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Cédric Quertier

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## The Pisan Economy from the Tenth to Fifteenth Century: A Parabolic Trajectory

*Cédric Quertier*

### 1 Introduction

During the period from the tenth to the fifteenth century, the strength of the Italian and Tuscan economy resided in the symbiosis between the densely populated and productive countryside, the proximity of large urban markets to resell surpluses and connect to major trade routes in Europe, and the production—from inside the city and by immigrants from the *contado*—of quality manufactured products sold in regional and international markets.<sup>1</sup> The Tuscan countryside rapidly became highly productive with populations freed from serfdom and concentrated in villages. In the second half of the eleventh century, there were limited territorial lordships around Pisa and Lucca, with weaker rule in the Arno Valley and a stronger one in the Maremma region. It was at this time that the first communes in Italy were created along this route which monopolized seigniorial rights and taxations. The owners settled in the town and the townspeople invested in the land. They all sought to enrich themselves by selling their agricultural surpluses in urban markets. To accomplish this they focused on the cultivation of wheat, which was easier to sell at higher prices, and the payment of rents in kind for speculation purposes. From the end of the twelfth century, fragmented plots were gathered into larger properties; by the end of the following century, *mezzadria* contracts allowed for increased yields and defined the labor force, facilitating speculation on the resale of the harvest and allowing the terms of the contract to be adjusted every five years.<sup>2</sup>

The exchanges were based primarily on the local and regional marketing of surpluses from the countryside. However, after the eclipse of international trade during the Arab-Muslim expansion, the “maritime republics” (Amalfi, //p. 246// Venice, Pisa, and Genoa) reinvested trade in the Mediterranean and the Levant in the tenth to eleventh century. Venice and Amalfi had peaceful relations with Byzantium and Fatimid Egypt, while Pisa and Genoa based their expansion on raids in North Africa and Sicily; the spoils enriched their landowning elites even if some of these families specialized in maritime activities. In the thirteenth century, Italian merchants had a monopoly on eastern products in Europe and of European products in the Mediterranean. They were the intermediaries between the ports of the Levant and the fairs of Champagne and Flanders. But by the end of the century, cities in the interior of the peninsula supplanted maritime centers, redirected trade towards Flanders and England, and set up sustainable trading companies whose subsidiaries invested deposits (especially from sovereigns and rulers) and redistributed credit throughout Europe.

Merchants were able to market raw materials and finished products in order to dominate the entire production chain and incorporate manufactured goods into international trade networks. The fortune of Tuscan manufactured products therefore owes as much to local advantages as to their incorporation into international commerce. In the second half of the thirteenth century, textile production developed thanks to the import of English wool, which

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<sup>1</sup> This chapter was translated by Rowan Dorin.

<sup>2</sup> The *mezzadria* provided for half of the annual harvest to be shared between the owner and the settler and for the settler to reside on the properties (*poderi*) and not to work any other land.

was processed to be exported in the form of high quality textiles by Florence.<sup>3</sup> In the wake of declines in rural density (1330s) and food shortages and bankruptcies (1340s), the major crisis of the mid-fourteenth century hit Tuscany harder than elsewhere. During this century the region lost two-thirds of its inhabitants, its density was reduced to a third, its urbanization rate cut in half, and production fell significantly.<sup>4</sup> However, the individual standard of living improved through higher wages, lower land prices, and the abandonment of the less productive land until 1450, when it declined as the population began to grow again.<sup>5</sup>

Improvements in the quality of manufactured goods partially compensated for this downward trend, despite a rise in productivity thanks to the urbanization of almost all stages of production and the shift from time-wage to piece-wage remuneration. At the beginning of the fifteenth century, Italy dominated the international trade in textiles but had to compete with medium-quality // p. 247// fabrics (Spanish wool) in its territory. The flagship luxury textile product of the century became silk, whose production in the largest cities (especially Lucca and Florence for Tuscany) was highly profitable. Banking activities were also concentrated among Florence, Genoa, Milan, and Venice, and the structure of companies changed in response to evolving markets at the end of the fourteenth century.<sup>6</sup> Finally, trade routes changed in the later Middle Ages. Unable to compete with the Venetians, Genoese, and Catalans, the Tuscans established themselves in the Iberian Peninsula, traded intensively in Provence and Languedoc, settled in Bruges and London, but lost ground on the eastern shores of the Italian Peninsula, in the Marche and the Adriatic.<sup>7</sup>

In this context, then, how striking was Pisa's destiny; it rose to assert itself as a powerful Mediterranean city-state in the twelfth and thirteenth centuries, only to be reduced to a Florentine satellite after 1406. Without recourse to a declensionist approach providing a simplistic narrative of decline, this essay will assess the parabolic trajectory of Pisan economic and commercial power. Overshadowed by Lucca within Tuscia in the early Middle Ages, Pisa became a protagonist in the Mediterranean, vying with other maritime republics while enjoying favored status with the German emperor. In the late twelfth century and throughout the first half of the thirteenth century, Pisa was the largest city in Tuscany and the region's principal port. The destruction of the city's fleet at the Battle of Meloria in 1284 together with the loss of Sardinia in 1324–1326 have engendered a reductive explanation for the decline of this once famous city. Though less intense than the concomitant rise of Florence and the rivalry with Genoa in the Mediterranean, the Pisan economy no longer concentrated on maritime trade and was profoundly transformed over the course of the thirteenth and fourteenth centuries, through the development of its local specialties such as leather production and metalworking, the creation of a niche wool industry of lower and mid-level wares, and the reorientation of its economy and ambitions inland toward Tuscany. Battered by the Black Death and successive outbreaks of plague, the city's economy continued to expand in the second half of the fourteenth

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<sup>3</sup> Elsewhere, the working of silk (Lucca, from the twelfth century, and Venice), cotton (northern Italy), metals (Bergamo, Brescia, Elba, and Milan), and paper (Marche and Umbria) were important sectors.

<sup>4</sup> The population decreased from between 1,000,000–1,200,000 to 420,000, the regional density from 43–52 inhabitants per km<sup>2</sup> (1300) to 18.3 (1400), and the urbanization rate from 30 to 16%.

<sup>5</sup> In the middle of the fifteenth century, the average income was equivalent to twice the minimum needs of a single person.

<sup>6</sup> There was a shift from family-based companies where shareholders had unlimited liability to a system of multi-owner companies that was unified by a majority shareholder and limited shareholders' liability to their investment.

<sup>7</sup> For this topic, see Giuseppe Petralia, "Lo sviluppo dell'economia toscana medievale," and Paolo Malanima, "L'economia toscana dalla peste nera alla fine del Seicento," both in *Storia della Toscana*, eds. Paolo Pezzino, Elena Fasano Guarini, and Giuseppe Petralia (Rome-Bari, 2004), 116–32, and 183–97, respectively. See also Jean-Pierre Delumeau and Isabelle Heullant-Donat, *L'Italie au Moyen Âge: Ve–XVe siècle* (Paris, 2002), 43–56, 77–85, 251–80.

century, allowing it to pursue its Tuscan ambitions despite the increasing power of Florence, with which Pisa maintained a //p. 248// partnership that was unequal but necessary for both cities. The Florentine conquest of 1406 brought with it massive economic losses, with the victor proving more interested in subjugating its longstanding enemy than in establishing an integrated regional economic system. It also resulted in a great loss of documentary material, as almost no records of practice concerning Pisa's guilds and judiciary, in addition to few notarial and governmental sources, survived the conquest and occupation by Florence.

## 2 The Expansion of the Pisan Economic Horizon (900-ca. 1162)

Archaeological finds show a clear rupture in Pisa's economic organization between late antiquity and the early Middle Ages.<sup>8</sup> Though the city was reduced in size, its highly efficient port infrastructure allowed it to defend the Tyrrhenian littoral and nearby islands in the face of Muslim raids from the ninth century onward.<sup>9</sup> In the tenth century, thanks to the political dynamism of the Margraves of Tuscany, in particular the Franco-Provençal family of Bertha of Lotharingia, Pisa acquired a prominent economic role in the Mediterranean. The gifts sent to the Abbasid Caliph Muktafi in 906 reveal the extent of Pisan international commerce, with goods originating from across the Mediterranean and northern Europe. Under the reign of Hugh of Arles, who would become King of Italy (r. 924–945), Pisa's economic horizons expanded to Provence, Latium, the Byzantine Empire, and the Caliphate of Córdoba. From the second half of the tenth century, the Pisan fleet—though smaller than those of Venice or Amalfi—was mobilized for imperial expeditions, and the city developed economic contacts with much of the Italian Peninsula and its neighboring regions, such as Provence, Catalonia, al-Andalus, and the German Empire.<sup>10</sup> Well provisioned from the spoils of its raids and capable of // p. 249 // transforming its local supplies of strategic resources (silver, iron, and wood) into weapons and ships, Pisa prospered in the relatively calm environment of the Tyrrhenian Sea between 940 and 1009.

The victorious expedition in 1087 against al-Mahdiya, the political capital and principal *emporium* of the Maghreb, established Pisa as a Mediterranean power. Up until the First Crusade (1096–1099), the city's economic interests centered on the Tyrrhenian Sea. Only from the early twelfth century onward, however, were Pisa and Genoa able to dominate westward commerce, toward the mouth of the Rhône and North Africa, as reflected in Pisa's successful military expedition against the Balearic Islands in 1113–1115. In the 1140s, Pisa reconsidered its strategy toward neighboring Muslim powers, substituting peace treaties and commercial agreements for military assaults. Gradually the city's commercial range expanded to the Balearics (1146–1148), al-Andalus (1150), the Maghreb (1150), and Egypt (1154). The second half of the century, however, saw increasing military competition with Genoa in these regions.<sup>11</sup>

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<sup>8</sup> For a synthesis, see Giuseppe Petralia, “Le ‘navi’ e i ‘cavalli’: Per una rilettura del Mediterraneo pienomedioevale,” *Quaderni storici* 35 (2000): 201–22; idem, “Modelli del cambiamento per l'Italia altomedievale,” *Bollettino storico pisano* 74 (2005): 467–78; idem, “Tra storia e archeologia: Mediterraneo altomedioevale e spazi regionali ‘italiani’ (intorno al secolo VIII),” *Studi storici* 56 (2015): 5–28. For Pisa's port structures and system, see the essays by Redi and Vaccari in this volume.

<sup>9</sup> For the earlier period, see Catia Renzi Rizzo, “Pisa nel alto Medioevo: Alcune considerazioni in margine al dibattito sulle città nei secoli VI–VIII,” *Bollettino storico pisano* 74 (2005): 479–502.

<sup>10</sup> Catia Renzi Rizzo, “Lo spazio economico di Pisa: La provvista multiforme e incontrollata del secolo X,” *Bollettino dell'Istituto storico italiano per il Medio Evo* 115 (2013): 97–118, at 99–107, 111–15.

<sup>11</sup> For Pisa's expansion in the Mediterranean, see Campopiano's essay; the essay by Balard addresses Pisa's relationship with the eastern part of the sea. Enrica Salvatori, “Lo spazio economico di Pisa nel Mediterraneo: Dall'XI alla metà del XII secolo,” *Bollettino dell'Istituto storico italiano per il Medio Evo* 115 (2013): 119–52, at 121, and 148–51.

Beyond its growing sea power, another sign of Pisa's increasing economic clout was the creation of an international currency.<sup>12</sup> Minting activity had been erratic throughout the early Middle Ages and until the twelfth century Pisa had no coinage of its own. Its merchants had used either ingots of precious metal or Muslim, Byzantine, or Norman coinage.<sup>13</sup> Minting its own currency allowed a city to affirm its new power and control the means of exchange. The creation of the Pisan silver penny, denier (*denarius*), and half-denier (the // **p. 250** // latter following the Luccan example) is contemporary with the birth of the Pisan commune in 1155, when the emperor granted it the right to mint coins.<sup>14</sup> Archaeological finds reveal the ample circulation of Pisan coins from the twelfth century onwards in Pisa, with no significant differences between the town and the countryside, but also in Tuscany, Emilia, and Liguria, thanks to Pisa's involvement in the Mediterranean economy and the recognition by civic leaders of the growing need for circulating currency.<sup>15</sup> Pisa's mercantile economy and coinage were facilitated both by the availability of precious metals in local mines and by the absence of competition other than that from Luccan and Genoese issues.

### 3 The Golden Age of a Mediterranean Maritime Republic (1162–1254)

Pisa's territory fell within the parts of Tuscany that were influenced marginally by seigneurial structures. The formation of the principal towns within the Pisan *contado* or countryside often followed a traditional pattern of creation during the period of *incastellamento*, then development of seigneurial jurisdictions, and finally the formation of a communal body.<sup>16</sup> Recent scholarship has emphasized the importance of elite migration into the cities from the *contado* (the so-called *inurbamento*) from the twelfth century onward, whereas this // **p. 251** //

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<sup>12</sup> For a synthesis, see Monica Baldassarri, "La monetazione della Repubblica di Pisa fino alla prima dominazione fiorentina," in *Pisa nei secoli: La storia, l'arte, le tradizioni*, ed. Alberto Zampieri, 4 vols. (Pisa, 2003), 2: 9–69; eadem, "Circulation, Use of Money and Stratigraphic Contexts in Pisa between the 10th and 15th Centuries: Some Considerations after Recent Urban Archaeology Research," in *Numismatica e Archeologia. Monete, stratigrafie e contesti: Dati a confronto*, eds. Giacomo Pardini, Nicola Parise, and Flavia Marani (Rome, 2018), 75–84; eadem, "La zecca e le monete di Pisa in età medievale: Dati acquisiti, problemi aperti e qualche novità," in *Aspetti di storia della Toscana attraverso monete e medaglie: Alcune messe a punto*, ed. Massimo Sozzi (Roseto degli Abruzzi, 2021), 61–98. See also eadem, *Zecca e monete del comune di Pisa: Dalle origini agli inizi della seconda repubblica* (Pisa, 2010).

<sup>13</sup> For a broad overview of early medieval numismatics, see Alessia Rovelli, *Coinage and Coin Use in Medieval Italy* (Farnham, 2012), and eadem, "Gold, Silver and Bronze: An Analysis of Monetary Circulation along the Italian Coasts," in *From One Sea to Another: Trading Places in the European and Mediterranean Early Middle Ages*, eds. Sauro Gelichi and Richard Hodges (Turnhout, 2012), 267–95.

<sup>14</sup> For the birth of the Pisan commune, see Chris Wickham, *Sleepwalking into a New World: The Emergence of Italian City Communes in the Twelfth Century* (Princeton, 2015), 67–118. Michael Matzke, "Il diritto monetario di Pisa: Un problema risolto?," *Bollettino storico pisano* 74 (2005): 311–20, addresses the right to mint coins in Pisa.

<sup>15</sup> Baldassarri, "Circulation, Use of Money," 212, 219.

<sup>16</sup> Chris Wickham, "La signoria rurale in Toscana," in *Strutture e trasformazioni della signoria rurale in Toscana nei secoli X–XIII*, eds. Gerhard Dilcher and Cinzio Violante (Bologna, 1996), 343–409; Maria Luisa Ceccarelli Lemut, "Terre pubbliche e giurisdizione signorile nel *comitatus* di Pisa (secoli XI–XIII)," in *La signoria rurale nel Medioevo italiano*, eds. Amleto Spicciani and Cinzio Violante, 2 vols. (Pisa, 1997–1998), 2: 87–137. On this phenomenon, in addition to the classic study of Pierre Toubert, *Les structures du Latium médiéval: Le Latium méridional et la Sabine du IXe à la fin du XIIe siècle*, second edition (Rome, 2015), see for Tuscany Maria Luisa Ceccarelli Lemut, "Dal chiostro alle fortificazioni: Monasteri e incastellamento nella Toscana occidentale," in *Committenza, scelte insediative e organizzazione patrimoniale nel Medioevo*, ed. Letizia Pani Ermini (Spoleto, 2007), 401–16; Giancarlo Macchi Jánica, *Geografia dell'incastellamento: Analisi spaziale della maglia dei villaggi fortificati medievali in Toscana (XI–XIV sec.)* (Florence, 2007); Chris Wickham, "Documenti scritti e archeologia per una storia dell'incastellamento: L'esempio della Toscana," *Archeologia medievale* 16 (1989): 79–102; Alma Poloni, "Comune cittadino e comunità rurali nelle campagne pisane (seconda metà XII-inizio XIV secolo)," *Archivio storico italiano* 166 (2008): 3–51, at 7–9.

was previously thought to be a characteristic of the thirteenth century.<sup>17</sup> Mechanisms favoring social mobility were gradually put in place and would bear fruit in the following century. In the southern Maremma, rural elites acquired new possibilities for the accumulation of wealth through changes in seigneurial extractions as well as increasing attention to natural resources and uncultivated land. Pathways of social ascent could follow the model that pertained to much of Tuscany: service for the lord as gastald, the accumulation of a small fortune, and then its augmentation in the twelfth century through land purchases and the extension of credit.<sup>18</sup> In the lower Pisan Valdarno, the increase in land prices by a factor of seven or eight from the mid-twelfth century to the beginning of the thirteenth century shows the precocity of Pisan investments in this area, which connected the major urban centers to the coast.<sup>19</sup>

Located at the crossroads of sea, river, and land routes, Pisa became the principal maritime center for Tuscany and Umbria in the twelfth century. It had an important fair by 1164 and numerous foreign merchants settled in the city, making it the base for their mercantile operations. Pisa's success was rooted on its double economic function: gathering, storing, and redistributing merchandise from the Levant and northern Europe, and producing and transporting wares offered in exchange. The commercial revolution, which shifted the European economy's center of gravity northward and westward, bore indirect—but profound—consequences for the Pisan economy; it both accelerated the city's economic growth, which reached a peak in the 1230–1240s, and reinforced its centrality within the broader commercial system.<sup>20</sup> Trade within the Italian Peninsula and its neighboring islands moved along a number of pathways. Up // p. 252 // until the first half of the thirteenth century, the Pisans played a primary commercial role in Syria, North Africa, and the Byzantine Empire. But like their Italian counterparts, from the twelfth century onward Pisan merchants also traveled to the Champagne fairs and traded silks, spices, and other eastern luxuries in exchange for wool, furs, and textiles. While Pisan individual participation may have been modest there, Pisa had become a crucial distribution center, thanks to its excellent commercial relations with southern France which allowed it to attract much of the Rhône traffic.<sup>21</sup>

Having established their control over their hinterland (or *contado*) and the Tuscan Archipelago, the Pisans sought to dominate the commercial routes to Corsica, Sardinia, and Sicily, where the city's merchants were quite active. Indeed, the city's economic ties with the islands and southern Italy became pivotal during the twelfth century and were backed by the city's naval power. A salient feature of this commercial expansion was the rivalry with Genoa, which became more intense from the 1130s onward. Both competitors pursued the same

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<sup>17</sup> The Volpe model, which ascribed central importance to emigration from the *contado* to the city during the second half of the thirteenth century, is attested to only for the Alliata family. See Alma Poloni, *Trasformazioni della società e mutamenti delle forme politiche in un comune italiano: Il popolo a Pisa (1220–1330)* (Pisa, 2004), 121–22 and 248; Chris Wickham, *Community and Clientele in Twelfth-century Tuscany: The Origins of the Rural Commune in the Plain of Lucca* (Oxford, 1998); Gioacchino Volpe, “Pisa, Firenze e Impero al principio del 1300 e gli inizi della signoria civile a Pisa,” *Studi storici* 11 (1902): 193–203, 293–337, at 295–300.

<sup>18</sup> Simone Collavini, “Signoria ed élites rurali (Toscana, 1080–1225 c.),” *Mélanges de l'École française de Rome—Moyen Âge* 124, no. 2 (2012) [<https://journals.openedition.org/mefrm/928>].

<sup>19</sup> Sergio Tognetti, “Produzioni, traffici e mercati (secoli XIII–XV),” in *Il Valdarno inferiore terra di confine nel Medioevo (secoli XI–XV)*, eds. Alberto Malvolti and Giuliano Pinto (Florence, 2008), 127–50, at 128.

<sup>20</sup> For this new economic organization, see Laura Ticciati, *L'Ordine dei Mercanti a Pisa nei secoli XII–XIII* (Pisa, 1998), 69, 101–03. Robert López, *The Commercial Revolution of the Middle Ages 950–1350* (Englewood Cliffs, NJ, 1971), addresses these great economic changes in the central Middle Ages.

<sup>21</sup> Maria Luisa Ceccarelli Lemut, “Pisa nel Mediterraneo durante il XIII secolo,” *Bollettino storico pisano* 75 (2006): 1–20, at 5–11, 16–19; Enrica Salvatori, Boni amici et vicini: *Le relazioni tra Pisa e le città della Francia meridionale dall'XI alla fine del XIII secolo* (Pisa, 2002); Simone Balossino, “‘Ianuenses, pisani et ceteri lombardi’: Circolazione e attività dei gruppi italiani nelle città della bassa valle del Rodano tra i secoli XII e XIII,” *Archivio storico italiano* 166 (2008): 391–424.

strategy for controlling Mediterranean commercial routes, wielding all their diplomatic and military might in order to exclude their adversaries. The Pisans began to affirm their presence in Sardinia in the early twelfth century after the pope granted their archbishop jurisdiction over the island.<sup>22</sup> The establishment of Pisan churches and religious institutions transformed the landscape through new agricultural and irrigation techniques, while the island itself—freed from the threat of Muslim attacks—became a central node in western Mediterranean commerce. By the end of the twelfth century, local elites granted significant territorial concessions and fiscal exemptions to Pisan merchants, facilitating the export of salt, grain and other cereals, wine, fruit, horses, cheese, wool, hides and leather, salted meat, granite from Gallura, lead, and especially silver.

From the beginning of the eleventh century, Pisans also sought to establish a firm presence in Sicily. The Norman conquest and Latin hegemony over Mediterranean sea routes put the island at the nexus of maritime connections // **p. 253** // between the Latin East, Byzantium, Egypt, and the Maghreb; it became the center of spice distribution, possessed strategic resources (grain, hides, cotton, and other textile fibers), and was a major market for the northern textile industry from the mid-twelfth century onward. Pisans were active in a number of Sicilian urban centers and by the end of the twelfth century Messina and Palermo both harbored a Pisan colony, based around the *Ruga Pisanorum*, a church, a *hospitium*, and a *loggia* administered by two consuls.<sup>23</sup>

The precocious dynamism of Pisan commerce presupposed the ability to guarantee property rights and the execution of contracts, thanks to its well established legal tradition.<sup>24</sup> Regulatory institutions such as the *Ordine dei Mercanti* (*Ordo Mercatorum*) and the *Ordine del Mare* (*Ordo Maris*) played a crucial role in supporting commerce. Until 1184, these two institutions were con- joined. The consuls of the merchants began to appear as judges in commercial conflicts during the second half of the twelfth century, a period in which the increasing presence of foreign merchants required the establishment of a specialized tribunal and oversight of their establishments or *funduqs* (*fondachi*) in the city.<sup>25</sup> When the consular commune came to an end, the *Ordo Mercatorum* made itself independent, setting up its own tribunal in 1212 and consolidating its privileges after the 1230s.

The *Ordo Maris*, in turn, was a sworn association of shipowners and sea merchants charged with defending Pisan interests and overseeing maritime trade through its tribunal and institutional autonomy.<sup>26</sup> The consuls of the sea and the counselors elected the overseas consuls who administered Pisan colonies abroad and also supervised the actions of the overseer of Porto Pisano, the guards of the port towers, and other officials involved in maritime affairs. The *Ordo* also oversaw the craftsmen involved in ship construction, as well as any- one traveling along the internal waterways within Pisan territory. Its responsibilities became codified increasingly

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<sup>22</sup> Laura Galoppini, “Pisa e la Sardegna, un legame millenario,” in *Pisa e il Mediterraneo: Uomini, merci, idee dagli etruschi ai Medici*, ed. Marco Tangheroni (Milan, 2003), 209–15, at 209–10. See most recently Michael Mitterauer and John Morrissey, *Pisa nel Medioevo: Potenza sul mare e motore di cultura* (Rome, 2015), 163–80.

<sup>23</sup> David Abulafia, “Pisan Commercial Colonies and Consulates in Twelfth-century Sicily,” *English Historical Review* 93 (1978): 68–81.

<sup>24</sup> See Rossella Trevisan, “L’Ordine del Mare a Pisa dalle origini alla metà del XIII secolo,” Tesi di laurea, Università di Pisa, 1987, 204; Marco Tangheroni, “La prima espansione di Pisa nel Mediterraneo, secoli X–XII: Riflessioni su un modello possibile,” in *Il mare, la terra, il ferro: Ricerche su Pisa medievale (secoli VII–XIII)*, eds. Graziella Berti, Catia Renzi Rizzo, and Marco Tangheroni (Pisa, 2004), 205–30, at 223–24. On the Pisan legal tradition, see Chris Wickham, *Courts and Conflict in Twelfth-century Tuscany* (Oxford, 2003), 108–67.

<sup>25</sup> Ticcianti, *L’Ordine dei Mercanti*, 192.

<sup>26</sup> Trevisan, “L’Ordine del Mare a Pisa;” for a brief summary, see Rossella Trevisan, “Per la storia dell’Ordo Maris di Pisa intorno alla metà del Duecento: Il Registro ‘Comune A 46’,” in *Pisa e la Toscana occidentale nel Medioevo: A Cinzio Violante nei suoi 70 anni*, ed. Gabriella Garzella, 2 vols. (Pisa, 1991), 1: 325–66.

in the twelfth and early thirteenth // **p. 254** // centuries, managing shipping and its associated facilities, such as shipyards, fortifications, and commercial spaces, while its tribunal specialized in resolving pan-Mediterranean maritime conflicts.<sup>27</sup>

The shared objectives of the *Ordo Maris*, the consular aristocracy, and the city's senators underpinned Pisa's maritime power; the consuls of the sea, for instance, were frequently drawn from the ranks of senators. Similarly, the conquest of Sardinia was not simply the work of a group of powerful nobles, but was supported by shipowners, ecclesiastical institutions, and local Tuscan elites.<sup>28</sup> The commercial expansion of Pisa was therefore fueled by both its shipowners and the upper classes in Tuscany, who collaborated on maritime ventures facilitated through the commercial instruments of the *commenda* or the *societas maris*, investing profits from agricultural rents into commercial ventures. The connection with regional trade is also shown by the elimination of import and export duties for Florentine goods as well as the reduced custom tolls (stipulated in the 1254 and 1256 treaties); Pisan elites did not abandon regional trade but it was not their main objective.<sup>29</sup>

By the beginning of the thirteenth century, inflation began to erode the revenues that the Pisan aristocracy drew from rents and credit arrangements. Commercial expansion, meanwhile, demanded a stable instrument of exchange with greater purchasing power than the existing penny. In issuing the silver *grosso* in 1239, the Pisans were among the first (alongside the Venetians and Genoese) to mint heavy coins with high intrinsic value. Taking inspiration from other circulating coinage (currency from Provence and dirhams from the Maghreb and al-Andalus), the silver *grosso* was conceived of as a stable medium of international exchange overseen by the Pisan commune. Mercantile communities swiftly adopted it to further their commercial interests and extol (through its iconography) the good relations between the Pisan commune and the archbishop.<sup>30</sup>

In 1228, some 4270 Pisans swore an oath to respect the peace signed with Siena, Pistoia, and Poggibonsi, which provides a snapshot of the Pisan // **p. 255** // economy.<sup>31</sup> This document has allowed scholars to hypothesize that the population of Pisa was approximately 24,000–27,000 residents in 1228, an estimate that aligns with calculations from studies of the city's urban fabric.<sup>32</sup> The 1228 list localizes urban production to some degree (only 35–37% of the

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<sup>27</sup> Trevisan, "Per la storia dell'Ordo Maris di Pisa," 327–33. The impressive capacity reached by the Pisan maritime sector is demonstrated by the city building, arming, and outfitting forty galleys in two months for Emperor Otto IV in 1210.

<sup>28</sup> Trevisan, "L'Ordine del Mare a Pisa," 177–80, 187–211.

<sup>29</sup> Gino Arias, *I trattati commerciali della repubblica fiorentina, v. 1 (XIII secolo)* (Florence, 1901), 46–52, 386–95.

<sup>30</sup> Baldassarri, "La monetazione della Repubblica di Pisa," 18–26. For the iconography of Pisan coinage and its political uses, see the essay by Cagianelli in this volume.

<sup>31</sup> This document is the only comprehensive source for the urban population and economy before the *catasto* of 1428–29; as such, Pisan demography is far less studied than that of its Tuscan neighbors. On this topic, see Marco Tangheroni, "Demografia e storia nella Pisa medievale: Lo stato della questione," *Rassegna volterrana* 56 (1980): 107–15. Enrica Salvatori has shown that this list encompassed all men of arms-bearing age, compiled on the basis of lists regularly assembled by representatives of each parish; see Enrica Salvatori, "La demografia pisana nel Duecento," in *Demografia e società nell'Italia medievale (secoli IX–XIV)*, eds. Rinaldo Comba and Irma Naso (Cuneo, 1994), 231–52, at 237, and eadem, *La popolazione pisana nel Duecento: Il patto di alleanza di Pisa con Siena, Pistoria e Poggibonsi del 1228* (Pisa, 1994).

<sup>32</sup> Taking as a baseline the Bolognese population density of 120 residents per hectare, the 185 hectares contained within the Pisan city walls of 1155 would have housed around 22,000 inhabitants. See Salvatori, *La popolazione pisana*, 117–19, for an estimate of the Pisan population of around 24,000–27,000 (depending on whether one assumes a multiplier of 3.5 or 4 people per family). Earlier estimates range from 15,000–40,000 inhabitants.



oath-takers specified their occupation), as it documents above all people of the “middle classes” who drew their income and social position from production and commerce (Figure 9.1).

Aside from merchants, who are classified separately, food production was the sector that employed the largest number (24.32%), followed by furriers, leather workers, and cobblers (21.72%), metalworking (16.72%), services (16.45%), textiles (8.33%), and woodworking and masonry (7.13%), with other activities accounting for 5.33%.<sup>33</sup> Even before the creation of the craft guilds of the furriers (*pellicciai*) in 1235 and the cobblers (*calzolai*) in 1254, and before the diffusion of hot-water tanning, the leatherworking sector already appears to have been highly dynamic, concentrated mostly in the quarters of Foriporta and Ponte Nuovo. Metalworking and arms production were also significant parts of the Pisan economy, with blacksmithing being the most commonly- reported occupation in the 1228 oath. Arms production (attested from the 1140s onward) was concentrated in the areas near the shipyards. As for the wealthy goldsmiths, they were situated around the church of San Michele in Borgo. Textile production was still of secondary importance; its rise would be a product of the coming decades. Food production and distribution were present throughout the city, with concentrations north of the Ponte Vecchio, surrounding the market at San Iacopo Foriporta (founded in 1198), in the grain

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<sup>33</sup> *ibid.*, 82–89, 141–46.

// p. 256 //



Figure 9.1 Map of the main locations of craft industries in 1228

// p. 257 // exchange at San Clemente, and in Via di Borgo. The fishermen naturally congregated along the banks of Arno.<sup>34</sup>

#### 4 The Popular Commune, the Urbanization of the Economy, and the Loss of Pisan Colonies (ca. 1250-ca. 1325)

Studies of Pisan urbanism have demonstrated the abundance of new building in the twelfth and thirteenth centuries. Yet the thirteenth century is also marked by the gradual slowdown in Pisan demographic growth, as shown by several indicators: the absence of an emigration policy; the case-by-case (rather than general) emancipation of serfs; the numerous casualties and prisoners after the defeat of Meloria (1284), which prompted a drop in the birthrate; and the rising incidences of malaria, which became endemic to the region at the end of the thirteenth century. Certain estimates, to be accepted with due caution, suggest a population of approximately 41,000–42,000 inhabitants around 1300.<sup>35</sup> For the Pisan hinterland, however, the thirteenth century was a period of great demographic expansion and economic dynamism, as showcased by the spatial expansion of its principal centers and the increasing social stratification of their population, a sign of the diversification of economic activities. The three social strata consisted of nobles, people of humble means, and the bourgeoisie. The latter, being largely a new phenomenon in the thirteenth century, was composed of notaries, judges, doctors, and artisans, who owned land, invested in commerce, and fulfilled administrative positions, especially in the Maremma and the Valdera.<sup>36</sup>

The consolidation of Pisa's jurisdiction over its countryside was expressed as well by its control of key industries and commodities.<sup>37</sup> One of the most // p. 258 // important was grain, a mainstay for the rapidly growing urban population. Interventions by the commune on grain prices were already documented in the 1170s and Pisa had established strict regulations for grain export (the *devetum* to export outside the Pisan hinterland) and grain prices by the end of the thirteenth century. The city reserved for itself the products of the hinterland (from 1281 to 1378, 35% of the grain came from Maremma, 20% from Sardinia, 10% from Piombino, and 10% from Sicily), bought grain from local merchants or sometimes in remote markets (Sicily, Byzantium), was able to store, transform (into biscuits or bread), and redistribute it in the hinterland (e.g. to the workers of iron mines in Elba or local centers facing hardship) and to its army. The defeat at Meloria did not preclude Pisa from becoming a regional center for the commercialization of grain; to this end, from the 1320s onward the commune initiated a policy to not only furnish the commodity to its urban population but also redistribute and benefit from

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<sup>34</sup> *ibid.*, 145–73. The oath of 1228 confirms the already marked economic specialization of certain districts of the city. On Pisa's urban areas of production, see the essays by Gattiglia and Codini in this volume.

<sup>35</sup> *ibid.*, 122–23; Emilio Cristiani, *Nobiltà e popolo nel commune di Pisa: Dalle origini del podestariato alla signoria dei Donoratico* (Naples, 1962), 167–68, 280–86; David Herlihy, *Pisa in the Early Renaissance: A Study in Urban Growth* (New Haven, 1958), 35–53.

<sup>36</sup> See Giuliano Pinto, “La ‘borghesia di castello’ nell’Italia centro-settentrionale (secoli XII–XV): Alcune considerazioni,” in *Città e territori nell’Italia del Medioevo: Studi in onore di Gabriella Rossetti*, eds. Giorgio Chittolini, Giovanna Petti Balbi, and Giovanni Vitolo (Naples, 2007), 155–70; Andrea Giglioli, “I ‘centri minori’ del contado pisano,” in *I centri minori della Toscana nel Medioevo*, eds. Giuliano Pinto and Paolo Pirillo (Florence, 2013), 241–72, at 252–62, 263–64.

<sup>37</sup> Alma Poloni, “Comune cittadino e comunità rurali nelle campagne pisane (seconda metà del XII-inizio XIV secolo),” *Archivio storico italiano* 166 (2008): 3–51. On fiscality, see Cinzio Violante, “Le origini del debito pubblico e lo sviluppo costituzionale del Comune,” and “Imposte dirette e debito pubblico,” in Cinzio Violante, *Economia, società, istituzioni a Pisa nel Medioevo: Saggi e ricerche* (Bari, 1980), 67–100, and 101–69; Roberto Castiglione, “La trasformazione delle finanze del Comune di Pisa tra Duecento e Trecento,” *Bollettino storico pisano* 77 (2008): 49–62.

grain commercialization.<sup>38</sup> In addition, the forced, fixed low price (*canova* system from 1297 onwards) had the effect of decreasing production and forcing the peasants to immigrate to the city, thereby expanding the city's artisanal sector. This grain policy of the Pisan commune, together with the abundance of hills and swamps, explains why animal husbandry became so important in the Pisan economy. The number of butchers (*macellai*) increased by nearly 60% between 1228 and the end of the century. In the 1270s, the commune took protective measures to keep the numerous herds from damaging local crops, but large-scale herdsmen showed little concern and many enjoyed rapid social and political ascents (like the Falcone or the Dell'Agnello families).<sup>39</sup> Vintners and winesellers earned considerable profits in this burgeoning economy through the monopoly they possessed over transport of wine along the Arno, a commodity that was the most highly taxed and expensive because of its largely unregulated market. They even supplied Florence with domestic and foreign wines in the late thirteenth // **p. 259** // and early fourteenth centuries; the winesellers were therefore something of an exception to the general trend of Pisan food supplies coming mainly from the Tuscan interior.<sup>40</sup> Indeed, two prominent families, the D'Appiano (who would rule over Pisa from 1392–1399) and the Maschiani, both made their fortunes from the wine trade before immigrating to the city.<sup>41</sup>

From the mid-thirteenth century Pisan production activities, including metalworking, were concentrated in the city. Around 1260–1270, notarial sources mention the seasonal mobility of blacksmiths (*fabbri*), who alternated between the extraction of metal from autumn to May and the making of tools in the summer months. In the last third of the thirteenth century, mining activity became continuous, due to the commune's growing fiscal needs. The output of the iron mines on the island of Elba expanded to become the principal source of revenue in the early fourteenth century but the city lacked a specialized metalworking sector to create high value-added products, as was the case in Florence.<sup>42</sup> Leatherworking remained a dominant sector, thanks to the resources of the surrounding territory: abundant supplies of water; chestnut trees and myrtle (*mortella*), both used in the tanning process; the proximity of livestock and the ease of imports. In the thirteenth century, industrialization of leatherworking took place through the concentration within the city of income-generating activities, which had previously been rural and household-based, and through the diffusion of new techniques using boiling solutions that accelerated the process of production.<sup>43</sup> The fur industry saw signs of a structural decline after the 1250s; thereafter sheepskins were used only by monks and the poor and at the end of the thirteenth century the manufacture of furs backed with wool or silk confined this production to the luxury sector.<sup>44</sup>

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<sup>38</sup> Stefano Magni, "Politica degli approvvigionamenti e controllo del commercio dei cereali a Firenze, Pisa ed Orvieto nel XIII e XIV secolo." Tesi di dottorato in ricerca in storia, Università di Pisa, 2013, 50, 60–62, 74–80, 190–98, graphs 16, 206, 233–37; idem, "La Maremma e la politica degli approvvigionamenti cerealicoli di Pisa nel Trecento," in *La Maremma al tempo di Arrigo. Società e paesaggio nel Trecento: Continuità e trasformazioni*, eds. Ignazio del Punta and Marco Paperini (Follonica, 2015), 112–18.

<sup>39</sup> Herlihy, *Pisa in the Early Renaissance*, 116–25.

<sup>40</sup> *ibid.*, 125–27.

<sup>41</sup> Patrizia Meli and Sergio Tognetti, *Il principe e il mercante nella Toscana del Quattrocento: Il Magnifico Signore di Piombino Jacopo III Appiani e le aziende Maschiani di Pisa* (Florence, 2006).

<sup>42</sup> Roberto Castiglione, "La Vena ferri de Ylba e la gestione delle entrate del Comune di Pisa negli anni 1310–1325," *Bollettino storico pisano* 79 (2010): 181–205.

<sup>43</sup> Marco Tangheroni, "Note sull'industria conciaria a Pisa nel Medioevo," in *Il cuoio e le pelli in Toscana: Produzione e mercato nel tardo Medioevo e nell'età moderna*, ed. Sergio Gensini (Pisa, 1999), 51–70, at 54, 60. As a result of their political and economical power, the seven *Arti* of the leather sector were combined into a single organization (1298–1303).

<sup>44</sup> Herlihy, *Pisa in the Early Renaissance*, 148–52.

Having started largely as an adjunct to the furriers, the wool industry— whose origins and development have been hotly debated—became independent.<sup>45</sup> It specialized in the production of light and mixed textiles // **p. 260** // made of linen and cotton (*barracani*), similar to the fustians of north-central Italy, but also produced cloths from local or Sardinian wool. Its membership was predominantly local, connected to the fulling mills in the hills of Calci and the Arno and Serchio valleys, an area that supplied many of the salaried workers from 1260–1314.<sup>46</sup> The activities closest to the final stages of the production cycle were the first to urbanize, with finishing and dyeing processes coming to the city first in 1228, followed by the weavers and spinners in the second half of the thirteenth century. Already a flourishing sector in the 1240s according to a notarial register, Pisan wool was being exported to southern Italy in 1263, a sign of its rising quality.<sup>47</sup> Cotton fustians declined in this time period in favor of wool from North Africa and al-Andalus (*lana di Garbo*), which was of better-quality and available in a greater variety of dyes (*stanforti* and especially *stametti*, whose moderate cost made it accessible to the middle classes). Pisa followed—albeit with a slight delay—the development of the Italian wool industry, thanks to the imitation of cloth imported from northern Europe and the transfer of technology due to the migration of skilled masters. Between 1260 and 1314, 70% of the masters and half of the dyers hailed from elsewhere, in particular from Lombardy.<sup>48</sup> The expansion of this sector was further supported by the economic policies of the commune, which succeeded in reducing the cost of urban manpower by one-third between 1266 and 1300; this provided a considerable advantage, given that manpower accounted for half of the production cost.<sup>49</sup> With the creation of the *Ordo Lanae* (wool guild) in 1266, the textile trades reorganized themselves; the cloth merchants (*pannaioli*) remained affiliated with the *Ordo Mercatorum* and only the *tintori* who dyed local wool joined the wool guild. This institutional crystallization was matched by collective investments in infrastructure, including a building to house the guild in 1295, // **p. 261** // shared structures for washing and fulling mills to the north of the city walls in 1288 and for drying and measuring wool in the east of the city.

The Pisan wool industry was marked by several original features. Unlike the Florentine model in the second half of the fourteenth century, Pisan *lanaioli* enjoyed considerable autonomy in that they owned the wool that they worked and they focused on the production of wool rather than its marketing. Pisan workshops were less specialized (in the goods handled and in their organization), smaller (often individual), and produced lower quantities and qualities of cloth than their Florentine counterparts. Most production was for regional consumption. For this reason, the credit system was largely built around the flexible *commenda* contract, with several lenders and profit rates of 10–15% that were equal or superior to those of the Florentine companies.<sup>50</sup> In the second half of the thirteenth century, the social profile of entrepreneurs in the wool sector was heterogeneous, even if most of them hailed from the artisanal class. After several decades, however, a more dynamic group began to form, with ties to city merchants. Few cases are as well known as that of Vanni di Stefani, whose account

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<sup>45</sup> Pietro Silva, “Intorno all’industria e al commercio della lana in Pisa,” *Studi storici* 19 (1910): 329–400; Herlihy, *Pisa in the Early Renaissance*, 151–61; Federigo Melis, “Uno sguardo al mercato dei panni di lana a Pisa nella seconda metà del Trecento,” *Economia e storia* 3 (1959): 321–65; Pierluigi Castagneto, *L’arte della lana a Pisa nel Duecento e nei primi decenni del Trecento: Commercio, industria e istituzioni* (Pisa, 1996); Alma Poloni, “Qualche considerazione sull’industria laniera pisana nel Due e Trecento,” in *Studi di storia e archeologie in onore di Maria Luisa Ceccarelli Lemut*, eds. Monica Baldassarri and Simone Collavini (Pisa, 2014), 189–200.

<sup>46</sup> Alma Poloni, “‘Nec compelli possit effici civis pisanus’: Sviluppo dell’industria laniera e immigrazione di maestranze forestiere a Pisa nel XIII e XIV secolo,” in *Cittadinanza e mestieri: Radicamento urbano e integrazione*, ed. Beatrice Del Bo (Rome, 2014), 235–62, at 244–45.

<sup>47</sup> Castagneto, *L’arte della lana*, 100–05.

<sup>48</sup> Alma Poloni, “‘Nec compelli possit effici civis pisanus,’” 242, 244–45.

<sup>49</sup> Herlihy, *Pisa in the Early Renaissance*, 159.

<sup>50</sup> Castagneto, *L’arte della lana*, 118–19, 130–34, 137, 139.

books survive.<sup>51</sup> These changes in the social composition of the *lanaioli* accompanied a new phase of expansion of the wool industry in the 1320s, supported by the Pisan commune which was seeking to compensate for a slowdown in its Mediterranean commerce.<sup>52</sup> The city encouraged the immigration of specialized workers (1324) while enacting protectionist measures forbidding the import of non-Pisan-produced cloth (1335), safeguarding the Pisan industry from similar products originating in north-central Italy.<sup>53</sup> The numerical importance of the artisans nevertheless was overshadowed by the economic and political weight of the merchants, who held the reins of the three *Ordines* (*Mercatorum*, *Maris*, and *Lanae*). The presence of artisans in communal bodies remained limited, especially after the reforms of 1307, which reinforced the oligarchical political process.

Pisan coinage underwent major changes after the death of Frederick II in 1250 and the establishment of the popular commune in 1254.<sup>54</sup> The light coins continued to be debased, while the silver *grosso* retained its value, requiring // p. 262 // the commune to create new fractional currencies. While minting gold *grossi* began to spread, Pisan monetary policy remained anchored to silver. In the thirteenth century, it was mainly extracted from southern Sardinia, where major Pisan families (the Visconti, Gherardesca, Da Capraia) had acquired significant properties and rights with the support of the Pisan commune.<sup>55</sup> The price of silver rose steadily throughout the second half of the thirteenth century, which forced Pisa to devalue its coinage. The availability of silver and the competition of the gold florin, which appeared in Pisan territory in 1271, explain the issuing of the heavy *aquilini* (1270–1285). These coins circulated in Sardinia and southern Corsica from the second half of the thirteenth century through to the first quarter of the following century. Another coin also made its appearance in the second half of the thirteenth century: the little *aquilini in mistura*, consisting of only 20% precious metal. These circulated in Liguria, Corsica, Sardinia, and northwestern Sicily.<sup>56</sup>

Trade with southern Italy became a main focus of the Pisan economy in the thirteenth century, a time period when Pisa and its archrival Genoa competed for control of the western Mediterranean and Ghibelline Pisa faced continual threats from the Guelf cities of the Tuscan interior.<sup>57</sup> From their initial foothold in Sardinia, the Pisans gradually forced out the Genoese over the course of the century. The Visconti family controlled the saltworks of Cagliari (1217) and in the 1230s the Pisans held the territories of Cagliari, Gallura, and Arborea, where merchant families invested in land, maritime trade, mining, and the extraction of argentiferous lead in Iglesias. Pisa also supported Frederick II's imperial program and its ties to the emperor helped the city expand its commerce in Sicily and Naples.<sup>58</sup> By the second half of the thirteenth century, Pisa faced increased competition from Florence and Aragón and suffered a devastating

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<sup>51</sup> *ibid.*, 144, 151–52, 191–209.

<sup>52</sup> Poloni, “Nec compelli possit effici civis pisanus,” 250.

<sup>53</sup> *ibid.*, 252; Silva, “Intorno all’industria,” 143.

<sup>54</sup> Baldassarri, “La monetazione della Repubblica di Pisa,” 28–31. Two possibilities present themselves: 1) Del Mancino and Lenzi date the appearance of the light *aquilino* to the years after Meloria (1284), seeing in it a sign of economic difficulties; 2) Travaini and Finetti argue instead that the first coins minted by the popular commune were the two-penny *grosso* (1263–1264), followed thereafter by the light *aquilini* and light *grossi*.

<sup>55</sup> According to Marco Tangheroni, *La città dell’argento: Iglesias dalle origine alla fine del Medioevo* (Naples, 1985), 74–76, local archives made no mention of Pisan mines at Iglesias before well into the thirteenth century.

<sup>56</sup> Baldassarri, “La monetazione della Repubblica di Pisa,” 28–40, and eadem, “Monetazione e flussi monetari in Sardegna tra Due e Trecento: I dati delle ricerche archeologiche e numismatiche,” in *Commercio, finanza e guerra nella Sardegna tardomedievale*, eds. Olivetta Schena and Sergio Tognetti (Rome, 2017), 45–69, at 61.

<sup>57</sup> Giuseppe Petralia, “I toscani nel Mezzogiorno medievale: Genesi ed evoluzione trecentesca di una struttura di lungo periodo,” in *La Toscana nel secolo XIV: Caratteri di una civiltà regionale*, ed. Sergio Gensini (Pisa, 1988), 287–336, at 295.

<sup>58</sup> Ceccarelli Lemut, “Pisa nel Mediterraneo durante il XIII secolo,” 7–10; Amedeo Feniello, “Il ‘Portus Pisanorum’ di Napoli e il nuovo porto angioino,” *Bollettino storico pisano* 64 (1995): 225–32.

defeat at the hands of the Genoese at Meloria in 1284.<sup>59</sup> Meloria was more a // **p. 263** // dramatic manifestation of Pisan military weakness than its direct cause, but the loss was massive; with thirty ships seized, 2,000 dead, and 9,000 held prisoner for fifteen years, Pisa suffered from the destruction of its fleet, a reduced population and birthrate, and heavy tributes imposed under the treaties of 1289 and 1299. As a consequence, Pisa experienced an economic depression for decades, as seen in a variety of indicators: a decline in economic activity (a decrease in investments in long-distance trade, in sales of moveable goods and properties, and a decade of devaluations), a decline of consumer confidence (decreased frequencies of sales on credit and the issuing of loans, as well as the shortening of the lending periods), a decrease in money supply, a growth in poverty (greater charity donations and more women falling into poverty). Moreover, the recession endured due to the cautious behavior of a populace more inclined to pay down its debts and sell unproductive lands than take economic risks.<sup>60</sup> The city was therefore reduced to a mid-level Mediterranean player, with its commercial horizons restricted to central Italy, the Tyrrhenian Sea, North Africa, and Cyprus.<sup>61</sup>

Sardinia then became the principal source of Pisan revenues, with the port of Cagliari as an active commercial venue for the export of linen, cotton, wool, cheese, wine, and various hides and pelts, and the import of Pisan and northern European cloth and luxury items from the east. Pisa remained deeply involved in the economy and society of Sicily, with hundreds of Pisan citizens and their families established there and engaged in a wide range of activities (shopkeepers, moneylenders, artisans, and small landowners) alongside their merchant brethren.<sup>62</sup> The countryside of Pisa, especially the lower Valdarno, remained an active center of production, transport, and commerce through the mid-fourteenth century, optimizing the centrality of Pisa, both in its immediate hinterland and Tuscany, and its control of strategic roads and waterways. Along these routes, goods traveled from Siena, Prato, Pistoia, Volterra, Colle Val d'Elsa, and San Gimignano; entrepreneurs from these smaller Tuscan cities traded in Pisa and formed commercial partnerships with members of the city's economic network that provided important fiscal revenues from the duties on transported goods.<sup>63</sup> // **p. 264** //

The commune was the principal source of regulation, given that its fiscal exactions consumed a large proportion of the economy.<sup>64</sup> The Pisan fiscal system already displayed a rational organization by the middle of the thirteenth century; it was more efficient and benefited from general growth since the income of indirect taxes (*gabellerie*) was worth 40,000 *lire* in 1284, 100,000 *lire* in 1308, and often above 70,000 *lire* between 1293 and 1308.<sup>65</sup> Indeed, unlike

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<sup>59</sup> See most recently Antonio Musarra, *1284: La Battaglia della Meloria* (Rome-Bari, 2018).

<sup>60</sup> Matthew Parker, "Sinking Pisa: The Decline of a Commercial Empire in the Thirteenth Century." PhD Dissertation, Saint Louis University, 2019, 183–232, especially 225–31.

<sup>61</sup> Ceccarelli Lemut, "Pisa nel Mediterraneo durante il XIII secolo," 13–14, 16–19; Marco Tangheroni, *Politica, commercio, agricoltura a Pisa nel Trecento*, second edition (Pisa, 2002), 77–79, 97–102, 110–20, 126–36. See also the essays by Campopiano and Balard in this volume.

<sup>62</sup> Giuseppe Petralia, "Pisa e la Sicilia," in Tangheroni, *Pisa e il Mediterraneo*, 217–21, at 219–20.

<sup>63</sup> Archivio di Stato di Firenze (ASFi), *Statuti delle comunità autonome e soggette*, 338, fol. 10r–18v, discussed in Sergio Tognetti, "Produzioni, traffici e mercati (secoli XIII–XV)," in *Il Valdarno inferiore: Terra di confine nel Medioevo (secoli XI–XV)*, eds. Alberto Malvolti and Giuliano Pinto (Florence, 2008), 127–50, at 131–35, 141, 143–44.

<sup>64</sup> See the extensive publications by Roberto Castiglione on this topic: Roberto Castiglione, "Imposte dirette e debito pubblico di Pisa nella prima metà del Trecento: Le condizioni finanziarie del Comune dagli inizi del Trecento alla discesa del Bavaro," *Bollettino storico pisano* 70 (2001): 105–40; idem, "Gabelle e diritti comunali nel Trecento a Pisa," *Bollettino storico pisano*, 71 (2002): 41–80; idem, "La trasformazione delle finanze del Comune di Pisa tra Duecento e Trecento," *Bollettino storico pisano* 77 (2008): 49–62; idem, "La pressione fiscale sulle imposte indirette a Pisa nella prima metà del Trecento," *Bollettino storico pisano* 78 (2009): 43–55; idem, "Aspetti della fiscalità a Pisa nei primi decenni del Quattrocento," *Bollettino storico pisano* 82 (2013): 13–56.

<sup>65</sup> Castiglione, "La trasformazione delle finanze," 52.

other cities, the consumption tax was low since the commune could extract extensive fiscal income through iron from Elba, the *Dogana del sale*, the Sardinian colonies, as well as taxes on import and export trade at Porto Pisano. In addition, direct taxes (*estimo*) were important and still used during the fourteenth century contrary to the practice in other Tuscan cities. One can calculate that the entire fiscal value of the population's wealth was around 200,000 florins (600,000 *lire*, Sardinia included) in 1318, but only of 26,000 florins in 1371. During the fourteenth century, Pisan maintained state control of its fiscal system, with minimal concessions to private merchants.<sup>66</sup> The commune also controlled public urban spaces, with its officers granting the right to house foreign merchants, maintaining the roads, and overseeing the cleaning, lighting, and anti-theft measures essential to the city's markets in Via di Borgo, Ponte Vecchio, San Martino alla Pietra, and Foriporta. It ensured the proper provisioning of the city through the regulation of foodstuffs and guaranteed a fair price for goods, the correct use of measures, and the steady supply of provisions, while protecting public order and urban hygiene.<sup>67</sup>

From the thirteenth century onward, the regulatory functions of the *Ordo Maris* are well documented. It oversaw all port and river navigation within the territory, and its responsibilities included the supervision of operations // p. 265 // and maintenance of port structures—building fortifications, guarding ships, receiving merchandise in the communal *fondachi*, and ensuring the legality of commerce that took place within the Pisan port system. The colonial and maritime policies of Pisa were conducted under the auspices of the *Ordo*, since its consuls had authority over the consuls of the Pisan nations abroad. Between the second half of the thirteenth century and the first quarter of the fourteenth century, Pisan nations are attested to in Naples, Cagliari, Sicily (Messina), the Maghreb (Tunis and Bugia), Egypt (Alexandria and Damietta), and the Levant (Acre, until 1291).<sup>68</sup> Through the end of the thirteenth century, the nations in Sardinia and the Maghreb enjoyed considerable autonomy. In the fourteenth century, the consuls of the Pisan settlements abroad were recruited from among the local communities, in keeping with current practices among other overseas merchant communities.

The social composition of the *Ordo Maris* itself expanded with the advent of the popular commune. After 1254, noblemen could no longer serve as *consoli di mare* (sea consuls) but they were not entirely excluded from the institution, which recruited them as consuls of the nations, as admirals, or as overseers of Porto Pisano. Three types of families can be distinguished among the leaders of the *Ordo* in the thirteenth and fourteenth centuries: those belonging to senatorial families and the consular aristocracy with interests in maritime trade (the Assopardi, Ricucchi, de Barba, Laggi, etc.); families that had recently made their fortunes and who joined the nobility during the years that saw the formation of the *popolo*; and families that never attained the level of nobility (the Carletti).<sup>69</sup>

For its part, the *Ordo Mercatorum* focused on the regulation of the production, warehousing, and marketing of cloth, wax, and spices; it supervised the workers, while the Pisan commune oversaw the physical spaces. The *curia mercatorum* handled disputes through arbitration, resolved commercial or partnership issues, punished bad behavior by merchants (such as fraud or theft), and reviewed disputes sent to it on appeal by the *Arti*, or guilds, from the 1260s onward. Unlike in other Italian cities, there is no trace of a *Mercanzia*, or a court that

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<sup>66</sup> Castiglione, “La trasformazione delle finanze,” 56–58 ; idem, “Imposte dirette e debito pubblico di Pisa,” 135, 137; idem, “L'estimo di Pisa nel 1371,” *Bollettino storico pisano* 86 (2017): 109–30.

<sup>67</sup> Ticcianti, *L'Ordine dei Mercanti*, 105–12.

<sup>68</sup> Antonio Musarra, *Acri 1291: La caduta degli stati crociati* (Bologna, 2017).

<sup>69</sup> Lorenzo Isoppo, “L'ordine del mare nello svolgimento sociale e costituzionale del Comune Pisano (secoli XIII–XIV),” Tesi di laurea, Università di Pisa, 1986–1987, 2, 40–43, 72–87, 91, 97–98, 99, and 286–89.



addressed mercantile matters.<sup>70</sup> The principal objectives of this *Ordo* // p. 266 // were to ensure a steady stream of supplies for local producers and exporters; to guarantee the good quality of merchandise and proper payment; and to minimize the harm posed by unfair competition, particularly through the control of weights and measures. The tribunal housed the official measure for cloth (*canna*) and no goods could leave the warehouses without being checked.<sup>71</sup>

The increasing number of foreign merchants brought with it greater demand for moneychanging and deposit facilities. A new economic elite of bankers and moneylenders (*bancherii* and *cambiatori*) developed rapidly in the 1250s. These were land-based merchants, intermediaries with a base in Pisa who purchased products from the Levant and the Maghreb and resold them in northern Europe. They did not renounce maritime commerce, but these new families channeled their rising influence through the *Ordo Mercatorum*, whereas the *Ordo Maris* remained primarily the preserve of the consular aristocracy.<sup>72</sup> Starting in the 1260s, however, this new group of merchants adopted the business contract known as a *compagnia*, a long-term legal and financial partnership in which capital and risk were pooled; profits and losses were shared proportionally based on the initial capital contribution of the partners, and according to a fixed rate—without risk—for additional associates. The first *compagnia* of this type was that of Guiscardo Cinquina and Banduccio Bonconti (1268–1312), involving the transport of fiscal revenues collected in Sardinia; its agents also frequented the Champagne fairs starting in 1272, as well as the markets of Acre, Bugia, Messina, and Ancona. In the 1310s, it was the Gambacorti who led the most dynamic *compagnia*.<sup>73</sup> The ease with which they navigated international political divides, especially in southern Italy, in order to pursue their commercial aims explains their relevant diplomatic role; the same was true for the Alliata, though they focused their attention on Sardinia and developed long-term economic collaborations there.<sup>74</sup> Finally, the Dell’Agnello were active in the major commercial markets starting in the 1280s and together with the Mosca da San Gimignano formed one of the three most powerful Pisan *compagnie* during the 1320s and 1330s. Their business // p. 267 // interests were concentrated in Sardinia but they also had permanent agents in Tunis and Naples.<sup>75</sup>

## 5 Turning Away from the Sea and Back to the Land (1325–1406)

In 1324–1326, Pisa lost control of Sardinia to the Aragonese. The crisis was as much political as economic, as the loss signified the end of the city’s maritime strength and a protected economic space. The Pisans suffered a dropoff of commercial activity that compelled them to reorganize their commercial enterprises from the 1320s through the 1340s.<sup>76</sup> Through Pisa’s

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<sup>70</sup> Lorenzo Tanzini, “Tribunali di mercanti nell’Italia tardomedievale tra economia e potere politico,” in *Il governo dell’economia: Italia e Penisola Iberica nel basso Medioevo*, eds. Lorenzo Tanzini and Sergio Tognetti (Rome, 2014), 229–55. See also Stefania Gialdroni, “Propter Conversationem Diversarum Gentium: Migrating Words and Merchants in Medieval Pisa,” in *Migrating Words, Migrating Merchants, Migrating Law: Trading Routes and the Development of Commercial Law*, eds. Stefania Gialdroni, Albrecht Cordes, Serge Dauchy, Dave De ruyscher, and Heikki Pihlajamäki (Leiden, 2020), 28–53.

<sup>71</sup> Ticciati, *L’Ordine dei Mercanti*, 81, 87–88, 120–37, 127, no. 89, 195–96.

<sup>72</sup> *ibid.*, 51–55, 104–11, 172, 178, 384–85; Trevisan, “Per la storia dell’Ordo Maris di Pisa,” 348.

<sup>73</sup> Giovanni Ciccaglioni, “Affari e politica dei Gambacorta dalla metà del XIII secolo al 1355,” Tesi di laurea, Università di Pisa, 1999–2000; Alma Poloni, *Trasformazioni della società*, Appendix II, no. 6.

<sup>74</sup> Marco Tangheroni, *Gli Alliata: Una famiglia pisana nel Medioevo* (Padua, 1969).

<sup>75</sup> Two other families involved were the Alliata and the Gambacorti; all the families mentioned above participated in the city’s internal political affairs; see Poloni, *Trasformazioni della società*, 247–60.

<sup>76</sup> Alma Poloni, “Gli uomini d’affari pisani e la perdita della Sardegna: Qualche spunto di riflessione sul commercio pisano nel XIV secolo,” in *Per Marco Tangheroni: Studi su Pisa e sul Mediterraneo medievale offerti dai suoi ultimi allievi*, ed. Cecilia Iannella (Pisa, 2005), 157–84; Marco Tangheroni, “Il sistema economico della Toscana nel Trecento,” in Gensini, *La Toscana nel secolo XIV*, 41–66, at 54.

loss, other merchants gained market share and traders from Barcelona and Florence profited handsomely from the war and the exploitation of Sardinian resources throughout the first half of the fourteenth century, thanks to the concessions granted by the Crown of Aragón and the exclusion of the Pisans from the international exchange of Sardinian goods.<sup>77</sup> Even with this major defeat, Pisa was strong enough to subjugate Lucca, its one time rival and enemy, from 1342 to 1369. The two cities' economies never became completely intertwined but Pisa did not take harsh measures against the subdued territory either. Indeed, in the face of the overall decline in Lucca's economy, Pisa took measures to halt depopulation, incentivizing the return of merchants who had fled Lucca in the 1340s, and also relied on local Lucchese officials for the collection of fiscal revenues. As a political strategy for control over the Tuscan interior, it also reveals Pisa's effort to refocus its attention on terrestrial concerns as compensation for the loss of its maritime presence. It does not appear, however, that the conquest of Lucca had significant repercussions for the Pisan economy, as the Lucchese economy was already in decline; it contributed merely a third of the income of Pisa's commune and Pisan emigration to Lucca remained very // **p. 268** // modest.<sup>78</sup> The fiscal resources of the Pisan commune were decimated following the loss of colonial territories and the city suffered decreased revenues and accumulated greater public debt in the late fourteenth century.<sup>79</sup>

The condition of the Pisan economy in the fourteenth century has long been the topic of heated debate but current scholarship now emphasizes the dynamism of its mercantile and industrial sectors.<sup>80</sup> Surviving sources demonstrate the use of sophisticated banking techniques that were generally thought to be exclusive to Florentine firms.<sup>81</sup> Pisan companies also benefitted from the difficulties that beset their Florentine counterparts from the 1340s through the 1390s and the bankruptcies of the major firms in conflict with the pope. These years saw a noted expansion of Pisan merchant-banking firms, though their horizons were more restricted than in earlier centuries and they faced continuous competition from other mercantile nations, particularly the Florentines and Catalans.<sup>82</sup> In contrast to Florentine firms, Pisans abroad did //

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<sup>77</sup> Maria Elisa Soldani, *I mercanti catalani e la Corona d'Aragona in Sardegna: Profitti e potere negli anni delle conquiste* (Rome, 2017).

<sup>78</sup> Christine Meeke, *The Commune of Lucca under Pisan Rule, 1342–1369* (Cambridge, MA, 1980).

<sup>79</sup> Tangheroni, "Il sistema economico della Toscana nel Trecento," 62.

<sup>80</sup> Gioacchino Volpe, Pietro Silva, Natale Caturegli, and Giuseppe Rossi-Sabatini have all treated the Bergolini faction—which was favorable to Florence and backed by the merchants and armsmakers—in opposition to the Raspanti faction, whose opposition to Florence was driven by the prominence of the wool trade among its members. By contrast, the work of Cinzio Violante, Marco Tangheroni, and Alma Poloni has offered a much more positive interpretation of the Pisan economy. For a summary of the debates see Giovanni Ciccaglioni, "Priori antianorum, primi tra gli Anziani: Criteri di preminenza, cicli economici e ricambio dei gruppi dirigenti popolari a Pisa nel XIV secolo," in *Firenze e Pisa dopo il 1406: La creazione di un nuovo spazio regionale*, ed. Sergio Tognetti (Florence, 2010), 1–48, at 25–40. For more on Pisa in this later period, see the essays by Poloni and Petralia in this volume.

<sup>81</sup> These techniques include: the oldest known checks (1374); money transfers between current accounts (*giroconto*); third-party credit for the supplying of merchandise (a total of 101,040 florins of credit granted to the San Casciano); multiple transfers between accounts and banking companies to realize financial transactions without the physical movement of money; and deposit services for external clients. See Federigo Melis, *La banca pisana e le origini della banca moderna* (Florence, 1987).

<sup>82</sup> Cédric Quertier, *Guerres et richesses d'une nation: Les Florentins à Pise au XIV<sup>e</sup> siècle* (Rome, 2022); idem, "Des fragments à la mise en série: Reconstituer le trafic des Florentins à Pise grâce aux registres douaniers de la nation (1374–1382)," in *L'évident et l'invisible: Questions de méthode en économie et en histoire*, eds. Laurent Feller and Agnès Gramain (Paris, 2020), 229–64; idem, "Le jeu des six différences? Comparer les nations florentines et catalanes à Pise dans la seconde moitié du XIV<sup>e</sup> siècle," *Mélanges de l'École française de Rome—Moyen Âge* 129, no. 1 (2017) [<https://journals.openedition.org/mefrm/3472>]; idem, "Entre nation, diplomatie économique et corsaires: Les conflits marchands au sein de la communauté florentine de Pise dans la seconde moitié du XIV<sup>e</sup> siècle," in *Tribunali di mercanti e giustizia mercantile nel tardo Medioevo*, eds. Elena Maccioni and Sergio Tognetti (Florence, 2016), 51–81. See also José Bordes García, "L'activitat dels mercaders catalans a

**p. 269** // not always employ branches (the Raù and the Da Voglia), but set up autonomous companies (the Grassolini and Ciampolini) and made use of a network of correspondents and commission agents. In addition to the merchant bankers, specialized merchants resold fabric at retail while also engaging in whole- sale bulk trade (the San Casciano).<sup>83</sup>

Pisans were able to maintain direct ties with Sardinia, Sicily, southern Italy, North Africa, southern France, and Languedoc.<sup>84</sup> As commercial relations with Sardinia were soon reestablished under Peter the Ceremonious (r. 1336–1387), they exported from there a wide range of hides, wines, lead, and cheese, and imported manufactured goods and fustians. According to Jeronimo Zurita, the Pisans therefore “conquered as merchants” in Sardinia even as they relinquished political dominance to the Crown of Aragón.<sup>85</sup> If the Black Death of 1348 interrupted the flow of Tuscan migration to Sicily, this was not the case for Pisans, especially in Palermo which was favored for its Ghibelline ties to the Emperor Frederick III (r. 1355–1371).<sup>86</sup> Their presence increased even further after the loss of Sardinia and Sicily provided them with a platform for engaging in public affairs, finance, and the management of the grain trade.<sup>87</sup>

Pisan mints did not produce any gold coins until well into the fourteenth century, a choice that has long been interpreted as a sign of the city’s political and economic decline even before Meloria (1284). Indeed, Pisan monetary policy took an opposite course to that of its neighbors and rivals; Genoa and Florence both issued gold *grossi* in 1252, followed by Venice in 1284, and // **p. 270** // eventually Siena in 1376.<sup>88</sup> A number of factors explains Pisa’s attachment to silver currency. To begin with, the Pisans did not need to assert their sovereignty through monetary policy because their existing penny already served as a coin of reference. Pisa had access to abundant supplies of silver and the increasing price of silver brought with it increased profits. The city could also make use of the numerous gold coins obtained through its trading partners. Pisa’s Ghibelline affiliation meant that it had no need to challenge imperial iconography through its coinage. Finally, the city’s silver-based monetary policy only became a handicap in the medium-term; the florin established itself only with great difficulty in its early decades, while Ghibelline success and the control of Sardinia kept the Pisan economy thriving through to the 1270s. A Pisan gold coin, the *augustale*, therefore appeared quite late, between the second quarter and the middle of the fourteenth century.<sup>89</sup>

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la Pisa medieval (final del segle XIV–primera meitat del XV),” *Estudis històrics i documents dels arxius de protocols* 33 (2015): 75–90; Maria Elisa Soldani, “‘E sia licito a’ mercatanti katelani avere loggia:’ Presenza e organizzazione dei mercanti catalani a Pisa e a Siena nel basso Medioevo,” In *Els catalans a la Mediterrània medieval: Noves fonts, recerques i perspectives*, ed. Lluís Cifuentes i Comamala (Rome, 2015), 283–316.

<sup>83</sup> Alma Poloni has worked extensively on these Pisan merchant banking families, pinpointing the differences between their companies and those of their competitors. Alma Poloni, “Pisa negli ultimi decenni del Trecento: I mercanti-banchieri ed i ritagliatori,” *Mélanges de l’École française de Rome—Moyen Âge* 129, no. 1 (2017) [<https://journals.openedition.org/mefrm/3452>].

<sup>84</sup> For a reconstruction based on notarial documents, see Bruno Figliuolo, “Lo spazio economico e commerciale pisano nel Trecento: Dalla Battaglia della Meloria alla conquista fiorentina (1284–1406),” in *Spazi economici e circuiti commerciali nel Mediterraneo del Trecento*, eds. Bruno Figliuolo, Giuseppe Petralia, and Pinuccia Simbula (Amalfi, 2017), 17–104.

<sup>85</sup> Galoppini, “Pisa e la Sardegna,” 214–15. For the economic role of Catalan merchants, see Soldani, *I mercanti catalani*.

<sup>86</sup> Rosalia Amico, “Pisa e la peste del Trecento,” *Bollettino storico pisano* 84 (2015): 83–114.

<sup>87</sup> Petralia, “Pisa e la Sicilia,” 220–21.

<sup>88</sup> For Robert Lopez, this return to gold in the thirteenth century had two causes: a drop in the price of gold and the prestige that that type of currency possessed; see Robert López, “Settecento anni fa: Il ritorno all’oro nell’Occidente duecentesco,” *Rivista storica italiana* 65 (1953): 19–55, 161–98; idem, “Back to Gold, 1252,” *The Economic History Review*, new series 9, no. 2 (1956): 219–40.

<sup>89</sup> Baldassarri, “La monetazione della Repubblica di Pisa,” 49–61.

The changed economic and political circumstances of the fourteenth century provided the incentive for the commune to reinforce its activity in cereal markets. After the 1330s and especially after the Black Death, the *Anziani* magistrates increased their power in this domain; they authorized exports, concentrated the Pisan market on grains produced by the hinterland (extracted from the Maremma countryside through tribute in cereals—the *impositio bladi*), and ordered a grain census to help subject communities in the east of the hinterland who faced economic difficulties or the consequences of the wars. Control of grain was also a way to reinforce territorial domination against enemies such as Florence, especially when the Maremma became the only production center after the loss of Sardinia; this is why, in a second phase, movements of redistribution were also authorized within the hinterland.<sup>90</sup> Moreover, as shown by customs documents, Pisan remained an important actor in the regional grain market: if only 17,500 *staia* were only imported by the commune in 1334—a record at this time—customs paid for the entirety of imported grain to the Pisan archdiocese shows that 4.5 to 5.7 times this quantity (respectively 80,000 *staia* in 1391 and 1392, and 100,000 *staia* in 1397) were imported at the end of the fourteenth century (1389–1403) in a time of depopulation. Pisan // p. 271// merchants, then, were far from lacking commercial opportunities since they owned twice the quantity of grain traded by all other merchants.<sup>91</sup>

This is probably the reason why the Pisan elite experimented with a return to the land.<sup>92</sup> Traditionally, the largest landowners were mainly ecclesiastical institutions, as seen in the property holdings of the great Benedictine monasteries. The Pisan archdiocese appears to have been the largest landholder, possessing 1280 different properties in 1308 (approximately 400 hectares).<sup>93</sup> The cathedral was another major player whose land holdings in the hinterland increased gradually throughout the first half of the fourteenth century and then accelerated in the last third of the century for a total surface area of 247 hectares and roughly 748 properties by 1378.<sup>94</sup> Hospitals, too, were large landowners. The return to the land brought prestige and regular revenues to elite households and provided the promise of considerable profits. As commercial investments were becoming less remunerative, investments in land and livestock became more attractive and could on occasion surpass commercial earnings. Members of the oligarchy often appropriated the revenues of ecclesiastical lands (e.g. the archiepiscopal fief of the viscounty of Montevaso), or these lands were granted in long-term rent agreements. Newly immigrated foreign merchants followed the pattern established by their local counterparts, abandoning commerce in the first half of the fourteenth century in favor of banking and land investments. As a result of this renewed interest in landholdings, the price of arable land, especially grain-producing land, rose sharply between the first and second half of the fourteenth century (between 30% and 166% from 1325–1349 and 1350–1390). However, the resistance of

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<sup>90</sup> Magni, “Politica degli approvvigionamenti,” 94–97, 105–07, 208–19; idem, “La Maremma e la politica,” 114.

<sup>91</sup> Bruno Figliuolo and Antonella Giuliani, “L’approvvigionamento granario di un grande bacino demografico: Pisa e il Valdarno tra Tre e Quattrocento,” in *La civiltà del pane: Storia, tecniche e simboli dal Mediterraneo all’Atlantico*, ed. Gabriele Archetti (Spoleto, 2015), 179–324, at 190, 193.

<sup>92</sup> On successions and wills, see Sylvie Duval, “Women and Wealth in Late Medieval Pisa (c. 1350–1420),” *Mélanges de l’École française de Rome—Moyen Âge* 130, no. 1 (2018): 137–50 [<http://journals.openedition.org/mefrm/4057>]; eadem, “La société pisane vue à travers les testaments: Adaptations, mutations et permanences face aux crises du XIV<sup>e</sup> siècle,” *Mélanges de l’École française de Rome—Moyen Âge* 129, no. 1 (2017) [<http://journals.openedition.org/mefrm/3426>].

<sup>93</sup> Marco Tangheroni, “Problemi di storia dell’agricoltura,” in Tangheroni, *Politica, commercio, agricoltura*, 142–90, at 152, 155, for archiepiscopal holdings.

<sup>94</sup> The Opera del Duomo or Opera di S. Maria, the cathedral’s financial organization, was also a major landowner in Pisa; see Marta Battistoni, *L’Opera del Duomo di Pisa: Il patrimonio e la sua gestione nei secoli XII–XVI* (Pisa, 2013), 105, 139.

small and medium landowners could // **p. 272** // explain the belated establishment of *mezzadria*, that is to say the incomplete economic control of the hinterland by the Pisan elites.<sup>95</sup>

The artisanal sector also witnessed a transformation in the fourteenth century, with traditional industries (leather and wool) carving out a niche market for both production and commerce. The demand and techniques employed in leatherworking declined, though the sector remained significant. The accounts of the leather merchant Bartolomeo di Tingo (1384–1388) showed the importance of the quality of hides: the raw hides themselves accounted for 77.84% of the cost of production, with a profit rate of 16.05%.<sup>96</sup> Imported hides were crucial given the cost structure and a substantial proportion of the hides were imported from an area stretching from the western Mediterranean all the way to the North Sea: North Africa, Portugal, Spain, and the Balearic Islands, but also Ireland and Scotland.<sup>97</sup> The establishment in the second half of the fourteenth century of transportation costs proportional to the value of the merchandise made for substantial savings, reducing considerably the cost of transporting lambskins.<sup>98</sup> Likewise, the wool industry as of the 1320s redefined its focus on light and durable cloth produced with wool imported from Maghreb and exported to southern Italy. Their low-to-medium price range allowed the Pisans to carve out a specialized niche in the face of Florentine dominance in the higher-quality textile sector.<sup>99</sup>

## 6 Pisa as a Florentine Satellite in the Fifteenth Century?

The punitive policy of Florence after its conquest of Pisa in 1406 had significant consequences for the Pisan economy as well the flawed construction of // **p. 273** // a region-wide economy with regional specializations.<sup>100</sup> The leading families among the economic and mercantile elite fled to Sicily and the Florentine hinterland, rending the city's social fabric; only ninety of the 250 families mentioned in the fiscal records of 1402 still appear on the rolls in 1447.<sup>101</sup> The population as a whole declined by 35–40% between 1402 and the 1420s, a period marked by military and financial crisis. Population numbers continued to drop throughout the fifteenth century, diminishing from roughly 12,250 in 1402 to 5,855 in 1447. This general depopulation and impoverishment was partly reversed by significant immigration throughout the century, while the leading Florentine families managed to acquire land in Pisan territory.

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<sup>95</sup> Tangheroni, "Problemi di storia dell'agricoltura," 151, 161-63, 165-68, 173, 180. For a broader discussion of agricultural production in the fourteenth century, see Judith Brown, "Prosperity or Hard Times in Renaissance Italy?" *Renaissance Quarterly* 42, no. 4 (1989): 761–80.

<sup>96</sup> Tito Antoni, "I costi industriali di una azienda conciaria della fine del Trecento (1384–1388)," *Bollettino storico pisano* 42 (1973): 9–52, at 51.

<sup>97</sup> Sardinia, too, maintained considerable importance in this trade. See Federigo Melis, "La civiltà economica nelle sue esplicazioni dalla Versilia alla Maremma (secoli X–XVIII)," in *Industria e commercio nella Toscana medievale: Opere sparse di Federigo Melis*, ed. Marco Tangheroni (Florence, 1989), 29–64; idem, *Industria e commercio nella Toscana medievale*, 29–64, at 50.

<sup>98</sup> Federigo Melis, "Werner Sombart e i problemi della navigazione nel Medioevo," in *I trasporti e le comunicazioni nel Medioevo*, ed. Federigo Melis (Florence, 1984), 3–68, at 42.

<sup>99</sup> Poloni, "Nec compelli possit effici civis pisanus," 236–38.

<sup>100</sup> See Laura De Angelis, "'Contra Pisas Fiat Viriliter': Le vicende della conquista," in Tognetti, *Firenze e Pisa dopo il 1406*, 49–64; Stephan Epstein, "Cities, Regions, and the Late Medieval Crisis: Sicily and Tuscany Compared," *Past and Present* 130 (1991): 3–50, at 27–28, 32–33, 37–38, 41–42. See also the essay by Petralia in this volume.

<sup>101</sup> The strength of Pisan ties with Sicily explains why the island became a refuge for the city's mercantile elite after 1406. During the fifteenth century, they dominated the commercial and financial affairs of the island, monopolized local credit, served as intermediaries for foreign customers and the grain trade, occupied important positions within the regional cloth trade, and were active in the production and marketing of the island's nascent sugar cane industry. See Giuseppe Petralia, *Banchieri e famiglie mercantili nel Mediterraneo aragonese: L'emigrazione dei pisani in Sicilia nel Quattrocento* (Pisa, 1989).

The families of nearly 20% of those born in Pisa between 1457 and 1494 were of foreign origin, a number twice to four times the ratio found in other cities.<sup>102</sup> The void left by the emigration of the economic elites, however, allowed for the rise of new families in their place (the Maschiani, da Campiglia, and Ponte da Cascina) who were better connected with Florentine firms.<sup>103</sup> The harsh Florentine policy towards its enemy underwent a change of direction only in the 1460s and 1470s, as the Medici attempted to stimulate the collapsed Pisan economy; tax incomes followed the same trend with a significant decrease at the beginning of the century, from 90,000 to 30,000 florins in 1470 and a stabilization afterwards.<sup>104</sup> The Studio Generale was revived in 1472, reestablishing Pisa as a center of learning, while agricultural activities were realigned to encourage // **p. 274** // grain production rather than the raising of livestock.<sup>105</sup> The maintenance of dikes and the regulation of marshes and waterways were reinstated, systematizing the management of Pisan territories in order to maximize yields.<sup>106</sup> Yet, the unfavorable terrain with its marshes and tall hills, the fragmentation of landholdings, and the belated and limited diffusion of the *mezzadria poderale*, which began to spread only at the end of the fifteenth century, were driving factors in the slower progress of agricultural productivity.<sup>107</sup>

Another significant Florentine initiative was the revival of port activities at Porto Pisano and Livorno. Due to its integration into Florentine commercial networks and advantageous tax exemptions, the Pisan port complex saw a surge in activity. In addition, a series of reductions in customs tolls (in 1419, with renewals in 1430 and 1440) was granted for merchandise imported into Pisa, while certain mercantile nations (Catalans, Germans, and merchants from Lucca and Bologna) obtained specific privileges such as tax exemptions. The establishment of the public galley system in 1421 revived the dynamism of the naval shipyards.<sup>108</sup>

But to what degree did the Pisan population enjoy the benefits of these initiatives undertaken by the Florentines? Certain Pisan families continued to prosper. The emigration of much of the elite allowed for a concentration of wealth in the hands of a few old families, even if they were barred from occupying positions of authority in the Florentine regional polity. The wealthiest Pisans in the 1428 *catasto* were international merchants, individuals and families

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<sup>102</sup> Giuseppe Petralia, “1406: Il dissolversi di una società tardocomunale come premessa alla costruzione di uno Stato toscano,” in Tognetti, *Firenze e Pisa dopo il 1406*, 109–35, at 123–27. See also Alessandra Potenti, *Uomini, villaggi, terreni: Aspetti economici e demografici delle campagne pisane del Quattrocento* (Pisa, 2002), 55–71; Michele Luzzati, “Demografia e insediamenti nel contado pisano nel Quattrocento (1428–1491),” *Rassegna volterrana* 56 (1980): 71–106.

<sup>103</sup> Meli and Tognetti, *Il principe e il mercante*, 69–135.

<sup>104</sup> Roberto Castiglione, “Il comune di Pisa alla metà del Quattrocento,” *Bollettino storico pisano* 84 (2015): 45–66, at 66.

<sup>105</sup> Michael Mallett, “Pisa and Florence in the Fifteenth Century: Aspects of the Period of the First Florentine Domination,” in *Florentine Studies: Politics and Society in Renaissance Florence*, ed. Nicolai Rubinstein (London, 1968), 403–41, at 409.

<sup>106</sup> *ibid.*, 427–31.

<sup>107</sup> The expression “Tuscany without *mezzadria*” encompasses areas of mountains and high hills, coastal plains and wetlands, the entirety of the Pisan *contado*, and all the Maremma. See Michele Luzzati, “Toscana senza *mezzadria*: Il caso pisano alla fine del Medioevo,” in *Contadini e proprietari nella Toscana moderna*, ed. Giorgio Giorgetti, 2 vols. (Florence, 1979), 1: 279–343, at 279–83; Maria Ginatempo, “La *mezzadria* delle origini: L’Italia centro-settentrionale nei secoli XIII–XV,” *Rivista di storia dell’agricoltura* 42, no. 1 (2002): 49–110; Tangheroni, “Problemi di storia dell’agricoltura,” 175–81.

<sup>108</sup> Mallett, “Pisa and Florence in the Fifteenth Century,” 413–14; *idem*, *The Florentine Galleys in the Fifteenth Century* (Oxford, 1967).

who had not been excluded from commercial ventures by the Florentines and continued to play an important role in the state fleet.<sup>109</sup>

Following the conquest of 1406, the Pisan guilds were placed under the yoke of their Florentine counterparts; during the 1420s they were administered by // **p. 275** // Florentine Sea Consuls.<sup>110</sup> Florence aimed to minimize Pisan competition, forcing its craftsmen to pay special taxes and preventing Pisa from blocking the settlement of Florentine or other foreign artisans who (it was hoped) would prove faithful to the *Città del giglio* in the event of Pisan unrest.<sup>111</sup> The Pisan wool guild was particularly disadvantaged by provisions that protected Florentine wool production (1409), even though Pisa and Florence had previously focused on different segments of the market. By the fifteenth century, Pisan production was facing difficulties due to competition from abroad; the city continued to produce and export cloth though in limited quantities.<sup>112</sup> In the end, Pisa become more a distribution center for foreign wool than a production center in its own right. The measures imposed by Florence might be seen as punitive and irrational but Florentine policy towards its erstwhile adversary immediately after the conquest was primary political in nature rather than economic. Only later in the second half of the fifteenth century would Florence begin to develop a regional economic policy.<sup>113</sup>

The leather sector of the economy proved itself to be quite resilient; the total number of shops diminished but those that survived maintained their output, thanks to the supply of hides from Spain, Portugal, and the Maghreb.<sup>114</sup> Thus Pisa maintained its comparative advantage in this area and coordinated leather tanning on a regional scale. Leatherworking continued to be an important industry even in the difficult early decades of the fifteenth century; artisans practicing this trade were among the most affluent in the city, indicated by the high taxes they paid on their revenue.<sup>115</sup> Soap production began to develop in Pisa during this period, stimulated by the requirement that all Florentine galleys be stocked with 2,000 pounds for each voyage. The // **p. 276** // sector therefore demanded an annual production of 50,000 pounds and was protected by various supportive measures (in 1441 and 1493).<sup>116</sup>

## 7 Conclusion

Pisa's trajectory was undeniably parabolic, defined by a marked rise and then decline in relation to its economic self-governance, relative position in Italy and the Mediterranean, and the extension of its colonial empire. But the loss of the city's independence after 1406 certainly did not signal the death of the Pisan economy, even though its scale and value did not equal its

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<sup>109</sup> Mallett, "Pisa and Florence in the Fifteenth Century," 413–19, *contra* Pietro Silva, "Pisa sotto Firenze dal 1406 al 1433 (con appendice di documenti)," *Studi storici* 18 (1909): 133–83, 285–323, 529–79, at 539.

<sup>110</sup> Eleonora Plebani, *I Consoli del Mare di Firenze nel Quattrocento* (Rome, 2019); Mallett, *The Florentine Galleys*.

<sup>111</sup> Mallett, "Pisa and Florence in the Fifteenth Century," 420–21.

<sup>112</sup> Federigo Melis, "Uno sguardo al mercato della dei panni di lana;" Mallett, "Pisa and Florence in the Fifteenth Century," 421.

<sup>113</sup> Stephan Epstein, "Strutture di mercato," in *Lo stato territoriale fiorentino (secoli XIV–XV): Ricerche, linguaggi, confronti*, eds. Andrea Zorzi and William Connell (Pisa, 2002), 93–134; Franco Franceschi, "Istituzioni e attività economica a Firenze: Considerazioni sul governo del settore industriale (1350–1450)," in *Istituzioni e società in Toscana nell'età moderna*, ed. Giuseppe Pansini, 2 vols. (Rome, 1994), 1: 76–117.

<sup>114</sup> Mallett, "Pisa and Florence in the Fifteenth Century," 423–25, and tables 1 and 2 on 426–27.

<sup>115</sup> Bruno Casini, *Aspetti della vita economica e sociale di Pisa dal catasto del 1428–1429* (Pisa, 1965), 24–29, 53. The taxable wealth of Jacopo di Corbino, for example, was set at 15,796 florins. His patrimony consisted of landholdings (worth 955 florins), a slave, livestock, and merchandise (leather and wool) worth 12,806 florins, and finally outstanding credits worth 81,975 florins.

<sup>116</sup> Mallett, "Pisa and Florence in the Fifteenth Century," 425.

ninth-century starting point. The understanding of the Florentine appropriation of Pisa also needs to be nuanced. After an initial punitive phase, Pisa faced a long crisis, characterized by the massive emigration of its elites and the appropriation of its hinterland by powerful Florentines families. Subsequently, a slow normalization of relations emerged with its new overlord and the development of regional economic specializations and reciprocal interests joined the two cities together. Over the course of these six centuries of Pisan history, there was nevertheless a certain distance between the port traffic, the part of the hinterland whose production was generally exported, and the rest of the local economy (craft production, fiscality, food production for the local markets). While the Pisan port complex certainly did not encompass the whole of the Pisan economy, it was definitely its linchpin—determining first Pisa’s rise and then its decline. The high quality of the Pisan port infrastructure permitted the city’s access to the world beyond and fueled its economic dynamism for centuries. Pisa’s mercantile success also underscored its strategic value on an international scale. The slow development of its economy and fiscal structures—due to the weaknesses of its agricultural resources but also, paradoxically, to the possibility of imports delaying the intensification of production and the reorganization of economic structures—and the lack of synergy between craft production and the city’s mercantile and commercial sectors rendered the city unable to sustain its heavy military expenditures and compete with rival powers (Genoa, Florence, Venice, and Milan) that could draw on larger and more populous territories. Pisa strategically optimized its resources, however, taking advantage of its own strengths as well as of the weaknesses of its competitors. Recent historical scholarship has offered a fuller understanding of the early expansion of the Pisan economy prior to the First Crusade and its development over five centuries, freeing Pisa from a reductive historiographic model of simplistic opposition to the city of Florence.