make the switch to a substantial reliance on mercenaries until 1250,

after the first in a series of coups that saw one political faction seize control of the commune after another.

The possibility of omitted variables poses a more serious challenge to our evidence, since the are many factors that could have conceivably driven both political instability and reliance on mercenaries. We cannot evaluate them all, but we can use the historical record to evaluate the most plausible candidates. Foremost, among these is economic growth. The Commercial Revolution of the late Middle Ages increased per capita income in the Italian center-north substantially. Richer and more productive citizens may have been less willing to serve in the military, and rulers may have been less willing to conscript richer and more productive citizens. On the one hand, this might have encouraged rulers to hire foreign soldiers for the job instead, and on the other hand, a rapidly changing distribution of economic power might has contributed to the rise of competing factions, breeding political instability. Economic growth may therefore be responsible for the mercenary-political instability relationship identified in our evidence. The historical record, however, suggests that it is not. The Commercial Revolution began in Italy in the eleventh century, 200 years before Florence hired its first mercenary and 250 years before the golden age of mercenaries began. Venice, moreover, benefited more from the Commercial Revolution than any other Italian city-state. Yet, unlike the others, it never made the switch to a military composed of mercenaries. Our theory accounts for these facts, which are inconsistent with economic growth as an omitted variable.

A second potential omitted variable is the Black Death, which arrived in Sicily in 1347 and went on to wipe out perhaps three quarters of Italy's citizens. With decimated domestic populations, Italian rulers may be been forced to hire soldiers from abroad, and with the socio-economic devastation wrought by decimated populations, their polities may have entered political upheaval. The Black Death might therefore be responsible for the mercenary-political instability relationship identified in our evidence. Again, however, the historical record suggests that it is not. As discussed above, Florence began employing large numbers of mercenaries a hundred years before the Black Death, in 1250. Also, as discussed above, mercenary employment in Italian city-states was not accompanied by measures one would expect if a shortage of able bodied locals were the cause, such as furnishing unarmed citizens with weapons and encouraging citizens to serve militarily. On the contrary, mercenary employment was accompanied by measures that did the reverse: disarmed citizens and banned them from military service. Venice, moreover, was hurt by the Black Death as badly as any other city-state in north-central Italy. Yet, even after the Black Death, Venice relied on a military composed of its citizens. Our theory accounts for these facts, which are inconsistent with the Black Death as an omitted variable.

A third plausible omitted variable is the growth of regional conflict. The golden age of mercenaries was an age of warfare between Italian city-states, whose conflicts with each other often reflected the broader conflict between the Holy Roman Empire and the Papacy for control of Western Europe. As discussed above, the latter conflict was echoed also in Guelf and Ghibelline factionalism within Italian city-states. Growing regional conflict may therefore have increased political instability in Florence and increased its need for soldiers, including mercenaries, given more frequent regional conflicts. There are, however, two problems with this challenge to our theory. First, while it explains why growing regional conflict would be associated with more political instability and larger militaries, perhaps including additional mercenaries, it does not explain why growing regional conflict would be associated with more political instability and militaries composed of a larger *share* of mercenaries. And, as discussed above, it is the latter which the historical record finds in Florence and Italian city-states (save Venice). Second, growing regional conflict cannot explain Venice. Venice, recall, was immune

to internal factionalism reflecting Guelph and Ghibelline divisions that disrupted political scenes in Florence and other Italian city-states. It was, however, just as embroiled in growing regional conflict as Florence and other Italian city-states, simply for different reasons. Venice warred with Genoa, for example, for control commercial markets, and it warred with Verona and Treviso for territorial control in the Italian north-east. Yet, unlike Florence and other Italian city-states, Venice did not rely on mercenaries to prosecute its regional conflicts; it relied on its citizens. Our theory accounts for these facts, which are inconsistent with the growth of regional conflict as an omitted variable.

The historical record also casts doubt on numerous other potential challenges to our theory of the golden age of mercenaries. For example, one might argue that ruler turnover per se, rather than political instability, was responsible for mercenary employment in late medieval Italy. Establishing a standing army has a high fixed cost, but, once a standing army exists, it can be leveraged at a low marginal cost. In contrast, hiring foreigners on short-term contracts involves almost no fixed cost but entails a high marginal cost. A politically stable polity whose ruler nevertheless expects to serve only a short term may therefore prefer to satisfy the military his needs with mercenaries. Until the fifteenth century, however, no Italian city-state had the capacity to establish a standing army. Before then, rulers chose not between a standing army of citizens and a temporary army of mercenaries but between a temporary army of citizens and a temporary army of mercenaries. Short-term mercenary contracts emerged as an alternative to short-term citizen militias. The hypothesis that turnover per se was responsible for mercenary employment is also contradicted by the experience of Florence. As discussed above, with the rise of the Medici *signoria* in 1434, ruler turnover in Florence declined substantially. But it was not for another hundred years that, as we also discuss above, political stability returned to Florence and Florence reestablished a citizen military.

Closely related historical facts cast doubt on limited fiscal/state capacity as an alternative explanation for the golden age of mercenaries. The fiscal/state capacity of Italian city-states was at least as limited in the twelfth century as it was a hundred years later. Yet, Italian rulers did not make the switch from citizen militaries to the significant reliance on mercenaries until the mid-thirteenth century. Mercenary armies, moreover, required larger financial outlays than citizen militias, not smaller ones.

Another challenge to our theory is the idea that military leaders, not citizens, pose the real threat to incumbent rulers (Tullock 1971). Mercenary substitution for citizen militias may therefore have reflected Italian rulers' desire to substitute militaries commanded by men with loyal followings of organized troops for militaries that were hardly commanded at all. But mercenaries were not hardly commanded at all: as discussed above, mercenary companies had leaders. And citizen militias were not commanded by men with loyal followings of organized troops: the citizen soldiers they commanded were conscripts and assembled ad hoc.

Three other alternatives to our theory are similarly imperiled by the historical record. According to perhaps the oldest explanation for the golden age of mercenaries, that age was the product of ruler rent-seeking. As one historian of Italy put it, "Mercenary militias were never anything other than a symbol of corruption" (Ricotti 1893: 69).[9] But, while corruption can explain military choices that enriched Italian rulers, it cannot explain military choices that impoverished them, which is what the historical records indicate that hiring mercenaries often did.

[9] Authors' translation.

According to a different hypothesis, the military switch reflected by the golden age of mercenaries was not so much a choice that Italian rulers made willingly as it was a response to the threat that mercenaries posed if rulers did not hire them (Caferro 1994). By putting mercenaries on the payroll, Italian rulers hoped to prevent them from pillaging their communes. This theory could account for reliance on mercenaries after 1360, when the Treaty of Brétigny temporarily halted the Hundred Years War and thousands of hungry and unemployed soldiers descended on Italy's northern plains. But it cannot explain why Italian rulers were inviting foreign soldiers in distant polities to travel to their communes and serve in their militaries more than a century before the Treaty of Brétigny (Caferro 1996: 795, 809).

A final alternative hypothesis for the golden age of mercenaries explains that age by Italian rulers' demand for specialized soldiers, who were hard to find domestically but easy to get abroad. The historical record, however, is at odds with this hypothesis too. Some of the soldiers that Italian city-states imported were specialized soldiers, but many others were not. Further, while an imminent need for specially trained soldiers could account for mercenary employment over the short run, it cannot account for their employment by Italian city-states over the long run. Two decades is more than enough time to train citizens with the required skills. The golden age of mercenaries, however, lasted two centuries.

5. Conclusion

Our analysis of mercenary employment in late medieval Italy is suggestive of two conclusions. First, just as political considerations often play a role in rulers' other choices, they may also play a role in how rulers choose to compose their militaries. Indeed, political considerations may have an especially important influence on decisions relating to military composition. A ruler who does not consider how his choice of military composition will affect his political position is therefore unlikely to retain his position for long.

Second, our analysis suggests that the seemingly irrational military choice of the late medieval Italian rulers to rely on mercenaries may in fact have been the rational choice. Machiavelli was correct when he observed that the mercenaries employed Italian rulers during the golden age were "dangerous" (1920: 98). He was wrong, however, to call them "useless." Our analysis suggests that, for Italian rulers who faced binding political constraints, mercenaries may have been quite useful indeed.

Supplementary material

Supplementary material is available at *European Review of Economic History* online.

Conflict of interest statement

None declared.

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