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Business organisation in the Mediterranean Sea: Genoese galley entrepreneurs in the service of the Spanish Empire (late sixteenth and early seventeenth centuries)

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ABSTRACT

This article analyzes the business organisation and activities of Genoese naval entrepreneurs who managed galleys for the Spanish Empire in the late sixteenth and early seventeenth centuries. While conventional narratives of business history begin with the Industrial Revolution and focus on the rise of the modern corporation, this article brings to the fore early modern entrepreneurs from Italy and shows how they led family-controlled firms running permanent navies in the Mediterranean. By using private ledgers and merchant correspondence, the paper aims to understand how these naval entrepreneurs governed their affairs and managed resources internationally. We find that delegation (through family ties, hierarchy, and networks) was the main solution chosen to deal with distant commodity, labour, and capital markets. We retrace the different forms this delegation took and explain its determinants considering alternative options and providing comparative insights.

KEYWORDS

Military entrepreneurs; galley contractors; organisation theory; family business; business of war; early modern business history; slaves; merchant networks; transnational history; Genoa; Spanish monarchy; Mediterranean studies

1. Introduction

It is now frequently acknowledged that, from the 1960s onward, business historians have paid a great deal of attention to the rise of the large modern corporation to the detriment of other types of business organisation, such as family firms, individual entrepreneurs, diaspora networks or business groups (M. Casson & Casson, 2014; Chandler, 1977; Colli, 2003; Friedman & Jones, 2011; G. Jones & Zeitlin, 2007; Lamoreaux et al., 2003). In that context, early modern businesses, typically led by merchant-bankers and family firms, have received little attention from business historians, especially in top-tier journals of business and economic history (Gelderblom & Trivellato, 2019, p. 226). Most reference books for business history still start with the Industrial Revolution (C. Casson & Casson, 2017, p. 241). Among early modern organisations, the chartered and joint-stock companies of England, France, and the Netherlands have traditionally received the lion's share of attention because of their alleged role as pioneers of the modern multinational enterprise (Carlos & Nicholas, 1988).

This focus on managerial corporations from a Chandlerian perspective has unquestionably enhanced our knowledge of business history. However, it has also minimised the historical role and persistence of non-corporate forms of organisation, leading to a selective understanding of the evolution of businesses from a long-term perspective (M. Casson & Casson, 2013).

This does not mean that early modern merchants have not attracted the attention of scholars. During the golden age of the *Annales* and beyond, historians conducted pioneering research on their organisations and investments using the private records of the Medici, Ruiz, Datini, Fugger, Barbarigo, and Roux families engaged in trade, banking, and manufacturing (Braudel, 1979, vol. II; Carrière, 1973; De Roover, 1963; Ehrenberg, 1955; Lane, 1982 [1944]; Lapeyre, 1955; Melis, 1962; Ruiz Martín, 1965; Tucci, 1957). These seminal works are still considered essential reading. After a decrease in this field of study in the 1970s, the topics of individual firms and global trade have been revisited from the 1990s onward, specifically from the perspective of trading networks. Building upon classical works (see Molho & Ramada Curto, 2003), these studies have addressed a new set of questions centred on the social ties and institutional mechanisms that merchant networks mobilised to trade throughout the web of cities they increasingly connected (Aslanian, 2011; Baghdiantz McCabe et al., 2005; Caracausi & Jeggle, 2014; Christ et al., 2015; Hancock, 2005; Herrero Sánchez & Kaps, 2017; Lamikiz, 2010; Studnicki-Gizbert, 2007; Subrahmanyam, 1996; Trivellato, 2009).

Despite the great merits of these works, the question of how pre-modern individual and family firms organised their businesses is still an open and vivid one. How and why they dealt with the fundamental problems of exchange are at the core of current debates. Under the influence of the 'institutional turn' (Gelderblom & Trivellato, 2019, p. 230), which helped reinvigorate the research agenda in business and economic history, there is a growing interest in understanding the complex combinations of social, economic, and institutional arrangements that merchant-bankers mobilised to deal with long-distance activities (Greif, 2000, 2006; Lamoreaux et al., 2003). The historical literature has provided a great deal of information on merchant communities, but because early modern history and business history have long remained worlds apart (Grafe & Gelderblom, 2010), few studies have examined the specificities, determinants, and alternatives of merchant organisations from a business history point of view (Gelderblom & Trivellato, 2019, p. 236). As has been argued in this journal, a set of recent works has established new foundations for multidisciplinary and comparative research (Gelderblom & Trivellato, 2019, p. 236). This renewed interest has also been advocated by theorists of the firm. For example, Casson has proposed that it is valuable 'to push back the study of entrepreneurship beyond the Industrial Revolution' with the aim of developing a complementary narrative to the rise of the modern corporation through the analysis of new case studies and from a multidisciplinary point of view (M. Casson & Casson, 2014, p. 1223).

This article contributes to the debate by focussing on Italian naval entrepreneurs who administered warships for the Spanish Empire in the late sixteenth- and early seventeenth-century Mediterranean. Military entrepreneurs have long been neglected by historians and business historians, although their activities were long central to the evolution of business forms, global warfare, and economic competition (Torres Sánchez et al., 2018). A twofold historiographical tradition has led to an underestimation of naval entrepreneurs in particular. First, historical accounts have typically analysed navies from a nation-state perspective and with a special interest in the allegedly growing degree of control achieved by

the state (Glete, 1993; Lane, 1979). With few exceptions (e.g. Rahn Phillips, 1986; Thompson, 1976), this approach has marginalised the roles of private contractors and, above all, external shipowners, merchant-bankers, and suppliers hired through transnational partnerships.

Second, the emergence of joint-stock trading companies has obscured, from a business history point of view, alternative forms of naval organisation. Reflecting the interest of scholars in outlining the historical path towards modern enterprise and corporate finance when dealing with global trade in the period 1500–1800, conventional accounts of economic history tend to concentrate on trading companies. Joint-stock companies are viewed as a key element within a larger innovative process in business forms that would have led to European overseas expansion. The assumptions behind this ‘attractive but oversimplified story’ are, however, problematic (Grafe & Prak, 2018, pp. 86–87). Joint-stock companies were not so innovative as to become the predominant form of enterprise and replace other types of organisation (Munro, 2010, pp. 132–133). What occurred was, rather, the coexistence of a wide range of institutional arrangements (Gelderblom & Trivellato, 2019; Grafe & Gelderblom, 2010). Hence, focussing exclusively on institutions that look like our modern ones can lead to interpretative drawbacks (Hoffman et al., 2000; Milhaud, 2015). In any case, the recent erosion of vertically-integrated companies has led to a reconsideration of the Chandlerian genealogy of the modern firm as an evolutionary process that would have naturally led to the domination of the large managerial corporation (Lamoreaux et al., 2003). It is now widely accepted that, both before and after 1800, individual and family firms have been the most common ways of organising businesses, being both socially relevant and deeply competitive (M. Casson & Casson, 2014; Colli, 2003; Colli & Fernández Pérez, 2013; Colli & Rose, 2007).

In this context, it is very interesting to observe that, following David Parrott’s work on the ‘Business of War’, scholars have recently paid much more attention to the historical role of military and naval entrepreneurs, showing their great capacity in the process of mobilising resources for warfare (Parrott, 2012). This reconsideration has coincided with the historiographical shift from the fiscal-military state (Brewer, 1989) to the eighteenth-century contractor state and the subsequent focus on the relationship between the central administration and its military entrepreneurs (Bowen, 2013; Knight & Wilcox, 2010; Torres Sánchez, 2007, 2016). Exploring the participation of private enterprise in warfare, the new historiographic trend is currently fuelling a very active strand of research (Bannerman, 2008; Brandon, 2015; Fynn-Paul, 2014; Rizzo, 2016; Torres Sánchez, 2013, 2016; Torres Sánchez et al., 2018).

The review of the recent ‘Business of War’ literature highlights the need to address the concrete business organisation and functioning of military and naval enterprises. While the focus has shifted towards private enterprises, we still know comparatively little about them. Because very limited private records from these firms have survived, the literature focuses more on the state, its outsourcing strategies, and its negotiations with contractors than on the way the contractors themselves governed their affairs and pursued their personal ambitions (García Montón, 2017, pp. 11–12). As a result, and even though there are a few classical works on the topic (Redlich, 1964–1965), very little is known about how these entrepreneurs coordinated people, raised money, mobilised goods, processed information, negotiated with suppliers, and dealt with politics. More specifically, there is little evidence on how they combined family ties, hierarchy, partnerships, networks, social bonds, and markets to face the problems of exchange. The fact that entrepreneurs are mostly viewed through the lens of their relationships with “central governments”, rather than within their own organisations, conveys a misleading account of their roles and activities.

This article addresses this gap by exploring a case study of late sixteenth- and early seventeenth-century Genoese firms to which the Spanish monarchy outsourced the management of around 15 to 25 galleys of its imperial Mediterranean fleet. In exchange for a fixed payment, the *asentistas de galeras* – as they were commonly called – took over almost all aspects of galley administration. This included shipbuilding, military command, seafarer recruitment, international financing, naval supplying, victualling, convict management, slave purchasing, political negotiation, and silver transportation. Although the business of war has become a central issue of debate, no in-depth study has explained how naval entrepreneurs managed such activity in early modern times.

In comparison with most of the eighteenth-century military entrepreneurs who have been studied so far (see Torres Sánchez, 2016), Genoese firms were more complex in scale and in scope. Far from focussing on one activity (such as soldier recruitment, victualling, or arms supplying), they integrated several of them, fulfilling all the functions mentioned above. They had therefore to administer diversified activities, coordinate many people across disparate borders, and process information on different markets. In light of this, how did they organise their firms to honour their contracts with the Crown?

While there is an over-representation of studies from the English-speaking world in business history literature (M. Casson & Casson, 2014, p. 1227), this case study has the advantage of moving the focus to Italian individual and family-run firms which played a decisive role in the pre-industrial era (De Roover, 1965; Lane, 1944; Pezzolo, 2014) and continue to have a leading position today (Amatori & Colli, 2000; Colli, 2007; Colli & Rose, 1999). The historical continuity of Italian family firms indicates that there is much to gain from going back to periods earlier than the nineteenth century.

As explained above, the scarce availability of private sources has proven to be problematic for the study of military entrepreneurs. This article brings new material that comes from the private collection of the Centurione, one of the most significant families of the early modern Mediterranean business of war. This documentation consists of the business correspondence of Marco Centurione, who worked as a galley contractor between 1612 and 1621 (Archivio di Stato di Bologna, Pallavicini records, II, n. 60–62, letters sent by Marco Centurione, 1612–1621, hereafter referred to as MC Papers). The more than 800 letters conserved in three *copialettere* are dedicated to the management of the galley business. This article also draws on the two main accounting books of this business (Archivio di Stato di Bologna, Pallavicini records, XIV, n. 17–18, ledgers of Marco Centurione, 1612–1621, hereafter referred to as MC Ledgers).

In addition to Marco's material, we have used five account books that belonged to his uncle Carlo and his father Cosimo, who started with this family galley business in 1582. These ledgers do not relate exclusively to the galley venture, but to all kinds of businesses both brothers conducted (Archivio di Stato di Bologna, Pallavicini records, hereafter referred to as ASB-PAL, XIV, n. 3, 4, 6, 7, and 9, 1591–1609). The material also includes two ledgers of Cosimo's fideicommissum after Marco's father death in 1609 (ASB-PAL, XIV, n. 16, 1610–1611). Records of the Spanish administration have also been used to obtain information on galleys, captains, and crews (Archivo General de Simancas, hereafter referred to as AGS). Lastly, we have used a few ledgers and letters pertaining to the Doria, Sauli, Spinola, and Malagamba families from 1590 to 1630.

Using this material, the article explores the concrete functioning of the Genoese galley enterprises. It explains how individual and family Mediterranean organisations were capable of managing, sustaining, and funding permanent navies in the late sixteenth and early seventeenth centuries, and which mechanisms they used to coordinate diversified activities at a time when international operations were particularly subject to moral hazard. Focussing on information asymmetries, but also on other factors such as specialised knowledge or the role played by trading diasporas, we find that delegation was the main solution chosen by entrepreneurs, in particular to engage in distant markets of commodities, capital, and labour. We identify the different forms it took and explain the rationale behind them. We also provide comparative insights and consider alternative options to better explain the specificities of the Genoese shipowners' organisations.

Section 2 introduces the Genoese galley entrepreneurs in their historical context. Section 3 examines the organisation of their enterprises and its determinants by analysing the central management in Genoa, the hierarchical structure setup in the galleys themselves, and the networks used in the Mediterranean. Section 4 focuses on a selection of operations and shows how and why these entrepreneurs delegated to facilitate galley provisioning, financing, and slave purchasing.

2. The Genoese galley entrepreneurs in context

From the Italian Wars (1494–1559) onward, European warfare relied to a larger extent than usually thought on entrepreneurs who provided human and material resources such as mercenaries, ships, weapons, timber, victuals, and money to growing armies and fleets. In search of profit and power, contractors worked directly for warlords, states, and cities through public contracts, taking full advantage of the gradual professionalisation of warfare that made logistics increasingly complex and decisive (Parrott, 2012; Pezzolo, 2011; Rogers, 1995). Many of these enterprisers, however, did more than provide resources. As *condottieri*, privateers, *landsknecht* colonels, *asentistas*, or *armateurs*, they also commanded armies and war fleets, enforced their own privileges, dispensed justice, and engaged in legal (and illegal) violence both on land and at sea. As the cases of the Sforza, Gonzaga, Wallenstein, Grimaldi, Arana, and Hesse-Kassel families show, most of those who managed the big business of war were members of the high nobility but not necessarily the local one. Given the limitations of their administration in the context of jurisdictional fragmentation, rulers had a large interest in collaborating with external elites in order to mobilise resources within and beyond their own frontiers.

Since the pioneering works of Irving Thompson (1976), it has been well known that the Spanish monarchy is a significant example of this process. From garrisons in the Iberian Peninsula to the Spanish Armada and the Sicilian fleet, the Army of Flanders, and the North African *presidios*, Habsburg government of warfare was largely based on negotiated cooperation with military enterprises, financiers, local nobilities, cities, and the Church (García Hernán & Maffi, 2017). Throughout the Mediterranean and in Italian affairs in particular, hiring local elites' services and obtaining their social, financial, and military resources proved to be an essential and long-term instrument of conquest and hegemony. Drawing on a large tradition of military service

carried out by *condottieri*, who often headed a family affair (Covini, 1998; Mallett, 1974; Pezzolo, 2011), Italian aristocratic dynasties such as the Gonzaga, Farnese, Colonna, Doria, and Medici families contributed enormously to imperial armies during and after the Italian Wars, both in the Italian Peninsula and abroad (Bianchi et al., 2008; Hanlon, 1998; Rabà, 2018).

It is in this particular context that the rise of Genoese naval entrepreneurs working for the Spanish monarchy must be considered. In contrast to the historiographic model that links the military revolution with a higher degree of administrative control and the development of national state-run fleets, Charles V's empire implemented a polycentric and transnational Mediterranean naval system which relied to a large extent on the hiring of private galley entrepreneurs (Thompson, 1976, pp. 163–165). In spite of not being subjects of the Crown, Genoese contractors made a considerable contribution to the naval development of the Habsburg Monarchy in the context of its military rivalry with France and the Ottoman Empire. In 1528, Emperor Charles V and shipowner Andrea Doria signed a novel and far-reaching public contract for the management of 12 galleys that led to an institutional change in Genoa and the adherence of the republic to the imperial cause (Pacini, 1999). In the wake of Andrea Doria, more Genoese galley contractors served first Charles V and then Philip II (Fenicia, 2003; Lo Basso, 2007a; Maréchaux, 2017, pp. 54–67). This naval collaboration fostered a broad cooperation between the Spanish Crown and Genoese bankers, army commanders, shipbuilders, suppliers, and slave traders (Herrero Sánchez, 2004; Herrero Sánchez et al., 2011).

Genoese galley forces working under the orders of Giovanni Andrea Doria reached their maximum size between 1566 and 1581, with between 23 and 26 galleys (Figure 1). As in the rest of the Mediterranean, the number of units then decreased. Galley business was, however, still attractive. At the beginning of the 1610s, the squadron of the Genoese contractors had 18 galleys and employed around 4,000 persons (Maréchaux, 2020, p. 54). Things began to change from the 1620s onward, when economic and political conditions made the Hispanic-Genoese bond less collaborative (Bitossi, 1990). Yet the squadron stayed in service until 1716

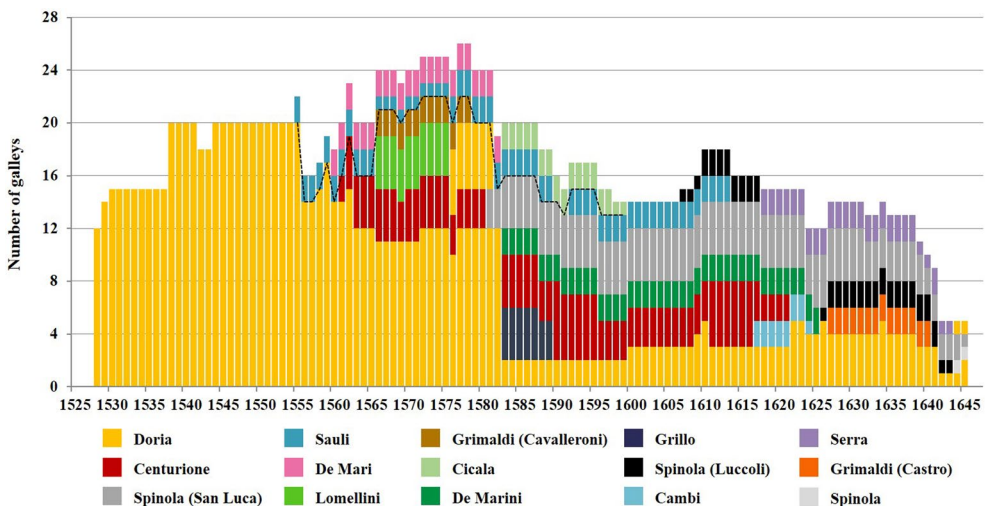


Figure 1. The galley squadron of Genoese contractors (1528–1645). Source: Author's database (based in AGS, Estado Génova, Contaduría Mayor de Cuentas III, Galeras, and Contadurías Generales). The galleys above the line had an ambiguous status and could also be used in the Naples squadron. Other Genoese galley contractors operated in other squadrons of the Spanish Monarchy.

(Lo Basso, 2007a, pp. 425–428). Thus, although privatisation of warfare has been regarded as a weak form of military administration (Thompson, 1976), the forces of Genoese contractors are a pertinent example of great resilience over time.

The collaboration between the Spanish Crown and the galley contractors can be considered a long-term and transnational public-private partnership. According to the contracts, the state delegated almost all aspects of galley administration. In exchange, it paid the contractors a fixed amount of money, granted privileges, and provided a proportion of the convicts employed in the galleys. Although this collaboration with Genoese men of war was not without conflicts (and subsequent long negotiations), the Crown was interested in hiring them essentially because, in addition to the active loyalty of Italian elites, it allowed to increase its Mediterranean naval forces by obtaining the collaboration of naval experts, international credit networks, and skilled seafarers (Lo Basso, 2007b; Maréchaux, 2017, pp. 357–412).

For the Ligurian society, the galley business was indeed anything but new. Since at least the thirteenth century, and with great success, private shipowners coming from the merchant nobility had been managing galleys, whether at the service of the Genoese Republic and its colonial empire, other powers such as France or Castile, or commercial companies (*maone*) run for specific expeditions (Balard, 2003; Campodonico, 1989, pp. 23–79; Lopez, 1933). Genoese aristocratic enterprises thus had long experience in dealing with the logistics that galleys required to operate internationally, and in integrating finance, shipping, trade, and warfare (Lo Basso, 2007b).

Drawing on this background, Genoese nobles were interested in working for the Spanish Empire because of the economic opportunities this investment offered, the potential rewards coming from the royal prerogative, and the social recognition that the function of *asentista de galeras* brought with it within Genoese society (Maréchaux, 2017, pp. 323–356). Almost all contractors were members of the great lineages of the Genoese oligarchy (Doria, Centurione, Spinola, Lomellini, Grimaldi, etc.), and specifically of the *nobiltà vecchia*. Representing the leading group of the local ruling class, they controlled the galley business in an almost patrimonial way.

The result of that collaboration was the formation of a hybrid squadron financed with Spanish funds but based in Genoa. Not being strictly speaking a ‘Spanish’, ‘Italian’, or ‘Genoese’ national force, the Hispanic-Genoese squadron has not attracted the interest of historians who, until recently, have generally studied navies from a national point of view. Interestingly, however, the public squadron of the Genoese Republic, which had only three galleys at the battle of Lepanto in 1571 (compared to 28 of the Genoese contractors), has been the subject of a monograph (Kirk, 2005). Although historians have been aware of the activities of Genoese contractors, it is only recently that their historical relevance and historiographic interest have been acknowledged, leading to the first pioneering studies on the topic (Herrero Sánchez, 2005; Lo Basso, 2003, 2007a, 2011).

Genoese naval forces contributed to the imperial defense of the Spanish territories and Christian interests in the Mediterranean. Together with the squadrons of Naples, Spain, and Sicily, they were a key element of the imperial fleet and participated in the main Mediterranean campaigns against the Ottoman Empire (Barbero, 2012; Williams, 2014). The squadron also served in connecting territories of the Spanish Empire, ensuring the transport of soldiers, weapons, munitions, silver, information, and elites between the Iberian and Italian peninsulas (Maréchaux, 2020).

3. Organisation and management of Mediterranean galleys

3.1. The central management of a family business

As a general rule, the central administration of the galley enterprises was based in Genoa, where the naval base for the squadron, as well as almost all the contractors, was located (Maréchaux, 2017, pp. 131–132). Although the Genoese trading community was highly transnational, most of its principal firms had their home offices in the family palaces of Genoa (Álvarez Nogal, 2005, pp. 74–75; Grendi, 1997).

Central management was typically assumed by the contractor himself or a close relative. For example, Marco Centurione personally led his enterprise between 1612 and 1621 (MC Papers). Property and control were closely entangled, and management was a personal affair, not an activity conducted by a board of managing partners. Several entrepreneurs (coming from the Centurione or Doria families) did not even establish a formal partnership to deal with galley activity. This feature contrasts with the *asientos de dinero* (short-term loans), the other key service that Genoese moneymen provided for the Spanish Crown and for which they created *compagnie* (private partnerships ordinarily including a full responsibility) operating between Genoa, Madrid, and the Piacenza exchange fairs (Álvarez Nogal, 2005; Grendi, 1997, pp. 86–94; Zanini, 2009).

Management, however, was often extended to family members. Most of the Genoese naval enterprises were family businesses in the sense that individuals mobilised family ties in order to manage their core interests. There was usually not a family firm recognised as such (as a unitarian legal entity), and partnerships were not the creation of the lineage as a whole. However, members of the *casata* collaborated together by means of intensive bonds that took different forms and were normally not exclusive (i.e. their members often operated at the same time individually and/or with other persons).

The Sauli case is a pertinent example of how the galley business could involve the nuclear family. Bendinelli, who started work as a galley contractor in 1555, introduced his sons to this activity in the final decades of the century. He placed Andrea and Geronimo in charge of management (until illness forced Geronimo to give this up), while Vincenzo was appointed as one of two galley captains. Bendinelli monitored his sons' work, although he was not always satisfied with their decisions (Lo Basso, 2007a, pp. 411–413). His wife Catalina also participated in the family business, as women used to do in the port cities (Archivio Durazzo Giustiniani di Genova, Sauli records, n. 306, 09/11/1591, Bendinelli Sauli to Vincenzo Sauli; Bellavitis, 2016, pp. 146–159; Doe, 2009; Michon & Dufournaud, 2018).

Intergenerational collaboration was also a way of fostering the training of successors, a central issue for family firms (Colli, 2003, pp. 67–69; Scranton, 1986). Since the galley business was often passed from one generation to the next, the successor (typically a son or nephew) was introduced early as head of the business, while the family patriarch remained partly in charge to assist and train him. Family was thus used as an informal institution for the intergenerational transmission of business and naval knowledge (Carrasco González, 1997, pp. 43–49; Colli, 2003, p. 56). In this manner, Marco Centurione started managing the galley business correspondence in December 1612 when he was a minor and his family was still negotiating the transfer of his contract with the Spanish Crown. The idea was for Marco to learn from his uncle Carlo, although the latter's sudden death (in May 1613) made the transition more abrupt than expected (MC Papers, 28/05/1613, Marco Centurione to Carlo Doria;

AGS, Contaduría Mayor de Cuentas III, leg. 773). For the same dynastic reasons, Gian Andrea Doria gradually left the direction of the galleys to his son Carlo in the 1590s (Lomas Cortés, 2012).

As in Renaissance Venice, collaboration between brothers was also essential, although family wealth was rarely co-owned as in the medieval and Renaissance Venetian *fraterne* (Lane, 1944; Montemezzo, 2017). Similar forms existed in Genoa but increasingly gave way to *compagnie* in the sixteenth century (Álvarez Nogal, 2005; Grendi, 1997, pp. 86–94; Zanini, 2009). While preserving their individual prerogatives, galley contractors made, however, a larger use of horizontal kin ties than in Renaissance Florence, at least following Goldthwaite's accounts (Goldthwaite, 1995, 2009, pp. 68–78). In the 1590s, for example, Cosimo Centurione and his brother Carlo each held a contract with the Spanish Crown for galley management, but from 1598 onwards, Cosimo was in charge of his brother's galleys. Reciprocally, Carlo managed money in the exchange fairs of Piacenza on behalf of his brother to finance the galleys (ASB-PAL, XIV, n. 4, ledger of Cosimo Centurione, 1598–1601). In the 1620s, the brothers Bartolomeo and Gregorio Spinola signed a galley contract with the Spanish Crown. Because Bartolomeo could not manage the galleys from Madrid, he delegated this to Gregorio and his partner Gio. Luca Spinola, who lived in Genoa (Álvarez Nogal, 1999, pp. 523–524). The delegation process included the transfer of a share of the business since Gio. Luca owned one third of the investment (Archivio Storico del Comune di Genova, Albergo dei Poveri, hereafter referred to as ASCG-ADP, n. 689, ledger of the Spinola company, 1626–1631).

These family ties were not limited to galley management. From the Renaissance to the present day, family-controlled shipping enterprises have been inclined to bring together chartering, trade, finance, and maritime insurance (Harlaftis & Theotokas, 2004, pp. 243–244; Harlaftis, 2007, pp. 258–261; Tucci, 1987). So did the Genoese. Family members, who cooperated whether as single entrepreneurs, through temporary joint ventures, or by means of pluri-annual *compagnie*, typically shared other business interests. For example, brothers Nicolo and Agostino Lomellini, in charge of five galleys between 1566 and 1575, also administered the island of Tabarca (off the Tunisian coast) on behalf of the Spanish Crown, exercising a monopoly on nearby coral fishing (Bitossi, 1990, pp. 167–188). In a similar fashion, galleys were Cosimo and Carlo Centurione's biggest activity, but still represented only one part of their investments. Both brothers had considerable assets (and liabilities) in international private finance, moving huge capital in Europe through the exchange fairs of Piacenza. They also engaged in shipping (purchasing shares of ship companies), Italian/Spanish trade (wool, grain, oil, cloth, silk, etc.), maritime insurance, and public finance (annuities) in the Mediterranean world. Lastly, they owned landed estates in the fief of Aulla (Lunigiana) held by their brother Giovanni Battista, Marquis of Estepa (ASB-PAL, XIV, n. 3, 4, 6, 7, and 9, individual ledgers of Cosimo and Carlo Centurione, 1591–1609).

Several other families had previously made their fortunes in finance, and they did not substitute one activity for another when they entered the galley business. Between 1580 and 1640, galley contractors Giovanni Antonio de Marini, Adamo Centurione, Battista Serra, and Gregorio Spinola were prominent merchant-bankers who collaborated from Genoa with a close relative based in Madrid (either a brother or a cousin) and engaged jointly in complex short-term loans with the Spanish Crown through their *compagnie* (Álvarez Nogal, 2005).

Given that galleys were used to transport bullion from Spain to Genoa, some families integrated shipping and finance in order to enhance their financial investments (Álvarez Nogal et al., 2007; Maréchaux, 2017, pp. 413–506).

Although Genoese naval entrepreneurs invested in diverse but connected activities, as the majority of Mediterranean merchants did in order to spread risks (Caracausi, 2007; De Roover, 1965; Trivellato, 2009, pp. 37–38), there were no formal branches by sector, nor permanent subsidiaries abroad, as the Tuscan Bardi, Peruzzi, Alberti, Datini, or Medici ‘super-companies’ developed – through vertical integration or a combination of autonomous partnerships – between the thirteenth and fifteenth centuries (De Roover, 1963; Hunt, 1994; Melis, 1962; Tognetti, 2015). Genoese firms were also different from the Fugger House company, which, in the sixteenth century, had a very large capital stock and relied on an extensive hierarchical structure conducted by its own employees on a large geographical scale, owning mines and participating in large industrial consortiums (Ehrenberg, 1955; Häberlein, 2012). In comparison, Genoese contractors had smaller staffs, were more fragmented, and shareholder participation was much more limited (being family-oriented and usually up to just three members).

Regional differences in business cultures dating back to the medieval period may have influenced this. At least for Italy, we know that, due to the prominent role of temporary maritime forms of credit, merchant-bankers coming from coastal centres such as Genoa or Venice created less complex and less permanent structures than those set in inland cities like Siena or Florence (De Roover, 1965, pp. 49–87; Lane, 1982, p. 78; Melis, 1984, pp. 31–39; Tognetti, 2015, pp. 699–700). This was also certainly related to the global evolution of business forms. In terms of management, Genoese businesses were more akin to small-to-medium-sized firms, which, taking heterogeneous and hybrid forms, became the backbone of early modern banking, manufacturing, and international trade when ‘corporate familial partnerships’ (Goldthwaite, 2009, p. 70) were no longer a good option. Helped by reduced staff and using often implicit agreements rather than large capital participation, merchants led composite ventures that operated in fragmented markets and, far from becoming impersonal, depended to a greater or lesser extent on the resources of the family group they belonged to. Andrea Barbarigo, Simón Ruiz, and Hans Thijs, but also many others, are, with their own specificities, examples of those coordinators who handled many businesses but did not integrate them within a large corporate structure (Carrasco González, 1997; Carrière, 1973, pp. 717–944; De Roover, 1941; Dini, 1995; Gelderblom, 2003; 2010; Goldthwaite, 2009, pp. 298–336; Häberlein, 2012, pp. 97–98; Hancock, 2005; Lane, 1982; Lapeyre, 1955; Trivellato, 2009).

Kinship structures and business forms were intertwined (Trivellato, 2009, pp. 132–152). Significant reasons why the *asentistas* mobilised persistent family ties are found within the particular social structures of the Genoese aristocratic houses. As established several decades ago (Bitossi, 1990; Doria, 1995b; Grendi, 1997; Pacini, 1999; Poleggi, 1968), and recently discussed further (Ben Youssef Garfia, 2020), the Genoese *casate* were the fundamental unit of the nobiliary identity, with service to the family group emphasised as a priority. In Genoa, this ‘ideology of kinship’ (Grendi, 1997, p. XII) shaped urban architecture, marriages, careers, charity, politics, and, naturally, businesses. Among the eminent members of the old nobility, where almost all galley contractors originated, this promoted endogamy practices, family-based territorial organisation, and, to some extent, inter-clan economic agreements.

Individual efforts were largely directed towards the affirmation of lineage, which encouraged the mobilisation of bonds internal to the family group rather than external ones.

In this context, significant (though variable) parts of business forms and strategic economic transactions were embedded within family groups. Cosimo Centurione's account books provide a significant illustration of that. Among the thousands of transactions registered (which involved several hundred merchants, most of them coming from the Genoese nobility), it is striking to observe how he obtained considerable loans and key collaboration from his close relatives, namely his brother Carlo, his father-in-law Nicoloso Lomellini, the *fideicommissum* of his brother-in-law Agabito Grillo (one of the trustees being his sister Livia), and four of his brothers-in-law: Gio. Battista Spinola, Bartolomeo Lomellini, Lazzaro Grimaldi Cebà, and Stefano Lomellini (ASB-PAL, XIV, n. 3, 4, and 7, ledgers of Cosimo Centurione, 1591–1609). Significantly, all were prominent merchant-bankers and were qualified as 'ours' in their ledger accounts (i.e. 'Nicoloso Lomellini nostro'). The *casata* (extended family) and family alliances were thus used to pool resources and guarantee loyalty through non-market transactions. Yet as we shall see, it is important to keep in mind that family ties represented only one means among others to finance and conduct economic activities.

As far as we know, inheritance mechanisms and regimes of property were still varied in Genoa in the late sixteenth century, although primogeniture seemingly gained weight among members of the old nobility dealing with the Spanish monarchy (Grendi, 1997, pp. 69–72 and 86–94; Ben Yesséf Garfia, 2020). The patrimonies here considered were privately owned, and significant families were increasingly worried about their conservation within the lineage. Cosimo Centurione's grandfather, Adamo, already established a *mayorazgo* (entailed estate) in 1564 for his fief of Estepa in Spain (ASB-PAL, IV, n. 1/9, 21/01/1564). Cosimo's son, Marco, married his cousin Livia (daughter of Carlo) in a clear attempt to preserve the familiar patrimony. After Cosimo's death in 1609, his galley was managed by a *fideicommissum*, and when Carlo died four years later, Marco inherited the three total galleys (one of Cosimo's and two of Carlo's) (ASB-PAL, XIV, n. 16, 1610–1611; CORR MC). This was possible because his parents had promoted family ties in order to prevent the dispersion of the galley business.

The persistence of family ties was also a naval sector-specific issue. Genoese aristocratic houses relied on horizontal kinship ties, but their bankers established in Madrid rarely passed their businesses on to their sons or relatives. When they died, their businesses and companies were usually wiped out, and successors, if any, were rarely successful in banking (Álvarez Nogal, 2005). International finance relied on personal skills and reputation in such a way that it was a hard-to-delegate and hard-to-transmit business. The galley sector was different. As will be shown below, management could be more easily delegated to hired naval experts and skilled captains. It was also a long-term activity that required investments in fixed capital and was difficult to access due to high barriers of entry. Furthermore, serving the King of Spain as an *asentista de galeras* had strong implications for the social distinction of the family, even being part of the lineage identity in clans such as the Doria or Centurione (Maréchaux, 2017, pp. 347–355). For all these reasons, families had strong incentives to pass their businesses on to the next generation, encouraging the persistence of a few family firms at the head of these activities.

A parallel can be drawn here with the endurance of shipping dynasties in regions with a strong maritime economy such as Greece in the nineteenth and twentieth centuries. There,

the shipping sector, which involved several hundred family firms, was much larger and more open than the galley business thus considered. Yet family capitalism persisted, suggesting that in socio-cultural structures in which blood ties, intermarriage, and local identity have a strong significance, personal relations can be of great value when dealing with economic activities that require transnational connections based on reliable information and trust (Harlaftis, 1996, 2007; Harlaftis & Theotokas, 2004).

In any case, the Genoese galley direction was not limited to family managers. While executive decisions were concentrated on them, part of the decision-making process was shared with assistant managers who also carried out day-to-day operational management. Of necessity, the managers could not conduct the entire workings of the business; they had other activities to administer and were not interested in performing technical tasks. This was not the only reason for delegation, however. Many contractors (especially those who came from the financial sector) were not specialists in galley administration, which required specific know-how. They therefore needed skilled assistant managers with knowledge, contacts, and experience in these matters. Delegation was also often necessary since Genoese managers frequently left the city for business and political purposes. The literature acknowledges the relevance of these figures (e.g. De Roover, 1963; Harlaftis, 2019, p. 165), but we do not have much information on them.

The case of Aurelio Malagamba, Marco Centurione's right-hand, is revealing. Malagamba had worked for Marco's father and uncle from at least 1600, assisting them in their different activities. For his work, the family paid him a salary of 1,000 *lire genovesi* per year (ASB-PAL, XIV, n. 4, ledger of Cosimo Centurione, 1598–1601; *Ibid.*, n. 7, ledger of Carlo Centurione, 1602–1609). Unlike his employers, Malagamba was not a Genoese nobleman; he came from a family living in Vernazza, a Ligurian coastal town, and had expertise in the maritime field. His father Geronimo had worked as a galley captain (sometimes for the Centurione family), as did another relative, Vincenzo (AGS, Estado, leg. 1407, doc. 188, 31/10/1575; *Ibid.*, Galeras, leg. 88, 23/08/1584; *Ibid.*, leg. 29, 1594–1612). Malagamba certainly benefitted from his family background, acquiring practical knowledge in maritime activities. His ledger for the period 1609–1614 shows that he was an expert in commercial and financial affairs. He was involved in maritime trade (specializing in the import/export of Atlantic products for the Mediterranean markets), had an international network (in Italy, Spain, France, and the Netherlands), and participated in the Piacenza fairs (ASCG-ADP, n. 516, ledger of Aurelio Malagamba, 1609–1614).

In Genoa, Malagamba was in charge of day-to-day operations. He negotiated with suppliers, coordinated the preparation of the galleys before their departure, supervised the recruitment of sailors, and handled the bills of exchange. But he also assisted Centurione in the decision-making process, which was certainly decisive in Centurione's first years of running the business, when Marco was still very young. Malagamba commented on problems to solve (next departure of galleys, damage to galley hulls, lack of biscuit supplies, etc.) and proposed concrete measures. Centurione examined them, made decisions, and asked his assistant to implement them (ASB-PAL, III, n. 189, Aurelio Malagamba to Marco Centurione, 06/11/1620, 04/12/1620 and 19/02/1621).

Galley entrepreneurs also employed a cashier and clerks in Genoa. The cashier was essential since he was responsible for accounting, handled much of the company's money, and managed insider information (Álvarez Nogal, 2007, pp. 16–17; Goldthwaite, 2015). Because keeping the accounts was still a technical and personal practice, merchants depended heavily

on him. When Cosimo Centurione, Marco's father, went to Madrid between 1606 and 1609, he took his cashier Ottavio Bertoncino along with him, and for good reason (ASB-PAL, XIV, n. 6, ledger of Cosimo Centurione, 1606–1609). Significantly, Bertoncino then continued working as Marco's cashier in Genoa, collecting and paying most of the firm's income and expenses (MC Ledgers).

3.2. Galley organisation: delegation with hierarchy

From Genoa, managers had to coordinate the activities of personnel working aboard ships. The galley's propulsion system was based on a human engine made up of rowers, and as a result, the workforce was large and extremely concentrated. Around 200 to 300 people (many of them being slaves and prisoners) were working and living in a space of around 6–10 metres by 40–50. In the 1560s and 1570s, Gian Andrea Doria had under his command more than 2,000 seafarers and oarsmen in his 11 to 12 galleys; from 1613 to 1618, there were 700 to 750 in the three warships of Marco Centurione (AGS, Galeras, leg. 79, 93, and 94). In comparison, nineteenth- and early twentieth-century Greek shipowners did not normally hire more than 10 seamen for their sailing ships and 30 for the steaming ones (Harlaftis, 1996, pp. 173–176).

Managing and sustaining such a workforce at a distance was challenging. From the 1560s onward, Genoese contractors rarely went onboard their galleys in order to steer them and personally lead military operations (AGS, Galeras, leg. 29–39; 88–95). As businessmen and men of power with their own agendas, they preferred to delegate this task to professional commanders from Liguria placed under their direct authority. This allowed them to avoid the hard conditions of living onboard the galleys, but also to rely on skilled captains with expertise in galley commanding, something they often did not themselves have. Liguria, like the Basque Country in Spain, the Greek islands, and parts of North Africa, possessed excellent human capital in seafaring (Lo Basso, 2007b). Managers appointed one general lieutenant (who took responsibility at sea and was superior to the different captains) with the aim of ensuring unity of command at sea, in addition to a captain for each individual galley.

Lieutenants and captains should not, however, be regarded as mere military commanders. As soon as the galleys left Genoa, these delegates became the senior managers of the company at sea. Like most of their merchant navy or military counterparts, they were responsible for ship supplies, economic governance, crew management, shipboard justice, and commercial activities. They were therefore key elements of the firm. Although their relationship with central direction was hierarchic, they exercised their responsibilities with a high degree of autonomy. This does not mean that managers were not interested in planning their activities. Before departures, Centurione gave his captains written instructions with his orders about ship supply, crew management, and credit operations (MC Papers). However, these instructions mainly pointed out general principles (about discipline, care of the sick, accounts, etc.). Rather than specific orders, they were roadmaps giving commanders flexibility to solve problems on their own.

Naturally, Genoese merchants wrote regularly to their commanders in order to adapt their orders in light of new information, and these communication flows were crucial (MC Papers). Yet the slowness and high cost of communications often hindered the reduction of information asymmetries in an efficient way. In maritime environments, contingent factors made it difficult to predict elements like the final itineraries of ships, the future price trends

in the call ports, or the outcomes of negotiations with local agents. As he acknowledged himself, Centurione preferred to give commanders the power to decide for themselves according to local conditions (MC Papers). Studies on early modern and modern French, Venetian, Basque, and Greek shipowners have also emphasised this (Buti et al., 2017; Harlaftis, 1996, pp. 173–178; Lamikiz, 2008; Tucci, 1987). As the theory of organisation points out, and some historical studies have confirmed, delegating the decision-making process to people who have better information, or a major capacity to analyse it, allows for enhancing the coordination of distant activities by reducing information costs (Álvarez Nogal, 2007; Álvarez Nogal et al., 2007; M. Casson, 1997, pp. 78–81). The principal benefits particularly from empowering agents when information is so localised (i.e. it depends on local contacts) and difficult to transmit (i.e. it requires expertise to process it), that it would be inefficient to give direct orders. In this way, galley captains accumulated social capital in the ports and had technical expertise, making it inappropriate to give them precise orders on how to buy supplies or manage the crew (MC Papers; Buti et al., 2017; Lamikiz, 2008, pp. 94–99). This mechanism also applies for networks and will be illustrated below.

Empowerment of captains, however, could introduce agency problems. Ships' commanders could take advantage of distance to pursue their own interests; from this point of view, 'managing the manager' was a typical problem of transnational sea companies for which there was no perfect remedy (Carlos & Nicholas, 1990, 1993; S. R. H. Jones & Ville, 1996). Yet even today, the shipowner depends highly on the master who manages continuously moving assets miles away from the office. Contracts are not of great value for solving this problem, and as a matter of fact, trust must often be sought through personal relations or co-owner participation (Harlaftis & Theotokas, 2004).

The Genoese contractors depended heavily on their commanders, and fraud was always a real threat (MC Papers, 10/11/1617, Marco Centurione to Franco Mutio). Captains were normally not co-owners of the business, which made things more complicated than in sailing commercial ships where this practice was common (Harlaftis, 1996, p. 176; Lamikiz, 2008, p. 92; Tucci, 1987, p. 278). Still, contractors tried to mitigate risks in various ways. Some of them, like Luciano Centurione, Giovanni Andrea Doria, or Ambrogio Spinola, put their sons, nephews, or brothers-in-law in command of the galleys. In most cases, however, managers relied on non-family commanders with whom they attempted to build trustworthy relationships. Significantly, the small group of lieutenants came from Liguria and often worked for the same *asentista* for a long time (AGS, Galeras, leg. 29–39, 1595–1645). For example, Franco Mutio remained in charge of Marco Centurione's galleys for seven years (1613–1619). Records also show that the relationships with captains could go beyond the professional sphere. In 1613, Andrea Doria still had a credit with the captain Orazio Lercaro to whom his father Giovanni Andrea had personally lent 4.500 *lire* (Archivio Doria Pamphilj, Bancone 68.11, ledger of Andrea Doria, 1613–1618, f° 14). Information was important too. Commanders were ordered to continuously report on their actions and to regularly send the accounts and lists of oarsmen (Lo Basso, 2007a, p. 413). Accounting techniques (through double-entry bookkeeping) were also used to check the volume of purchases, detect possible fraud, and check inventories (MC Ledgers). Gathering both qualitative and quantitative information allowed *ex post* control, but it did not compensate for the absence of real-time monitoring.

Inside the galleys, the organisation was also hierarchical but based on direct orders. Communication flows followed the vertical chain of command: one employee's superior was another employee's subordinate, and each superior was responsible for his subordinates'

actions (MC Papers). Lieutenants headed a vertical relationship of authority that connected the captain, the boatswain, the 12 specialised officers (the pilot, the master carpenter, the surgeon, etc.), 35–40 sailors and, lastly, around 160 to 250 oarsmen (AGS, Galeras, leg. 88–95). As in any organisation, the advantages of such a hierarchical structure were related to information cost savings and the enforcement of orders. Hierarchies emerge when agents inform subordinates of their decisions rather than of the information they use (M. Casson, 1994, pp. 51–52). It is easy to understand that military organisations such as warships were particularly prone to this command-control structure.

As a general rule, early modern merchants did not set up hierarchical organisations for international trade purposes. Controlling agents at a distance was too costly and required hiring personnel capable of evaluating employees' work, making the use of network structures more appropriate (Álvarez Nogal, 2007; Hancock, 2005, pp. 484–485). Until the Industrial Revolution, it was even uncommon in textile manufacturing, as production was highly deconcentrated being based on the putting-out system (Franceschi, 2017; Ogilvie & Cerman, 1996). Organisation of work in the galleys, with such a concentrated workforce governed by direct orders and hard labour conditions, was more similar to mining, large church construction sites, and major arsenals (Caracausi, 2016; Davis, 1991; Prak, 2011; Tandeter, 2002). The key issue was access to information, since the reduced space, extraordinary concentration of work, and repetitive nature of tasks made it easy to control the activities of seafarers and oarsmen. In other words, low supervision costs encouraged the introduction of hierarchy and direct orders.

This also had an impact on the employed labour. The 50 officers and seamen working in each galley were salaried workers from the Ligurian coast, but most rowers were forced labourers, namely slaves and convicts. Rowing was repetitive, easy to control, and extremely harsh (Lo Basso, 2003; Zysberg, 1987). Under these circumstances, forced labour exploitation was considered the best form to avoid shortages and reduce costs (no wages had to be paid). In 1560, almost 90% of the 1,585 rowers employed by Giovanni Andrea Doria in eleven galleys were slaves or convicts (Figure 2). By exploiting more than 640 slaves, Doria led an

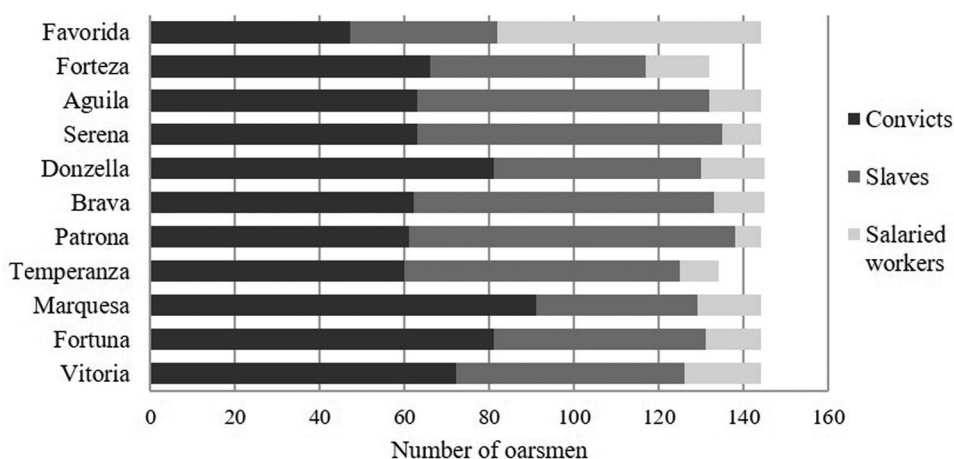


Figure 2. Rowers employed in the 11 galleys of Giovanni Andrea Doria (1560). Source: AGS, Contadurías Generales, leg. 3022, fol. 74.

important Mediterranean slave company. Transformations in labour markets eventually reduced the share of slaves, but nonetheless, Centurione employed 138 slaves, 141 convicts, and 284 salaried oarsmen in 1613 (AGS, Galeras, leg. 93). Because slaves had often been captured from Ottoman forces and convicts came from different Spanish and Italian polities, the geographic origins of the workers embraced the whole Mediterranean world. It is well known that conditions aboard ships were utterly wretched and brutal, with high levels of mortality.

3.3. A Mediterranean merchant network for galley supplying

In addition to the employment of salaried workers and forced labour, galley entrepreneurs developed networks of correspondents in parts of the Mediterranean where the management of galleys needed specific operations carried out. These included, for example, the supply of galleys in the ports, the purchase of slaves in foreign markets, the raising of funds, and negotiation with legal authorities.

Captains took advantage of their galleys' mobility to carry out transactions in seaports, but many services required the cooperation of resident agents. Better than commanders, they could collect information and deal with long operations using their personal knowledge of local markets, individuals' reputations, and political institutions. Unlike what happened in the galleys, however, managers incorporated these agents without introducing a hierarchy. With few exceptions, collaborators abroad were not wage-earning workers subordinated to the manager's or captain's authority, but autonomous associates who received a commission on the transactions they performed for the firm. Under normal circumstances, no formal contract was signed.

The reasons why Genoese shipowners collaborated abroad with commission agents, rather than with salaried workers, were related to supervision and labour costs. Supervising the work of seafarers and oarsmen in the galleys was much cheaper than doing this with merchants settled in distant ports. Subsequently, it was more suitable to develop a horizontal network of commission agents (Álvarez Nogal, 2007). In these open-ended organisations, the lack of control over workers is in theory compensated for by the evaluation of their output and the creation of economic incentives. 'When repeated trading occurs, there is limited need for hierarchical oversight because the desire for continued participation discourages opportunism' (Powell, 1990, p. 326). The temporal variability of labour also played a role since the galley demand for services at seaports was intermittent. In this context, cooperating with agents when necessary was cheaper than setting up permanent branches with salaried staff, as the big Renaissance companies (such as the Medici, the Fugger, and some Venetian firms) did in Europe and in the Levant (De Roover, 1963; Häberlein, 2012, pp. 125–148; Lane, 1982, pp. 84–85). The scale of firms was therefore relevant. In Renaissance Venice, the bigger firms could send permanent factors abroad, while modest entrepreneurs like Andrea Barbarigo had to deal with commissioners (Lane, 1982, pp. 84–85). Although further research is needed, the state of the art on merchant networks suggests that the big hierarchical firms with permanent factors abroad decreased as trading diasporas spread around the globe.

As seen before, some galley contractors were members of private partnerships set between Genoa and Madrid. In the Mediterranean seaports, however, we have found no evidence of collaborators being made partners. Paying agents sent abroad by allocating them a share of

profits was common during the Commercial Revolution due to the role of *commenda*. However, as merchants increasingly relied on permanent representatives, this became less and less frequent in Genoa and Venice. For legal, social, and accounting reasons, it was more convenient to work on a commission basis (Lane, 1982, pp. 81–84; Van Doosselaere, 2009). The Medici and Strozzi firms used partners abroad in the fifteenth and sixteenth centuries, but it was because they operated as distant branch managers (Cecchini, 2015; De Roover, 1963). Armenian networks, still reliant on travelling merchants in the seventeenth century, logically continued to use the *commenda* and profit-sharing (Aslanian, 2011; Trivellato, 2009, pp. 149–152).

The commission agency was also related to the fact that impersonal markets were barely developed. Merchants could deal directly with transporters, producers, or sellers when they had information on them. If not, as was the rule for long-distance trade, they had to build networks of intermediaries who had access to information on individuals' reputations and goods (Álvarez Nogal et al., 2007). Unlike markets, where people look for the maximum benefit in the immediate exchange, personal networks involve moral components and/or socio-professional ties that prioritise the development of mutually beneficial relationships in the long run (Powell, 1990, pp. 302–303).

As Figure 3 shows, the mapping of the letters Marco Centurione sent to his agents abroad reveals a network spread across Italian and Spanish territories in the western Mediterranean (for a discussion of this methodology, see Trivellato, 2009, pp. 194–201). The corpus – limited to galley administration business – is made up of 718 letters sent to 109 agents in 39 different places (captains excluded). Apart from Madrid and the Lunigiana area, the main nodes of the network were concentrated in ports where the galleys regularly called. Although correspondents could be called upon to provide any kind of service (granting loans, purchasing goods, sending information, etc.), there was a tendency for geographical specialisation.

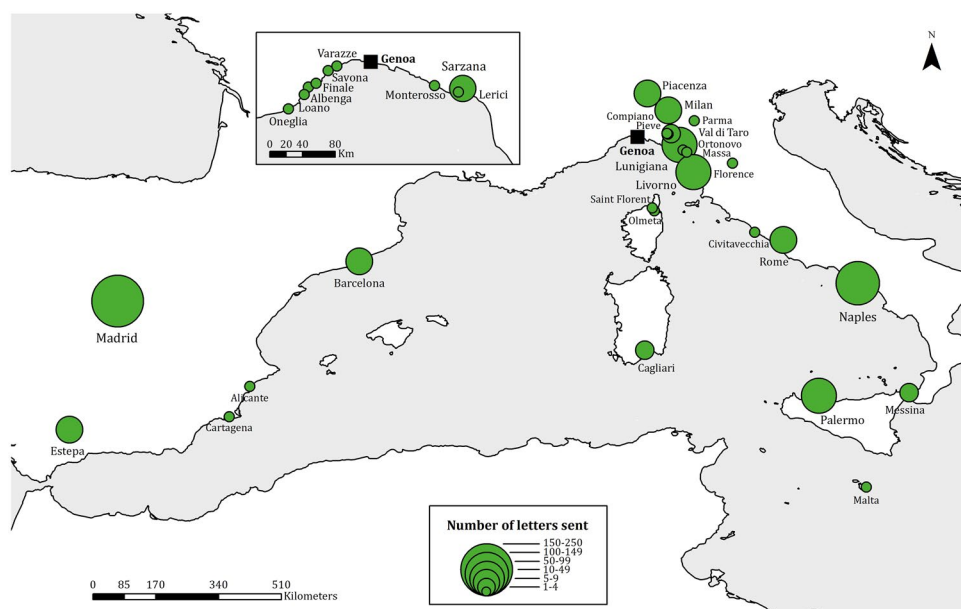


Figure 3. Marco Centurione's Mediterranean network of agents (1612–1621). Source: MC Papers.

Livorno was essential for its global slave market; Palermo, for obtaining the grain export licences; Naples, for victualling and naval supplying; the Lunigiana area, for the delivery of convicts by feudal lords; while Madrid, lastly, was central for negotiations with the Spanish Crown and collecting money (MC Papers; MC Ledgers). Compared with the network of Simón Ruiz in the sixteenth century, based in Medina del Campo, or the one of the Sephardic merchants Ergas and Silvera centred in Livorno, Centurione's network for galley management was smaller and much more concentrated on one specific area, the western Mediterranean, precisely where the Genoese community was strong (Doria, 1995a; Sofia Ribeiro, 2016; Trivellato, 2009).

Centurione's network was also less heterogeneous. Relying on commission agents had advantages, but it made the company highly dependent on the honest behaviour and business capacity of distant people with discretionary power (Trivellato, 2009, pp. 153–176). Choosing reliable and competent agents and developing social and economic ties with them was therefore at the core of entrepreneurs' work. The Centurione built a community-based network that relied on the Genoese trading diaspora, and essentially, on its aristocratic members. Out of the top 24 correspondents of Marco Centurione, 20 were from the republic of Genoa, of whom 14 belonged to the local nobility (MC Papers). Most of the aristocrats came from the old nobility (especially the Cavanna), but others, like the Saluzzi or the Giudice, belonged to the new one. This did not prevent Centurione from dealing with non-Genoese, as for example Pezzino Pezzini in Livorno, or Alessandro Malaspina (who played a political role as feudal lord) in Lunigiana.

Such a composition is largely consistent with the literature that has showed how, in the sixteenth and early seventeenth centuries, the merchant-bankers from Genoa structured their networks relying significantly, at least for key hubs and key activities, on members of the extensive Genoese nobiliary diaspora (Álvarez Nogal, 1999; Ben Yessef Garfia, 2016; Caracausi, 2014; Doria, 1995a; Grendi, 1997; Marsilio, 2005). Oligarchic families sent some of their members to cities such as Madrid, Naples, Rome, Granada, Antwerp, and Venice, using them as keystones to build complex networks which, although open-ended organisations, were highly dependent on kinship and interpersonal ties. Significantly, around 670 to 735 Genoese noblemen operated abroad in 1575 (around 37% of the nobility), while in 1608, there were at least 20% who did so (Doria, 1995a, p. 113). Dealing with members of the same status and community certainly fostered information flows to help merchants make their decisions, as argued by Giorgio Doria in his seminal article (Doria, 1995a, p. 141). However, the Centurione case suggests that the principal issue of networking was not so much obtaining (or sending) extensive information on which one would make decisions, than delegating operations to trustworthy and competent agents tied by credit relationships. Due to the autonomy Centurione gave his agents, his letters were much more about communication than information. In this sense, collaboration with agents of the same status was related to the willingness of mitigating moral hazard and coopting skilled merchant-bankers whose credit relations were to be settled at the Piacenza exchange fairs. Genoese members of the network were chosen from among a community that had proficient agents playing a prominent role in international finance, trade, and shipping. The Cavanna family, on which Centurione relied extensively, would, for example, become major bankers of the Spanish Crown, while the Giudice helping in Barcelona were important traders involved in shipping. In 1623, they would sign a contract with Philip IV for building and sustaining eight galleons for the *Carrera de Indias* (Maréchaux, 2017, p. 174).

The capacity of Centurione to delegate the way he did was thus made possible thanks to the pre-established networks that the Genoese community had been constructing in the western Mediterranean, especially from the fifteenth century onward (for a still valuable synthesis, see Doria, 1995a). The fact that the galleys' main spots coincided with cities where the Genoese community was particularly active (i.e. Madrid, Naples, Barcelona, etc.) unquestionably contributed to increasing the communitarian dimension of such a network. That said, Centurione also dealt with non-Genoese actors in Livorno and Lunigiana and used indirect contacts in Malta, where the Ligurian presence was weaker. We identify the same mechanism from quantitative data offered by Giorgio Doria on Genoese merchants' correspondents (Doria, 1995a, pp. 150–155). Still, further research on other contractors' networks is needed to understand the potential variety of arrangements according to contractors' economic and social resources.

Kinship ties were also used, but in a different way from what we might expect from the existing literature on the Genoese. Interestingly, Centurione barely collaborated with relatives abroad. However, he relied widely on the members of another family from the old nobility (the Cavanna) wherever they had a representative (i.e. in Genoa, Madrid, Palermo, Messina, and in the exchange fairs of Piacenza). We have found no trace of formal alliance between the two clans, but there is substantial repetition of economic operations since at least 1598, when Cosimo Centurione and the company 'Giulio Cavanna e fratelli' did business in insurance and change (ASB-PAL, XIV, n. 4 and 7, ledgers of Cosimo Centurione, 1598–1609). Relying on members of the same family in different places certainly presented advantages in terms of interdependence and trust.

It appears that Marco Centurione was a network 'taker', rather than a network 'maker' (see Miranda, 2014). He relied to a large extent on people his father and uncle were collaborating with already. Networks, then, could be inherited too. As he started dealing with correspondence, Centurione informed his agents about the new situation and in several cases asked them specifically to serve his *casa*, and the galleys, as they had done in the past with his father. Angelo and Simone Saluzzi, based in Naples, had also already worked for Cosimo; still, Marco acknowledged that he had followed the recommendation of his right-hand man, Malagamba, to renew this collaboration. Unsurprisingly, Malagamba and the Saluzzi had important businesses together (MC Papers, 22/02/1614; ASCG-ADP, n. 516, ledger of Aurelio Malagamba, 1609–1614). Further, Centurione always insisted on a certain quality of services, subordinating this implicitly or explicitly to the perspective of future operations. His letters were absolutely focussed on the tasks to be done for galley management and left almost no space for personal considerations, politics, or general information on trade.

The relationship with Lazzaro Midense was a bit different. In contrast with the other agents already established abroad, he had come together with Cosimo Centurione in Madrid in 1606. He was a unique correspondent with a fixed salary (500 ducats of Castile per year), likely because he managed political and judicial affairs (ASB-PAL, XIV, n. 6, ledger of Cosimo Centurione's trustees, 1610). Although he worked satisfactorily for the Centurione for more than ten years, he also showed little interest in defending their interests as he started working as wool factor for Bartolome Spinola and Centurione was no longer a galley contractor (Álvarez Nogal, 1999, p. 519; ASB-PAL, III, n. 189, 12/08/1628, Domenico Centurione to Marco Centurione). This reminds us of the precariousness of networks and how, in spite of the efforts made, their evolution was always subordinated to individual decisions and contingent circumstances.

As we shall now see with concrete examples, managers used these connections to delegate operations, giving their correspondents a high degree of autonomy. As explained before with regard to captains, information asymmetries made the direct government of distant galleys inappropriate, which led to externalising not only the execution of operations but also parts of the decision-making process. This observation is in line with the theoretical and historical literature on networks, especially maritime networks. Particularly before the telegraph, but even after, information was a hard-to-transmit resource in such a way that maritime organisations dealing with contingent factors tended to empower local agents by means of decentralised networks (Casson, 1997; Harlaftis, 1996, pp. 38–106; Harlaftis & Theotokas, 2004, pp. 248–249). Though each sector had its own specificities, proto-industry or commodity chains also relied on deconcentrated economic structures (see for instance Ogilvie & Cerman, 1996; Topik et al., 2006). It is this fragmented way of doing business that we shall illustrate now with concrete examples, analysing how managers, employees, and correspondents coordinated to carry out supplying, financing, and the purchasing of slaves.

4. Operations

4.1. Provisioning

Provisioning permanent navies was a demanding task that, not without reason, governments used to outsource to merchants (Knight & Wilcox, 2010; Parrott, 2012; Thompson, 1976). This required providing large amounts of a wide range of products, which, under any circumstances, had to be available on mobile warships with limited cargo capacity (Torres Sánchez, 2016, pp. 43–44). Between 1610 and 1615, Centurione's three galleys consumed, each year, an average of around 200 tons of foodstuffs (i.e. biscuit, meat, oil, sardines, etc.), 24,000 litres of wine, 6.5 tons of naval supplies (i.e. rigging, chains, and fat), almost 10,000 metres long of cotton and hemp fabrics (mostly for sailcloth), 500 garments, a few masts, oars, and lastly, arms and gunpowder (ASB-PAL, XIV, n. 16, ledgers of Cosimo Centurione's trustees, 1610–1611; MC Ledgers).

Unlike naval organisations that pursued vertical integration (for instance, through the use of concentrated arsenals), Genoese enterprises obtained their inputs by relying on external suppliers. Backward integration was not advantageous to them, as this would have resulted in disproportionate costs in equipment and labour. By using local and international markets, they attempted to secure the supply chain and to minimise costs by acquiring supplies in the most competitive markets. Figure 4 illustrates this last point by showing how the Centurione family made use of the Mediterranean markets for the provisioning of more than 1,500 tons of biscuit between 1610 and 1621. By exploiting galley mobility, they concentrated their purchases where prices were lowest, although in the case of long stays along the coasts of Spain, the limited cargo capacity of galleys could force purchases in less advantageous places.

In Genoa, managers could buy directly from local craftsmen and merchants. Dealing with distant suppliers was, however, riskier. To avoid overpriced purchases, acquisitions of sub-standard products, seller frauds, delays, and supply chain breakdowns, Genoese enterprises had to collect reliable information on different international commodity markets and about a multiplicity of agents operating abroad. Due to the lack of agencies that would have provided information on foreign markets and so encouraged impersonal exchanges, this could not be done directly from Genoa. Genoese managers therefore networked markets using

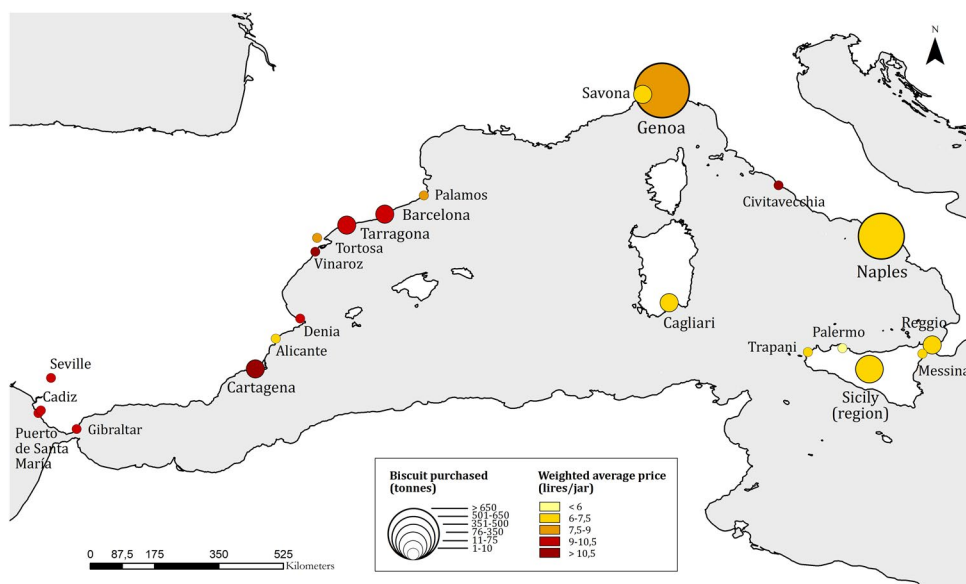


Figure 4. Biscuit purchases made by the Centurione family firm (1610–1621). Source: MC Ledgers; ASB-PAL, XIV, n. 16, ledgers of Cosimo Centurione's trustees, 1610–1611.

their employees and commission agents as intermediaries. Through these channels, they obtained and compared information on the offering of key products in seaports, and on the basis of this, they attempted to coordinate commanders' provisioning (MC Papers).

Yet the real issue was less the sending of reliable information to headquarters than the delegation of the decision-making process to employees and commission agents. Lieutenants and captains were typically told to adapt instructions from Genoa on the basis of the conditions they found on arrival. 'You who are in place will govern yourself according to prices' wrote Centurione to his captain Borrassino in June 1616 (MC Papers, 29/07/1616). More generally, captains were in charge of the day-to-day supplies. Even in relatively modest spaces such as the western Mediterranean (this was not, for example, the East Indies, where English contractors operated as in Knight and Wilcox (2010, pp. 155–176)), it was not possible for the manager to predict the future price, quality, and quantity of local offers. Captains could seldom wait for an answer after sending their superiors fresh news. They also bore the burden of decision due to the role of social capital, another personal resource which is hard to transmit. As Centurione acknowledged, it also depended on the personal ties of captains (and galley scribes) with local suppliers, as much as their own personal competence and commitment (MC Papers, 14/08/1618, Marco Centurione to Giovanni Battista Gandorino).

Wholesale purchases, which were generally negotiated several months before the arrival of the galleys, gave more prominence to the correspondents. A typical case was the acquisition of several tons of biscuit on the Neapolitan market, especially when both actors agreed on long-term contracts under which the correspondent committed to make continuously available a given quantity. The manager from Genoa could request a part or the totality of it at any moment (MC Papers, 21/02/1614, Marco Centurione to Angelo and Simone Saluzzi). For these transactions, delegation to resident correspondents was essential. They were able to track market trends, negotiate with local producers, monitor the

quality of products, and store them, if necessary, until the arrival of galleys. There was no other choice than giving them significant autonomy. As it has been pointed out, commission agents delivered ‘hard-to-specify and hard-to-price resources’ (Trivellato, 2009, p. 154). Considering markets as the interface between the networks of the buyer and those of the supplier (Caracausi & Jeggle, 2014, p. 8) also helps in understanding why empowering a trustworthy agent was key to accessing local resources without having to create ties with every individual involved in the production and distribution processes.

Managers thus had limited control over operations. To mitigate that, Centurione was strict in *ex ante* instructions. For example, he asked his correspondents to obtain a sample of the biscuit to be bought and threatened that it would not be accepted in case of substandard quality (MC Papers, 21/02/1614, Marco Centurione to Simone and Angelo Saluzzi). He also used information on prices for bargaining and control purposes. When negotiating large acquisitions, he used information obtained through several channels to evaluate the offers of his collaborators and exert pressure on them. On some occasions, he mentioned the price that other galley contractors (like Carlo Doria or Giacomo de Marini) had managed to negotiate, and he demanded the same deal (MC Papers, 13/02/1615, Marco Centurione to Simone and Angelo Saluzzi). Cross-checking information could also be useful to check *ex post* the accounting data produced by the galley employees and correspondents.

4.2. Funding

The galley business required the raising of large capital and the obtaining of advanced financial services. Contractors had to invest in fixed capital to build and substitute their own galleys (usually after 8 to 12 years) or to pay for the replacement costs when galleys were the king's property. The ratio of fixed-to-working capital was thus higher than in proto-industry or trade. Still, and as it was the norm in pre-industrial Europe, circulating capital was more important (Cipolla, 1993, pp. 61–72). Contractors had to sustain warships on a continuous basis and internationally, but they received irregular and local payments from the Spanish Empire. This made it necessary to raise financial resources in order to pay for the galleys' running costs before receiving the money promised by the monarchy. Contractors also had to move money internationally since they needed cash in places far removed from where they collected it (they were paid in different cities in Spain, but most of the expenses had to be made in Italian seaports).

Some merchant houses that engaged in finance could fund the galley business through their *compagnie* (usually limited to two or three partners). However, others, like Marco Centurione, delegated this to external bankers. Self-financing and family contributions did exist, but they tended to be insufficient to fuel the required flows of capital. Between 1613 and 1621, Centurione obtained 11,000 *lire genovesi* from his mother Porzia, but it was a small amount compared with the total of 225,000 *lire* he borrowed in Genoa from merchant-bankers, namely the Cavanna Company, and major banking families such as the Squarciafico, Balbi, and Serra (MC Ledgers). The reasons for requesting credit from bankers were related to reputation and expertise in finance. Shipowners not specialised in this would have been too exposed engaging directly in the Piacenza exchange fairs without having experience in this complex market where the Genoese obtained funds. Local bankers served as intermediaries to access international credit markets. This did not mean, however, that they became partners in themselves.

Centurione also delegated part of the funding to his captains, who were responsible for obtaining credit from the correspondents based in the seaports. Decentralising the raising of funds prevented the risky transportation of cash onboard the galleys and the payment of interests on inactive money. Collaboration between galley employees and commission agents could, however, be a source of collusion. As the Medici feared that their employees would lend too much money (De Roover, 1963, p. 88), the *asentistas* were afraid that theirs would borrow too much. To prevent this, Centurione limited the initiative of his captains in matters of credit. After assessing the firm's financial needs, he informed his commanders of the money they could borrow (for instance: 1,000 *lire* in Palermo for one month from the Cavanna family) (MC Papers).

The determinants of such a decentralised financing organisation were closely related to the central role of the Piacenza fairs (Felloni, 1998; Marsilio, 2008), the largest market for the negotiation of bills of exchange in Europe that the Genoese community controlled and through which the *asentistas* obtained, repaid, and extended their loans. In this sense, ship-owners made the most of the extensive Genoese credit networks that connected the Mediterranean ports through the fairs and dominated finance benefiting from their ability to handle exchange (see Herrero Sánchez et al., 2011). In this context, it is not surprising that Centurione's lenders were chosen from among the Genoese community. The prevalence of *cambio* also helps to understand why the contractors did not adopt other forms of credit, such as the *commenda*, galley companies (as they were active in Renaissance Venice, see Lane, 1944), or more complex structures.

For the restitution of invested capital from the Spanish Crown, asymmetries of information made delegation to agents based in Madrid an obligation. Centurione divided the labour between two types of agents. His employee, Lazzaro Midense, negotiated the assignments with the Spanish Council of Finance, while his correspondents (typically the partners of his main lenders in Genoa) were in charge of collecting the money in different cities. The reason for this twofold organisation was that Centurione preferred to control the assignments through his employee, while bankers were prone to demand Spanish rents as collateral in exchange for their loans. Once collected, bankers sent its value in drafts through the Piacenza fairs to cancel the debt. Centurione records show that it was not possible to directly govern these operations from Genoa. They required information on the rents to collect, negotiations with authorities, and knowledge on transporters and credit markets. Centurione's role was limited to coordinating the process by sending *ex ante* instructions and controlling the documents his agents sent to him *ex post* (MC Papers). The remittances sent from Madrid to the fairs were intended to wipe out the debts contracted in the Mediterranean ports, but if the money did not cover this, Centurione could ask his bankers to roll over his debt until the next exchange fair. This was a risky operation that required personal ties and specific skills. As a consequence, Centurione left this to professional bankers. In any case, he had to hire brokers ('procuratori di fiera') who went to the fairs, in Piacenza, on his behalf (MC Papers; Marsilio, 2008).

4.3. Purchasing slaves

Running a galley business also meant recruiting workers on a continuous basis. The significant levels of rowing crew turnover, largely caused by the high mortality rate, forced the

constant introduction of new labour. Galley managers were often concerned about this issue. 'You will have to procure in all possible ways and means to have slaves and convicts and hire as many volunteers as you can', wrote Centurione to his lieutenant Franco Mutio in 1614 (MC Papers, 06/08/1614). Special efforts were made to obtain slaves. Some of them were captured by seizing Ottoman warships, but the resulting workforce was insufficient. As a consequence, managers ordered their subordinates to buy them on the market. Because local buying opportunities were limited, they fragmented their purchases among different slave markets. The acquisition of 100 slaves made by the Centurione family between 1610 and 1617 illustrates this. Slaves were bought in Livorno, Naples, Cartagena, Malta, Genoa, Oran, Cagliari, Tortosa, Barcelona, Messina, and Cadiz (MC Papers; MC Ledgers; ASB-PAL, XIV, n. 16, ledgers of Cosimo Centurione's trustees, 1610–1611).

To obtain slaves, Centurione operated in the same way as he did for the purchase of any commodity, aiming at securing the best 'product' at the lowest price. The limited supply of slaves in the Mediterranean, however, made information on purchasing opportunities particularly valuable. In this context, Centurione asked his commanders and correspondents to monitor slave markets and inform him of any opportunity (MC Papers). The major capacity of local agents to obtain information on buying opportunities was the main reason for the delegation process. Particularly significant was the information sent from Livorno by Pezzino Pezzini, a slave trafficker who reported on the military activities of the Florentine galleys. To evaluate the purchase offers, agents were told about the preferences of the manager. In Centurione's case, slaves should preferably have a strong physical constitution, be between 20 and 25 years old, be Muslim, and come from the Maghreb (MC Papers, 21/02/1614, 06/04/1615 and 02/12/1616, letters to Simone Costa, Franco Mutio and Pezzino Pezzini).

When galley commanders and correspondents identified buying opportunities, they referred to the manager for orders (typically asking how many slaves were to be bought or the maximum price he was willing to pay). As long as these were retail purchases, they had significant autonomy to carry out the operations. Franco Mutio, Marco Centurione's lieutenant, chose the intermediaries, assessed the slaves, and conducted the negotiations on behalf of his superior. The approach was different when it came to wholesale purchases. Between 1615 and 1617, for example, Centurione carried out three operations to buy 17 slaves in Livorno, 13 in Malta, and 22 again in Livorno. This type of operation, planned in advance, was assigned to a specific correspondent, could last for several months, and gave less autonomy to agents. The managers negotiated with their correspondents, who in turn dealt with local slave traders (MC Papers).

This procedure supposedly ensured the operations, although any oversight could lead to a serious problem of agency. In 1615, Centurione commissioned Cesare della Torre, a reputable Genoese merchant based in Palermo, to buy between 25 and 30 slaves. Della Torre accepted, although because of the shortage of supply in Sicily, he delegated the operations to a merchant in Malta, where the slave market was larger. After a first successful acquisition, Centurione was the victim of fraud by a merchant from Malta, who had sold him seven non-existent slaves. Centurione did not go to court but stopped the collaboration with Della Torre and threatened the seller to make it public, which proved to be effective since he got his money back (MC Papers). More than drawing any conclusion on the legal system used by the Genoese (which would deserve more studies, see on the topic Greif, 2006), this final example illustrates the risk of early modern distant trade and outlines the importance of

insuring operations. Later on, Centurione went only through his own correspondents and even sent some of his employees to evaluate slaves.

5. Conclusion

In line with Casson's theory of the firm (Casson, 1997, pp. 35–75), Genoese naval entrepreneurs operated as coordinators. They concentrated many activities in their hands without integrating them into large corporate structures. Hence, they fulfilled the roles of military commanders, bankers, transporters, slave traffickers, money collectors, recruiters, and naval or victuals suppliers, without actually matching any of these professional profiles or only a few of them. With few exceptions, they did not have employees in their firms who explicitly matched these roles either. States outsourced the management of war resources to contractors who delegated it to other individuals and firms, and it was for this activity of coordination and intermediation that they hired them. This has significant implications for our understanding of military entrepreneurs. Beyond their contractual relationship with central governments, as generally studied in historiography, their role embraced the coordination of a wide and heterogeneous group of people on a large scale and through different labour relations that ranged from slavery to loose collaborations. Studying entrepreneurs' activities with private records and from a business history point of view leads to a much more decentred perspective than the one prevalent in the literature on military entrepreneurs.

This rationale behind the different ways of delegating was closely intertwined with information issues. Onboard the galleys, where information could be obtained directly and supervision costs were low, hierarchy and forced labour were introduced. However, when information asymmetries were high, as was the rule for international transactions, empowering captains and merchant-bankers with local information was viewed as a necessary step to secure better access to risky and hard-to-predict markets of goods, labour, and capital. Still, delegation was not only a function of information gathering. It was related to personal and hard-to-transmit qualities such as specific knowledge, experience, and social capital. The galley business required expertise in specific fields (accounting, naval commanding, banking, etc.) which encouraged division of labour and the employment of people of very different social status and function.

Fragmented ways of doing business were, however, prone to agency problems, and this is one of the reasons why social and economic ties were relevant. Forms of delegation were therefore also influenced by the social and cultural structures of Genoese society. Coming from the Genoese old nobility, for whom blood and status were essential qualities, contractors mobilised vertical and horizontal kin ties for central management, hired Ligurian captains, and at least in the main case study here considered, relied to a large extent on the Genoese noble diaspora for networking markets abroad. Still, all this could hardly replace economic ties based on the repetition of mutually beneficial transactions. In the end, transactions channelled by interpersonal ties allowed for global connections and encouraged the persistence of family-controlled entrepreneurial networks.

More often than not, this was compatible with access to skilled agents and workers. The firms would probably have organised differently if the Ligurian society did not possess such skilled captains and seafarers, proficient agents involved in shipping and exchange, or a large noble diaspora that dominated large segments of international finance and trade in

the western Mediterranean. In any case, this was not without its limitations. Managers could face agency problems with commanders and correspondents, particularly because direction was often limited to ex-ante instructions and control to ex-post mechanisms. This model also made contractors heavily dependent on the people who worked for them and their enterprises, and probably rendered them less competitive in areas where their presence was weaker.

In comparison with many other business organisations, the small-staff Genoese galley companies were original in that they combined at the same time an extremely concentrated workforce, which was quite rare to find at the time, and a very fragmented organisation whose mechanisms of delegation were shared by other organisations (small family firms, shipping enterprises, proto-industries, commodity chains, etc.). From funding to supplying and slave purchasing, problems of exchange were solved by a very non-corporate way of organising businesses. This dual morphology was in part due to the fact that, ultimately, galleys were a concentrated workspace moving internationally. In this sense, the analogy with other maritime organisations is helpful. Other elements such as the extensive noble diaspora, the predominant role of exchange and the fairs for financing businesses, or the large autonomy with which merchants collaborated, seem to be more typical of (but not exclusive to) Genoese organisations. These aspects will, in any case, require further research in a comparative perspective.

This study provides a good example of how individual and family firms played an essential role in business history, including the naval sector, for which non-corporate enterprises have been under-considered thus far. These findings suggest that our understanding of the evolution of business organisations can be enhanced by demonstrating how, and why, a variety of arrangements coexisted. As recently argued (Fusaro, 2020; Gelderblom & Trivellato, 2019), more studies will be necessary to advance us another step towards explaining the diversity and determinants of early modern business forms beyond more conventional accounts.

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