



The Economic Structure of Maritime Trade Calling at the Port of Genoa Through the Analysis of General Average Data (Sixteenth–Seventeenth Centuries)

Luisa Piccinno

This essay will discuss the preliminary results emerging from data extrapolated from General Average (GA) procedures in Genoa, between the last decade of the sixteenth century and the 1640s. The wealth of data provided by GA procedures compensates for some of the gaps in quantitative data which have held back research on the local maritime economy. Methodologically, this essay further develops the insights of Giuseppe

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L. Piccinno (✉)
University of Genoa, Genoa, Italy
e-mail: piccinno@economia.unige.it

Felloni's work on GA's potential for economic analysis.¹ The rich documentation produced during GA procedures, from the original report (*testimoniale*) to the final apportioning of costs (*calculus*), provides details for typology of vessel, provenance, route, flag and cargo. This data sheds new light on Mediterranean maritime trade during a fundamental period of structural change, characterized by the emergence of new protagonists and the creation of new equilibria.

INTRODUCTION

After the glorious era of the maritime republics, and the loss of its colonies in the Eastern Mediterranean and Black Sea, as is well known, Genoa regained a leading role in the European economic system around the mid-sixteenth century. This was thanks to the ability of its businessmen: merchants, bankers, ship-owners and insurers, who ushered in a historical moment that came to be known as the 'Century of the Genoese'.² During this period, while Genoese financial activity as moneylenders to the Spanish Crown seemed to prevail, and indeed acted as a driving force for the development of the city's economy, the port of Genoa was the nodal point of a vast network of traffic from the Mediterranean to the northern seas and the Atlantic Ocean. The Genoese mercantile and financial networks, controlled by powerful members of the city's patriciate, tended to intersect and often overlap. This led to a real Genoese 'diaspora', which assumed substantial proportions: according to data reported by Roberto Sabatino Lopez, probably overestimated but still significant, at the beginning of the sixteenth century there were about 10,000 Genoese in the Kingdom of Castile, 8,000 in the Kingdom of Naples, and almost 2,000 in Corsica.³ As Edoardo Grendi stated, Genoa 'lives by virtue of the control of a space that transcends it. For Genoa, as for every port, these routes are, at least in part, the navigation routes, the space

¹ G. Felloni, 'Una fonte inesplorata per la storia dell'economia marittima in età moderna: i calcoli di avaria', in J. Schneider ed., *Wirtschaftskräfte und Wirtschaftswege. Festschrift für Hermann Kellenbenz. II: Wirtschaftskräfte in der europäischen Expansion* (Stuttgart 1978), 37–57; also in Id., *Scritti di Storia economica*, (Genoa 1998): 843–860.

² F. Braudel, *Civilization and Capitalism, Fifteenth-Eighteenth Centuries*, vol. III: *The Perspective of the World* (London 1984), 157–174.

³ R. S. Lopez, 'The Cross Roads Within the Wall', in O. Handlin and J. Burchard eds., *The Historian and the City* (Cambridge, MA 1963), 27–43, 27.

is the Mediterranean, and the agents of control over this space are the Genoese'.⁴

Thanks to this phenomenon, the Genoese port during the early modern period became an important redistribution centre for a great variety of products from all over Europe. Already at the beginning of the sixteenth century, about 30% of the tonnage of Christian merchant ships active in the Mediterranean called at Genoa. By the middle of the century, the Republic's commercial fleet had a total capacity of about 15,000 tons (excluding small vessels dedicated to cabotage), and made up three quarters of Genoa's port traffic, while the presence of foreign vessels was much more sporadic.⁵

With the opening of new transoceanic routes and the arrival of new actors, the Genoese gradually abandoned the traffic related to spices and other products with high-added value. While maintaining their traditional interest in North African coral trade, they increasingly concentrated their resources on bulk goods, such as raw materials and foodstuffs, transport and marketing, both for themselves and on behalf of third parties.⁶ The sixteenth century is in fact considered the 'century of grains', a period in which the transport by sea of large quantities of cereals increased to meet the needs of urban populations. Major Mediterranean ports became centres of supply and redistribution for these products, and the Genoese port was no exception.⁷ Grains destined to feed the Republic's territories (which at the time numbered around 270,000–290,000 inhabitants), chronically lacking in this staple after the loss of the Black Sea markets following the Turkish conquest, came for the most part from Provence and from the Kingdom of Sicily and were transported mainly aboard

⁴ E. Grendi, 'Traffico portuale, naviglio mercantile e consolati genovesi nel Cinquecento', *Rivista Storica Italiana*, 80 (1968): 593–638, 593.

⁵ C. Costantini, *La Repubblica di Genova nell'età moderna* (Turin 1978), 164.

⁶ L. Pezzolo, 'I traffici mediterranei, 1400–1700', *Le Note di Lavoro del Dipartimento di Scienze Economiche* (2009): 1–31, 8. https://www.unive.it/pag/fileadmin/user_upload/dipartimenti/economia/doc/Pubblicazioni_scientifiche/note_di_lavoro/NL_DSE_pezzolo_04_09.pdf (last accessed on 29 November 2021). On the Genoese presence in the Eastern Mediterranean and Black Sea: D. Jacoby, 'Western Commercial and Colonial Expansion in the Eastern Mediterranean and the Black Sea in the Late Middle Ages', in G. Ortalli and A. Sopracasa eds., *Rapporti mediterranei, pratiche documentarie, presenze veneziane. Le reti economiche e culturali (XIV–XVI secolo)* (Venice 2017), 3–49.

⁷ On this see M. Aymard, *Venise, Raguse et le commerce du blé pendant la seconde moitié du XV^e siècle* (Paris 1995).

Ligurian vessels.⁸ If we focus on grain trade between Sicily and Genoa in the 1530s, we find a timely confirmation of this phenomenon: in 1532, out of 54 ships loaded with grain that left the island for Genoa 33, or 61%, were Ligurians, 7 Spanish, 5 Sicilian and the few remaining French, Greek and Neapolitan. Similar data also emerges if we analyse the 49 carriers that five years later transported Sicilian products along the same route: 38 were Ligurian, equal to 77.5%. It is worth noting the appearance of Ragusan (present-day Dubrovnik) vessels, destined to increase their presence in the following decades.⁹

Only starting from the second half of the century, at least according to the rather outdated historiography, did the situation seem to change with a steady increase in foreign participation in maritime trade and the parallel decline of the Ligurian fleet.¹⁰ A further change also coincided with the severe famine, and consequent food crisis, that hit the Mediterranean in 1590. This pushed the city authorities to grant the right of *porto franco*, or free port, to all vessels arriving in Ligurian ports with at least two thirds of their cargo consisting of cereals. This provision, initially valid for only one year, was subsequently renewed and modified in restrictive terms, limiting the concession to the port of Genoa alone, which effectively cut out all of the dominion's minor ports of call. At the same time, the men of government, aristocratic businessmen at the centre of a dense network of both commercial and financial relations with all the main European centres, were taking action to attract cargoes of wheat from northern countries: the objective was both to satisfy the needs of

⁸ On the role of the Genoese port in the grain trade, and on the Republic's policies for supplying the city see P. Massa Piergiovanni, *Lineamenti di organizzazione economica in uno stato preindustriale. La Repubblica di Genova* (Genoa 1995), 71–93; L. Piccinno, 'A City with a Port or a Port City?', in W. Blockmans, M. Krom, J. Wubs-Mrozewicz eds., *The Routledge Handbook of Maritime Trade Around Europe 1300–1600: Commercial Networks and Urban Autonomy* (London–New York 2017), 159–176.

⁹ O. Cancila, *Impresa redditi mercato nella Sicilia moderna* (Palermo 2003), 236; D. Giuffrè, 'Il commercio d'importazione genovese alla luce dei registri del dazio (1495–1537)', in *Studi in onore di Amintore Fanfani*, 6 vols. (Milan 1962), V:113–242, 194–195.

¹⁰ More precisely, according to Claudio Costantini, in 1564 the total tonnage of foreign vessels arriving in the port of Genoa was more than that of the Ligurian fleet; see Costantini, *La Repubblica di Genova*, 165–168.

the local population and to generate a profitable re-export traffic to other ports in the Mediterranean.¹¹

These factors drove a structural change in the port of Genoa's maritime traffic which is worthy of in-depth analysis. Historiography on this is rather scarce, as scholars have offered tentative estimates based on the available sources, while expressing the wish of finding new data. Edoardo Grendi, for example, repeatedly stressed in his work the lack of useful data necessary to accurately outline the trend of Genoese port traffic, and to shed light on phenomena understood up to now only in general terms. In his opinion, only an in-depth archival analysis aimed at reconstructing a sort of 'travel cards' [Images 1 and 2]¹² of the ships entering the port of Genoa would have allowed him to find the missing answers and to correct any errors in the trends he suggested.¹³

NEW DATA FOR GENOESE MARITIME HISTORIOGRAPHY: AVERAGE PROCEDURES

This essay is a response to the historiographical challenge outlined above; the intent is to highlight symmetries and discrepancies with respect to what is known today about the port traffic in Genoa through the use of a source which up to now has been almost completely ignored: Averages (*avarie*). As clearly shown in this volume's contributions, within early modern European maritime trade, the term 'average' was used for a variety of risk management tools. However, within the Genoese environment only two typologies have emerged: General Average—voluntary loss to avoid a larger one—where the expenses were proportionally shared among all participants in the venture, and Particular Average, that is

¹¹ On the establishment of the Genoese *porto franco*, and its role as a political and economic tool, see T. A. Kirk, *Genoa and the Sea: Policy and Power in an Early Modern Maritime Republic, 1559–1684* (Baltimore 2005), 151–185.

¹² Centro di Studi e Documentazione di Storia Economica 'Archivio Doria' (=ADG), *G. Felloni*, box 1, fl. 630, n. 27.

¹³ Grendi repeatedly underlined the need to integrate the data he analysed, which came primarily from the registers of the anchorage tax and the Health Ministry, with other sources; see especially E. Grendi, 'I nordici e il traffico del porto di Genova: 1590–1666', *Rivista Storica Italiana*, 83 (1971): 23–71, 23, 57–58.

CALCOLO DI AVARIA

COMUNE () PER SCAMPARE A: Ordinato con decreto del _____
 PARTICOLARE PER CAUSA DI: commesso a _____
 TEMPESTA (), INCENDIO (), PRE- sotto la direzione di _____
 DA (), ARRESTO (), REQUI- sottoscritto da _____ II _____
 SIONE (), NAUFRAGIO (), INVE- presentato a _____ II 22 aprile 1592
 STIMENTO (), ROTTURA (). approv. e pubbl. da _____ II 30 _____

Tipo della nave: nave portata: Parti 200 esia. Equipaggio: _____

Nome: La Carota

Capitano petrene: Giovanni Hineman, di Amburgo

Descrizione generica del viaggio e del carico: da Amsterdam, con carico di grano per Genova

Porti di scalo	Ragione della sosta	Data di arrivo	Data di partenza
Amsterdam e Tenelle			22 XI 1592

Origine dell'avaria: per timore di (), a causa di () tempesta (); incendio (); attacco () cattura () da parte di pirati (), corsari (), nemici (); difesa della nave (); arresto () navigazione convogliata () per ordine di principe (); requisizione al servizio di principe (); naufragio (); investimento ()

Natura dell'avaria: immissione d'acqua (); aggotamento (); getto (), danni (), perdita () del carico; getto (), abbandono (), danni (), perdita () del corpo, attrezzi, corredi ed armamenti della nave; rilascio forzato per riparazioni straordinarie (), per cattura (), per ordine di principe (); rilascio volontario per scampare a tempesta (), a pirati (), a corsari (), a nemici (); cambio marittimo ();

Consolato	Testimoniale fatto	Presentazione	Apert. e pubbl.	Approvazione
in	Genova	il	22	genn. 1592
in		il		
in		il		
in		il		

Valori espressi in Lire mon. gen. di-banco-fuori-banco.corr.-Pezzi di-reali-8

MASSA PASSIVA (RISICO)	Val. contr.	Val. non contr.	Valore totale
1) CORPO, ATTR. CORR. ED ARMAM. DELLA NAVE	-		
In condizioni normali			
Nelle condizioni d'arrivo a Genova			
Apparati gettati o perduti prima dell'arrivo a Genova			
2) NOLI	-		
3) CARICO			
- grano caricato in Amsterdam per Genova per G. F. Castiglione: L. 28	15.554	00	00

Image 1 Giuseppe Felloni's 'travel card'

to say accidental damage whose costs was borne only by the individual affected.¹⁴

The legal procedure following an event that resulted in an Average claim provides plenty of evidence in this regard. The declarations presented by masters upon their arrival in port and witnesses' reports (*testimonialiali* and *consolati*), the calculations determining the distribution of the damages and expenses incurred and additional supporting materials such as bills of lading, freight contracts and vessel appraisals, are all extremely rich in information relating to the voyage and the parties involved.

Pioneering work in this direction was started by Giuseppe Felloni in the 1970s. Through a detailed filing of a significant percentage of the Average procedures kept in the Genoa State Archives, he started a paper database made up of over 3000 'travel cards', corresponding to the Average reports presented to the Court of the *Conservatori del Mare* between 1589 and the fall of the Republic in 1797.¹⁵ This valuable material, left for the use of scholars in the Department of Economics of the University of Genoa,¹⁶ has been supplemented by further archival investigations aimed at enriching the information recorded, and to extend the analysis for some key periods for which Felloni only sampled the documentation. Thanks to this work, it has been possible to lay the foundations of a modern relational database, which also covers other European ports.¹⁷

¹⁴ For details on the typology and procedure of Averages in Genoa, see the essay of Antonio Iodice in this volume.

¹⁵ The early results of this are in Felloni, 'Una fonte inesplorata'. For an insight into his work on this subject see A. Iodice and L. Piccinno, 'Incertezza e rischio nel commercio marittimo. Le pratiche di avaria genovesi dagli studi di Giuseppe Felloni al database europeo AveTransRisk', forthcoming in the *Quaderni della Società Ligure di Storia Patria*. For an investigation of sources pertaining to Genoese maritime history, see G. Felloni, 'Organización portuaria, navegación y tráfico en Génova: un sondeo entre las fuentes de la Edad Moderna', in L. A. Ribot García and L. De Rosa eds., *Naves, puertos e itinerarios marítimos en la Época Moderna* (Madrid 2003), 237–267; L. Piccinno and A. Zanini, 'Genoa, Sixteenth Century-1797', *Revue de l'OFCE*, 44/140 (2015): 249–252.

¹⁶ The more than 3,000 files left by Giuseppe Felloni are held today at ADG, *G. Felloni*, boxes 1–16.

¹⁷ Database created through the project ERC Consolidator Grant 'Average-Transaction Costs and Risk Management during the First Globalization (Sixteenth-Eighteenth Centuries)'. <https://humanities.exeter.ac.uk/history/research/centres/maritime/research/avetransrisk/>. AveTransRisk online database. <http://humanities-research.exeter.ac.uk/avetransrisk/> (last accessed on 29 November 2021).

Regarding the Genoese data, the sheer size of the extant material has forced us to operate a selection. Aiming at making the data comparable with that of other ports, especially Livorno, at this stage some sample years have been chosen and their full data has been uploaded into the database; by the end of the project, the plan is to cover the whole seventeenth century. The amount of information already available, although limited in chronological scope, allows us to carry out both macroeconomic analyses concerning the commercial traffic across the Mediterranean (goods, ships, ports of origin, nationality of the carriers), and microanalyses relevant to individual shipments (from the type of vessel to its value, the freight paid by the shippers, the duration of the voyage, the merchants involved, the causes that led to the Average declaration itself and the relative amount of damage suffered, to the profitability of the shipment).¹⁸

The first part of this essay is a macro-analysis aimed at establishing how the maritime trade arriving in Genoa changed over time. These changes will be examined side by side with the policies implemented by the city government in order to attract more traffic, and to prevail against a fierce competitor: the nearby port of Livorno, which was becoming a favourite destination for Northern European ships. I shall also discuss whether the analysis of the data shifts some historiographical trends such as the alleged crisis of the Genoese merchant marine following the entrance of Northern shipping in the Mediterranean; the rise and decline of Ragusa; the importance of the commercial relations between Genoa, Spain and France; the general crisis of the seventeenth century and, in particular, the effects of the Thirty Years' War.¹⁹

¹⁸ With regard to the macro approach see L. Piccinno, 'Rischi di viaggio nel commercio marittimo del XVIII secolo', in M. Cini ed., *Traffici commerciali, sicurezza marittima, guerra di corsa. Il Mediterraneo e l'Ordine di Santo Stefano* (Pisa 2011), 159–179. For a micro analysis see the recent work of L. Piccinno and A. Iodice, 'Managing Shipping Risk: General Average and Marine Insurance in Early Modern Genoa', in P. Hellwege and G. Rossi eds., *Maritime Risk Management: Essays on the History of Marine Insurance, General Average and Sea Loan* (Berlin 2021), 83–109.

¹⁹ G. Giaccherò, *Origini e sviluppo del porto franco genovese* (Genoa 1972), 29, 33, 45, 62–69; Costantini, *La Repubblica di Genova*, 168–169. On the Northerners' arrival in the Mediterranean and its consequences see M. C. Engels, *Merchants, Interlopers, Seamen and Corsairs: The 'Flemish' Community in Livorno and Genoa (1615–1635)* (Verloren 1997); M. Fusaro, 'The Invasion of Northern Litigants: English and Dutch Seamen in Mediterranean Courts of Law', in M. Fusaro, B. Allaire, R. J. Blakemore, and T.

Where the data set available is sufficiently complete, it is also possible to reconstruct the characteristics of individual journeys in terms of journey length, ports of origin, vessel capacity and types of cargo. I therefore also focus on the period between 1589 and the 1641 and compare four particularly complete, and representative, data sets. The first two selected periods are the years 1589–1592 and 1597–1599, which contain 63 and 112 cases, respectively. This was a period dominated by the cereal crisis in the Mediterranean, leading to the first wave of Northern European ships loaded with grain to Genoa, a cycle which ended around 1597. The next series concerns the years 1600–1608; here a large amount of data is available, allowing for more detailed surveys (369 cases). It is therefore possible to compare the particular characteristics of the merchant marines of the Mediterranean and of the North of Europe, as well as between coastal and long-distance trade. This period is also particularly significant for Genoa, since it witnessed what Edoardo Grendi has defined as the ‘great traffic’, namely the second wave of Northerners arrivals, which took place between 1602 and 1622.²⁰ The last dataset under examination (151 cases) covers the years 1640–1641²¹ and is therefore located squarely in the midst of the Thirty Years’ War, at that time exacerbated by the entry into the conflict of France. This was a period of change for both the international political scenario and the main traffic routes. These in turn were affected by the precipitous rise of trade along the Atlantic routes. The Republic of Genoa, geographically close to France but under Spanish influence, was affected by the clashes between these two great powers and tried to maintain its neutrality. This was essential to ensure the flow of traffic to its port, especially against competition from nearby Livorno.

Finally, taking the period under consideration as a whole, it is essential to take into account two further elements influencing maritime traffic in the port of Genoa: population trends and *portofranco* (or free port) policies. Firstly, the demographic growth of the city was constant, despite some episodes of plague, and this created a parallel increase in food needs and therefore in imports, as the Ligurian territory was not very fertile.

Vanneste eds., *Law, Labour and Empire: Comparative Perspectives on Seafarers, c. 1500–1800* (Basingstoke 2015), 21–42.

²⁰ Grendi, ‘I nordici’, 31.

²¹ Included in the analysis are declarations of Average submitted in 1640 but regarding vessels that left their departure port in the final months of 1639.

According to Felloni, the inhabitants of Genoa went from about 48,000 in 1581 to 62,000 in 1597, to 68,000 in 1608, and up to 75,000 thirty years later.²² The average annual growth rate recorded for this period was about 1% (and 0.46% from 1597 to the end of the 1630s), therefore in line with the demographic model typical of *Ancien Régime* economies. However, this drove an overall population growth of 57% in the span of a little less than sixty years. For a region poor in resources, and therefore strongly dependent on imports, the control of the trade and redistribution of cereals, especially wheat, was particularly important.

This aspect is linked to the second element to be considered when analysing the trend and characteristics of Genoese maritime trade: the *porto franco* policies implemented by the government of the Republic, their effects on port traffic and, as a consequence, on the number of GA reports presented. Following the 1590 crisis, which was further aggravated by the breakdown of relations with Constantinople, and the consequent difficulty in finding resources on the Black Sea market, the right to *porto franco* was granted to all vessels arriving in Ligurian ports that carried a cargo of which at least two thirds consisted of grains. One year later, this provision was renewed but its validity was now limited to the port of Genoa.²³ This resulted in an initial, significant, wave of arrivals of vessels from Northern Europe loaded with cereals between the end of 1591 and the first months of the following year, followed by others attracted by the prospect of penetrating new markets: within a few months, almost 36,000 tons of grains, transported by about 200 ships, were unloaded.²⁴ The *porto franco* was maintained for the next several years, albeit with substantial changes: once the most acute phase of the food crisis passed, the minimum quantity of grain cargo necessary to be able to take advantage of this facility was reduced to 50% of the ship's capacity. At the same time, the exemption was only granted to carriers arriving from beyond the Strait of Gibraltar and with a minimum capacity of 300 mine, or 27 tons. According to Alfio Brusa, these restrictions were aimed at limiting the arrival of small vessels from Naples and

²² G. Felloni, 'Per la storia della popolazione di Genova nei secoli XVI e XVII', in his *Scritti di Storia Economica*, 1177–1197, 1178–1179.

²³ Giacchero, *Origini e sviluppo*, 51–59; Kirk, *Genoa and the Sea*, 154–157.

²⁴ Grendi, 'I nordici', 24–25; Giacchero, *Origini e sviluppo*, 29, 33, 45, 62–69; Costantini, *La Repubblica di Genova*, 168–169.

Provence, which easily escaped both commodity and fiscal controls.²⁵ At the same time, these concessions represented a first response by the Genoese government to the policy initiated by Ferdinand I of Tuscany, aimed at making Livorno the main port of call and operational base for the merchant marines of Northern Europe.²⁶

With the beginning of the seventeenth century, the Genoese *portofranco* system was consolidated and became a proper instrument of commercial policy, thus aimed not only at guaranteeing Genoa necessary supplies in times of crisis, but also at increasing commercial traffic.²⁷ Thus in 1609 the scope of the provision was considerably extended and the right of *portofranco* was granted to all vessels arriving in Genoa whatever their origin, with the exception of those arriving from the Genoese territories. This was just the first step, as in 1623 most of the restrictions still in force were abolished and it was declared a ‘Porto franco libero, generale e generalissimo’, which remained in operation until 1797.²⁸ This policy was successful, resulting in a general increase of traffic, especially in medium/long term. GA data clearly confirms the upward trend which had been hypothesized by Edoardo Grendi.²⁹

²⁵ A. Brusa, ‘Dal Porto franco della Repubblica genovese al deposito franco dei giorni nostri’, in *Il Porto di Genova nella mostra di Palazzo San Giorgio* (Milan 1953), 134–135, 137–167.

²⁶ F. Braudel and R. Romano, *Navires et marchandises à l'entrée du port de Livourne (1547–1611)* (Paris 1951), 49–52; J. P. Filippini, *Il porto di Livorno e la Toscana (1676–1814)*, 2 vols. (Naples 1998), 1:57–63; R. Ghezzi, *Livorno e il mondo islamico nel XVII secolo. Naviglio e commercio di importazione* (Bari 2007), 11–12; A. Iodice, ‘Porto franco e capitani francesi a Genova (1590–1700)’, in *Atti della Società Ligure di Storia Patria*.

²⁷ For a comparative view of the effects of the Livorno *portofranco* on GA see the essay of Jake Dyble in this volume.

²⁸ Giaccherio, *Origini e sviluppo*, 119.

²⁹ Grendi, ‘Traffico e navi’, 358–359; Grendi, ‘I nordici’, 57–63.

THE STRUCTURE OF SHIPPING TRAFFIC
AT THE END OF THE SIXTEENTH CENTURY,
BETWEEN OLD AND NEW ACTORS

According to the preliminary estimates made by Felloni based on Average reports submitted between 1599 and 1601, about 60% of the vessels arriving in Genoa with a capacity exceeding 1500 *cantari* (76 tons)³⁰ presented a declaration of Average.³¹ We find the same percentage for the period under consideration here, as well as for the subsequent decades, for which I have carried out sample surveys. Thus, the data and information that can be extrapolated from the study of Average practices allows for an investigation both in quantitative and qualitative terms.

A distinctive element of each vessel was the flag that indicated its nationality and, consequently, the authority to which it was subject. As is the case today, this identification carried with it different privileges, obligations and rights, as well as different levels of risk. For these reasons, masters not infrequently hoisted a flag different from that of their real one. This allowed them to avoid various kinds of prohibitions or the payment of taxes and duties that in some ports were imposed on foreign vessels, or to cross stretches of sea with a high risk of being attacked by privateers, or kidnapped by local authorities, with a greater level of protection. In this regard, the Average documents examined usually report the nationality of the *patrone* (*patronus*), or of the master who submitted the report. This was usually written in the document immediately after the *patrone* or master's name, while usually it does not contain information about the vessel's flag. From this element we can see how there was not necessarily an overlapping between these elements. It's worth also reminding how the ownership of vessels was often divided into shares (known as *carati*) belonging to different people who could be

³⁰ One Genoese *cantaro* was equivalent to 47.64 kg (G. Giacchero, *Il Seicento e le Compere di San Giorgio* [Genoa 1979], 695–696). For a broader view of the units of measures employed by *Ancien Régime* states, particularly the Republic of Genoa, and for conversion guides, see P. Rocca, *Pesi nazionali e stranieri, dichiarati e ridotti da P.F.R.* (Genoa: Stamperia Casamara, 1843); Id., *Pesi e misure di Genova e del Genovesato* (Genoa: Istituto Sordomuti, 1871); A. Martini, *Manuale di metrologia* (Turin: E. Loescher 1883), 223–226.

³¹ Felloni, 'Una fonte inesplorata', 851.

of different nationalities.³² For example, Genoese often held shares in Ragusan ships—a confirmation of their financial power—while the opposite was very rare. The *patrone* was the one in charge of running the ship and recruiting the crew; he entered into charter agreements and bore the responsibility for hull and cargo; generally he was also the owner or co-owner of the vessel.³³ Having said this, for the purposes of this essay, and similar to the approach used by other studies aimed at reconstructing the characteristics of maritime trade in this period, the *patrone's* nationality is assumed to coincide with that of the vessel, a circumstance corresponding to reality in the majority of cases.³⁴

Graphs 1 and 2 show a total of 175 cases analysed for the decade 1589–1599. About two thirds of these contain useful information about the masters' nationality, which is assumed to be that of the vessel. Although there is a hole in the documentation for the years 1593–1596, there is a sufficiently large number of cases to allow a reliable numerical reconstruction of the main nationalities involved in traffic to Genoa, and to analyse the changes caused by the 1590s crisis.

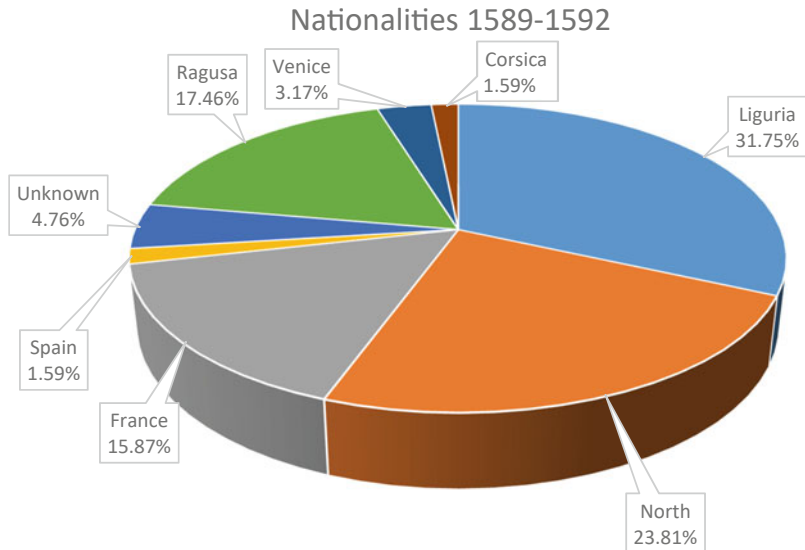
The data shows first of all the weight of the Republic's merchant marine: it made up 31.75% of traffic in the period 1589–1592 and 20.54% at the end of the century. The nationality of the *patroni*/masters of the vessel was indicated in some cases as Genoese, suggesting that they were citizens of the capital, while for those who were originally from the *Riviere*,³⁵ the documents identified them as 'Genoese of Sestri Levante', 'Genoese of Sestri Ponente', or simply named the place of

³² On the procurement of capital and the available techniques used to reduce risk in maritime transport see the contribution to this volume by Andrea Zanini.

³³ The primary evidence does not allow to distinguish between owners and masters/owners, hence the choice of keeping the term *patrone* throughout this essay. On the *patrone* and his role, see Massa Piergiovanni, *Lineamenti di organizzazione economica*, 99–100; M. Calegari, 'Patroni di nave e Magistrature marittime: i Conservatori Navium', *Miscellanea storica ligure*, n.s., II (1970): 57–91, 59–66; Grendi, 'Traffico portuale, naviglio mercantile', 608–609. On financing Genoese maritime trade and its protagonists, see Andrea Zanini in this volume.

³⁴ Grendi, 'Traffico portuale', 598; V. Polonio, 'Devozioni marinare dall'osservatorio ligure (secoli XII–XVII)', in *Dio, il mare e gli uomini*, monographic issue of *Quaderni di storia religiosa*, XV (2008): 243–315, 305.

³⁵ The *Riviere* were the neighbouring coastal regions of the Republic, which extended its dominion along the coast from Monaco to the West (*Riviera di Ponente*) to Capo Corvo (next to Tuscany) to the East (*Riviera di Levante*), Genoa is in the middle of the Ligurian Gulf, between the two *Riviere*.

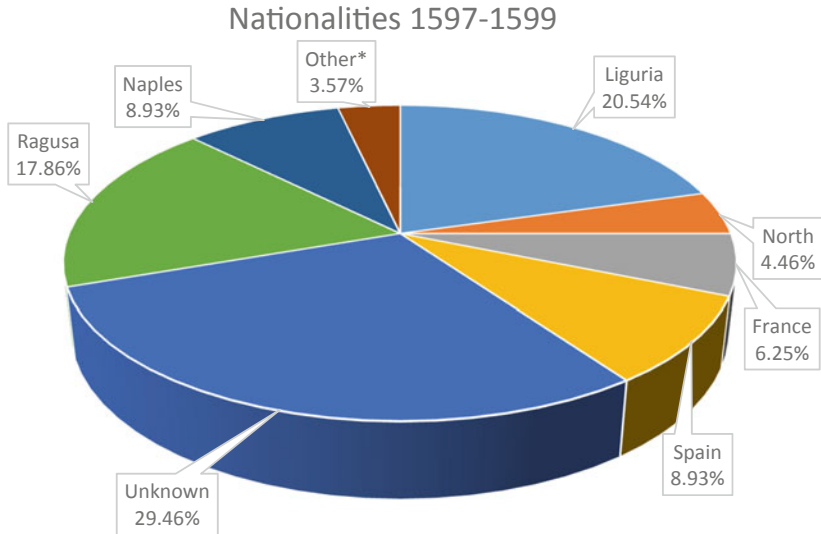


Graph 1 Nationality of *patroni*/masters submitting Average reports (1589–1592) (Source <http://humanities-research.exeter.ac.uk/avetransrisk/> [last accessed on 29 November 2021]). The category ‘North’ includes Danes, English, Poles, Germans, Dutch and subjects of the Spanish Netherlands)

origin, including Portofino, Chiavari, Arenzano, Cogoleto, Savona. Most of the ships were *pinchi*, *saette*, *tartane*, *leudi* (i.e. vessels of relatively modest size, with a capacity ranging between 1500 and 3000 *cantari*),³⁶ as well as some galleons (with a capacity between 6000 and 12,000 *cantari*)³⁷ travelling mainly along the Tyrrhenian route to transport

³⁶ More precisely, the *pinco* was a round vessel of 10–15 metres length and a width of approximately 5 metres, with a 2/3 mast and a lateen sail. The minimum capacity was about 27 tons, but on average these vessels hauled between 108 and 180 tons. This vessel was widely used in the Republic, similarly to the *polacca*, which was also often used by Northerners; other common vessels included *tartane* and *leudi*, both used for a variety of cargoes (F. Ciciliot, ‘Le navi di Varazze’, in L. Gatti and F. Ciciliot eds., *Costruttori e navi. Maestri d’ascia e navi di Varazze al tempo della Repubblica di Genova (secoli XVI–XVIII)* [Genoa 2004], 83–153, 137–139; L. Gatti, *Navi e cantieri della Repubblica di Genova (secoli XVI)* [Genoa 1999], 201–236).

³⁷ In Genoese documents from the early modern period, vessels with this name had a fairly long hull (from 18 to more than 26 metres), a rounded form and a width of



Graph 2 Nationality of *patroni*/masters submitting Average reports (1597–1599) *Other = 1 Venice; 1 Corsica; 1 Savoy; 1 Tuscany (Source <http://humanities-research.exeter.ac.uk/avetransrisk/> [last accessed on 29 November 2021]. The category ‘North’ includes Danes, English, Poles, Germans, Dutch and subjects of the Spanish Netherlands)

wheat, wine and various goods from Sicily to Genoa. This data confirms the relative importance of Ligurian merchant shipping in the last decades of the sixteenth century.³⁸

Also of great importance was the presence of the Ragusan vessels, which remained stable in the two periods under examination representing approximately 17% of arrivals in Genoa. The Ragusan presence included

5–6 metres. The capacity was around 85 tons, even if there were also *galeoni* in use at the time with a considerably larger capacity, in some cases more than 230 tons (Gatti, *Navi e cantieri*, 166–167).

³⁸ Analysing port traffic data and estimates on the construction of new vessels in this period, Edoardo Grendi had stated that after 1560 there was no crisis in Ligurian shipping, see Grendi, ‘Traffico portuale’, 614.

‘navi’³⁹ and galleons, medium-large vessels with a capacity between 2800 and 14,000 *cantari* (almost 700 tons). Their cargoes included wheat from Sicily along with salt, skins and others items from Spanish ports. By the 1570s, the merchant fleet of the Dalmatian city had reached its peak in terms of both number of vessels and tonnage, estimated by some authors at about 50,000 tons.⁴⁰ Its vessels had taken over not only large portions of intra-Mediterranean traffic, but extended also to North Sea ports where they brought wine, oil, skins, cotton and wax, and loaded light cloths which would then be redistributed in the markets of the Levant.⁴¹ It is no coincidence that, according to the data provided by Grendi, their presence in Genoa reached its peak during these same years.⁴² Ragusa had a close relationship with Genoa, both commercially and financially, thanks to the wide range of business opportunities available there. For example, Ragusans invested the proceeds deriving from maritime traffic in the fairs of Besançon thanks to the mediation of Genoese operators.⁴³ Their ships, generally of large size, plied the long-distance routes of Genoese traffic (from the East, to Sicily, and to the Spanish ports) and were often financed or hired by Genoese. By the end of the century, the Ragusan fleet still boasted over 31,000 tons of tonnage and 52 large units, and therefore still played an important role in Mediterranean trade, despite a slow decline that had begun in the 1590s. In the meantime, direct relations with Northern Europe had shrunk to the point of almost disappearing,

³⁹ This term was used rather generically for vessels of various capacities, but in all cases with three masts and two decks, with a length of 30–40 metres for 10–15 metres width, thus medium-large and either armed or capable of being armed (Gatti, *Navi e cantieri*, 145–155). On the Dutch record for the construction of such vessels, and the acquisition of Dutch vessels by Mediterranean ship-owners, see J. H. Parry, ‘Transport and Trade Routes’, in E. Rich and C. Wilson eds., *The Cambridge Economic History of Europe from the Decline of the Roman Empire* (Cambridge 1967), 155–219; also Ghezzi, *Livorno e il mondo islamico*, 22–23.

⁴⁰ B. Krekić, ‘Le port de Dubrovnik (Raguse), entreprise d’état, plaque tournante du commerce de la ville (XIII–XVI siècle)’, in S. Cavaciocchi ed., *I porti come impresa economica* (Florence 1988), 653–673, 673; M. Moroni, *L’impero di San Biagio. Ragusa e i commerci balcanici dopo la conquista turca (1521–1620)* (Bologna 2011), 121.

⁴¹ Moroni, *L’impero di San Biagio*, 120.

⁴² The peak was 1567, with 30 vessels with a capacity over 1500 *cantari*, see Grendi, ‘Traffico portuale’, 606, 636–638.

⁴³ D. Dell’Osa, ‘La contabilità dei mercanti ragusei nel XVI secolo’, in P. Pierucci ed., *La contabilità nel bacino del Mediterraneo (secc. XIV–XIX)* (Milan 2009), 123–142, 137–138.

while the Ragusan presence in Genoa, Messina and the Eastern Mediterranean remained strong, an unequivocal sign of the structural change in maritime trade that was taking place.⁴⁴

Genoese trade with the South of the Italian peninsula was also assured by a significant number of Neapolitan ships. These had been largely absent up until 1592, but came to represent approximately 9% of arrivals between 1597 and 1599. The increase of Spanish vessels made up another trend, rising from 1.59 to almost 9%, while the presence of French ships declined from 15.87 to 6.25%. This last shift may be explained by the difficult internal situation of France during the Wars of Religion; periods of relative peace alternated with periods of intense conflict.⁴⁵ Both Spanish and French vessels arrived in Genoa primarily from Mediterranean ports: the former mainly carried wine, wool and salt; the latter operated also on the routes linking Genoa with the Tyrrhenian coast and carried a larger variety of goods.

The presence of Northern ships merits to be dealt in some detail: it made up 23.81% of traffic in the period 1589–1592, but this data needs to be analysed more carefully, since arrivals from Northern Europe were mainly concentrated in the years immediately following the establishment of the *portofranco*. According to data provided by Grendi, this represented a first rise in trade at the Genoese port parallel to the descent of Northerners. This first cycle ended around 1597, when the supply of cereals from the traditional markets of Sicily, Maremma and Provence fully recovered. The peak was in two-year period 1592–1593, when a total of 426 vessels arrived, of which 247, or 58%, can be classified as Northerners. Already in 1594, however, these made up only 10 out of 113 arrivals,

⁴⁴ Moroni, *L'impero di San Biagio*, 120–126; L. Kuncevic, 'The Maritime Trading Network of Ragusa (Dubrovnik) from the Fourteenth to the Sixteenth Century', in Blockmans et al. eds., *The Routledge Handbook of Maritime Trade*, 141–158.

⁴⁵ In April 1598, at the end of what is known as the Eighth War of Religion, King Henry IV issued the Edict of Nantes to normalize the position of the Huguenots and to try to restore peace. We can thus hypothesize that the country's internal crisis resulted in a contraction in local production, and consequently a fall in the transportation of these goods from the French coast and thus fewer French arrivals at the Genoese port. Grendi's findings regarding entry traffic and the nationality of the vessels are of little help because he presented no data for the time period under consideration here (Grendi, 'Traffico portuale', 638).

and this proportion was destined to remain substantially constant in the following years.⁴⁶

This trend is also clear from the analysis of Average declarations submitted by Northern ships in the period under examination. Concentrated for the most part in the years 1591–1592, with a considerable decrease at the end of the century, these provide important information on the characteristics of these vessels. For the period 1597–1599, Northerner reports are only 4.46% of the total. These were vessels from the ports of Hamburg, Danzig, Amsterdam, Hoorn and Middelburg loaded with wheat or rye and had very similar characteristics, i.e. ships of medium-large size with an average capacity of around 100–150 *lasti*,⁴⁷ though we also find the arrival of some ships of 200 *lasti*, equivalent to about 450 tons. This is the case, for example, of the *La Carità*, master Giovanni Mineman of Hamburg, coming from Amsterdam and Texel and *The Three Kings*, master Andrea Ghiles of Copenhagen, coming from Middelburg. Both arrived at the end of 1591 loaded with wheat.⁴⁸ Masters classified as Northerners included Danes, English, Poles from Danzig, but also Germans from Hamburg and Lübeck, and Dutch or citizens of the Spanish Netherlands (Haarlem), as well as those whose ‘generic’ Northern European identity can be deduced from their names when the documentation does not specify their origin.

As it is known, the competitive advantage gained by Northern merchant navies in the Mediterranean basin was determined by their ability to build less expensive vessels with a high-load capacity, which reduced transaction costs in terms of freight rates and insurance premiums. However, as Luciano Pezzolo stated, and this is confirmed

⁴⁶ In this first phase, particularly between 1590 and 1593, the Northern vessels docking at Genoa numbered more than those arriving at Livorno (300 vessels compared to 227), thanks to the intermediary work of Genoese businessmen in Flemish and Hanseatic marketplaces to attract loads of grain, necessary to combat the period of famine (Grendi, ‘I Nordici’, 24–30; and his ‘Traffico portuale’, 637).

⁴⁷ A *lasto* is the equivalent of a bit more than 48 *cantari*, or approximately 2.8 tons (Grendi, ‘I Nordici’, 29). On this unit of measure and the slight discrepancies across different nationalities, see *Enciclopedia del negoziante, ossia gran dizionario del commercio, dell’industria, del banco e delle manifatture*, 4 vols. (Venice: Antonelli, 1842), IV: 1047–1048.

⁴⁸ Source: <https://humanities-research.exeter.ac.uk/avetransrisk/>. Id 50057, 50054 (last accessed on 29 November 2021). On the Average procedure concerning the ship *La Carità* see the Felloni’s paper card reproduced in Image 1.

by the data examined here, it would be wrong to think that the parallel decline of the Mediterranean fleets had the characteristics of a collapse, as these managed to maintain important positions for a long time, albeit far from the quasi-monopoly of the Renaissance era. This was thanks both to a general expansion of maritime trade from which everyone benefitted, and the ability to reconvert and redirect mercantile interests towards new traffic routes.⁴⁹ Genoese merchants, for example, took advantage of their privileged position with Spain which fostered significant commercial activity with Iberian ports.

CHARACTERISTICS OF THE SHIPS ARRIVING IN GENOA (1600–1608)

There are 369 Average declarations for the period 1600–1608 (Graph 3), a particularly high number. This is despite a gap in the documentation for the years 1604 (with only four extant declarations) and 1605 (with two),⁵⁰ although 105 and 90 ships, respectively, entered the port in those two years, and we have seen how about 60% of arriving ships usually declared an Average. It should also be borne in mind that, after a slight decline in the last years of the previous century (between 1596 and 1599 an average of 73 ships arrived per year), in these years there was a significant recovery (on average 136 ships entered the port per year), thanks above all to a new wave of Northerner arrivals, which petered out only in the early 1620s.⁵¹ These years are also interesting as they immediately precede the 1609 extension of the *portofranco*.

Of these 369 reports, approximately 73% contain useful information regarding the master's nationality. According to this data, ships from Northern Europe made up almost 30% of the total number of vessels submitting Average reports. Of these, 67 were Dutch, 14 German (mostly from Hamburg and Lübeck), and 14 Poles (12 from Danzig, which in recent years had reached its peak as 'the granary of Europe').⁵²

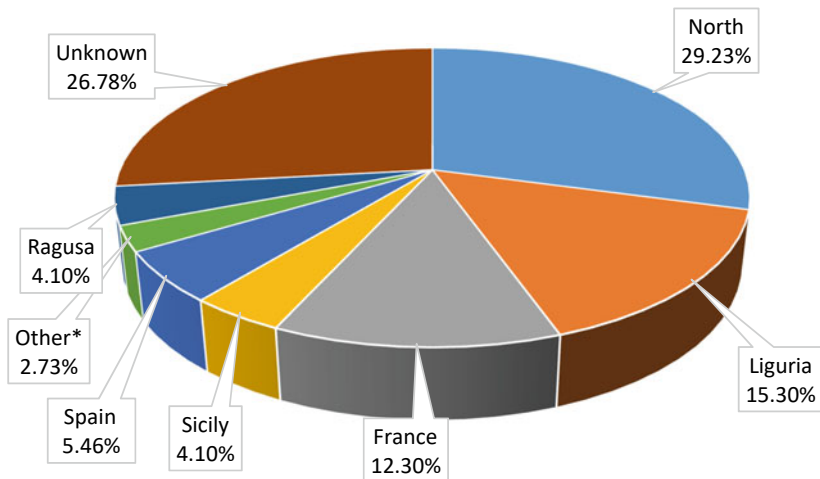
⁴⁹ Pezzolo, 'I traffici mediterranei', 22–24.

⁵⁰ Archivio di Stato di Genova (=ASG), *Notai Giudiziari*, fl. 636–640, *Orazio Fazio*, years 1600–1608. These declarations of Average have not yet been entered into the database, so I have conducted my own analysis of the documentation.

⁵¹ Grendi, 'I Nordici', 65.

⁵² On the rise of Danzig and the grain traffic that departed from its port destined for the Atlantic ports of Spain and France as well as Italian ports including Genoa, see

Nationalities 1600-1608



Graph 3 Nationality of *patroni*/masters submitting Average reports (1600–1608) * Marche (1); Naples (1); Savoy (2); Apulia (2); Sardinia (1) (Source My analysis of data from ASG, *Notai Giudiziari*, fl. 636–640, *Orazio Fazio*, years 1600–1608; ADG, *G. Felloni*, box 1. The category ‘North’ includes Danes, English, Poles, Germans, Dutch and subjects of the Spanish Netherlands)

The most frequent ports of origin in the 1590s had included Amsterdam, Danzig and Hamburg, these remain frequent also in this sample, but we can also add: Lübeck, Bremen, Rotterdam, Texel, Le Havre and smaller ports in the Low Countries. Even at this stage, Northern ships had not yet got involved in intra-Mediterranean traffic, and thus did not really threaten the activity of local shipping. At the beginning of the seventeenth century, the Genoese merchant fleet was still rather active, although it recorded a decline compared to the last decade of the sixteenth century: fifty-six vessels submitting Average reports had *patroni*/masters who were subjects of the Republic, equal to 15.3% of

J. Wubs-Mrozewicz, ‘Danzig (Gdańsk): Seeking Stability and Autonomy’, in Blockmans et al. eds., *The Routledge Handbook of Maritime Trade*, 248–272; the same volume, on Lübeck see: C. Jahnke, ‘Lübeck and the Hanse: A Queen Without Its Body’, 231–247.

the total.⁵³ They operated exclusively along two routes: one crossing the Tyrrhenian from South to North, coming from the ports of Southern Italy and Sicily but also from Naples and its gulf (including Castellamare di Stabia and Sorrento); the other route crossing the Mediterranean from West to East, connecting Genoa with Iberian and Balearics' ports. They mostly imported wheat, wool and, especially from southern Italy, raw silk and wine. In addition to Genoese ships, many Sicilian and Spanish vessels were active on these routes. Sicilians made up 4.1% of the total, with masters from Catania, Messina, Palermo and Trapani, while the Spanish, who made up just under 5.5%, were for the most part led by Catalan masters and, to a lesser extent, from Valencia and Mallorca.

The presence of the Ragusan fleet had decreased to 4.1% compared to 17.86% in the previous period. Its decline was now evident, although the deep crisis that would determine its almost total disappearance from Mediterranean traffic started in the 1620s. This coincided with the contraction of the Ottoman economy and of Venetian trade which affected the Republic of San Biagio, forcing it not only to downsize its activity in the Adriatic, but also hampering its transport role on long-distance routes.⁵⁴

A new and significant presence in the port of Genoa in this period was that of French vessels, 12.3% of all traffic, showing a return to levels close to those recorded for 1589–1592 (when it was approximately 15%) and almost twice the figure for the end of the sixteenth century. It's clear that the internal stability following the Edict of Nantes (1598) and the resumption of imports from Provençal ports had a positive impact. In cases, where Average declarations give precise indications regarding the master's place of origin (33 cases out of 45), we can see that they were for the most part located along the Mediterranean coast (Antibes, Cassis, Marseille, Saint Tropez and Toulon, or generally Provence), while only a scarce percentage (6 cases or 13% of the French total) originated from Atlantic ports such as Le Havre and La Rochelle.

This distinction is important because by observing the ports of origin of these ships, we can see that those based in French Mediterranean ports also operated outside the ports of southern France, transporting cereals

⁵³ On the restructuring of the international economy in the seventeenth century and the consequences for maritime traffic and the Genoese economy, see P. Malanima, *La fine del primato. Crisi e riconversione nell'Italia del Seicento* (Milan 1998), 113.

⁵⁴ Moroni, *L'impero di San Biagio*, 229–233.

(especially wheat and rye) from the ports of the Papal States, southern Italy, Sicily and the Maghreb coasts towards Genoa. In fact, Genoese merchants used French vessels for two reasons: first, they were considered safer for routes characterized by a high risk of attack by pirates; second, in periods of heavy traffic, the supply of transport by the merchant shipping of the Republic was not sufficient to meet the demand.⁵⁵ At this stage, however, this phenomenon did not seem to involve vessels coming from Atlantic ports, which operated exclusively along the connecting routes with Genoa. The Provençal market continued to be an important supplier of goods to the Republic.⁵⁶

Finally, in very few cases vessels of other provenance appear in the *testimoniali*, indicating that their presence in the Genoese port was sporadic and therefore of little statistical significance: we find only one Neapolitan vessel (with a capacity of 1,600 *cantari* loaded with chickpeas from Sicily), two from Apulia, two from the Duchy of Savoy, one from the Marche region (on the Italian Adriatic coast) and one from Cagliari (Sardinia).

The substantial amount of data available for this period allows us to make a more detailed analysis of the ships that arrived in the port of Genoa and that declared an Average during the voyage. In Table 1, we see that there were proper Average calculations for 136 out of a total of 369 submitted declarations, meaning that only 36.8% of procedures were actually completed. This percentage, which is somewhat constant also across the other periods examined, can likely be explained by the popularity of Average reports in the Genoa marketplace. Reports were often submitted by the master for the sole purpose of certifying, and at the same time justifying, any damage to the cargo, in order to free himself of

⁵⁵ This issue was frequently raised by the Lomellini family, administrators of the Genoese possession of Tabarca between 1542 and 1741, who usually transported coral and other goods from the area back to Genoa on French ships (L. Piccinno, *Un'impresa fra terra e mare. Giacomo Filippo Durazzo e soci a Tabarca (1719–1729)* [Milan 2008], 177–185). For other similar cases see Grendi, 'I nordici', 349. This phenomenon emerges also from Average proceedings, with Averages declarations presented by French masters coming from Tabarka (ASG, *Notai Giudiziari*, fl. 1643, *Gio Agostino Gritta*). On the rise of French maritime trade in the Levant, and especially Provençal, see: Ghezzi, *Livorno e il mondo islamico*, 57–65.

⁵⁶ On the export of Provençal goods: G. Rambert, *Histoire du commerce de Marseille*, VII, *De 1660 à 1789, L'Europe* (Paris 1966), 389–415.

Table 1 Distribution of Average reports for the period 1600–1608, by type of vessel

<i>Type of vessel</i>	<i>N° of vessels submitting a declaration</i>	<i>N° of declarations of Average without calculation</i>	<i>N° of declarations of Average with one or more calculations</i>
Barca	24	12	12
Brigantino	1	0	1
Cimba	3	3	0
Feluca	6	4	2
Fregata	2	1	1
Galeone	18	9	9
Galeonetto	12	3	9
Latina	1	1	0
Nave	233	154	79
Polacca	27	19	8
Saetta/Sagitte	17	11	6
Tartana	6	3	3
Urca/Orca	5	1	4
Fiamminga			
Vascello	5	4	1
Unknown	9	8	1
Total	369	233	136

Source ASG, *Notai Giudiziari*, fl. 636–640, *Orazio Fazio*, years 1600–1608; ADG, *G. Felloni*, box 1

any responsibility.⁵⁷ It is no coincidence that declarations opened with the attestation of the ship's safety conditions and the correct stowage of the cargo and were reinforced by testimonies given by some crew members or passengers who were occasionally on board.

The greatest danger that weighed on maritime transport was bad weather, to cope with which the master was often called upon to take risky decisions that could give rise to a GA. Only through what had emerged from his declaration, and attached witness testimonies, could the magistracy responsible for Averages in Genoa (*Conservatori del Mare*) decide whether to accept the declaration and start the procedure for calculating the allocation of damages and expenses among all people involved in the venture, or whether to classify the incident as a PA. In this latter case,

⁵⁷ Such reports could also facilitate insurance pay-outs. In Genoa, insurance contracts could also include General Average costs, on this Iodice, Piccinno, 'Managing Shipping Risk', 83–92.

as mentioned before, any damage suffered remained the responsibility of the owner of the asset in question, or of its insurers. Furthermore, it cannot be ruled out that some of the reports of Average without an attached calculation were due to a voluntary interruption of the procedure by the parties, who might have decided to pursue a resolution through out-of-court agreements.⁵⁸

The type of vessel most frequently found in the port of Genoa, 63%, was classified as a *nave*, although, as already underlined, the term '*nave*' in some cases was also used in a generic way, as a synonym for vessel. Proper '*navi*' were relatively large vessels, with a capacity that could vary from 240 tons up to as much as 1400–1500 tons, although it was usually 400–450 tons. These were mainly used by the Northerners because of their large size, their suitability for longer journeys and for the transport of bulk goods with low-added value, which usually meant cereals.

Another type of vessel widely used by the mercantile fleets reaching Genoa in this period were *polacche*: there were 27 among the cases examined here, equal to 7.3%. They too were mainly used for the transport of cereals despite their modest size (their capacity never exceeded 100 tons),⁵⁹ or for the transport of wine, and they travelled almost exclusively within the Mediterranean basin, often along the coasts. The *barche* had a similar capacity, although the largest could reach up to 380 tons, and were in use all around the Mediterranean in many variations.⁶⁰ They represent 6.5% of the cases analysed and generally transported the wine arriving from Southern Italy, in particular from Naples (9 cases out of 24).

Two vessels belonging to the same category⁶¹—*galeoni* and *galeonetti*—make up just over 8.1%. They were essentially distinguished by

⁵⁸ On the extensive use of declarations of Average in Genoa and the procedures regarding this, see the contribution of Antonio Iodice in this volume.

⁵⁹ Vessels with two masts and two decks, with an average length of 20 metres and a width of 7 metres, these *polacche* were primarily Provençal (Gatti, *Navi e cantieri*, 218–219).

⁶⁰ On the types of vessels arriving in Ligurian ports in the sixteenth and seventeenth centuries, see Gatti, *Navi e cantieri*, 189–194.

⁶¹ The earliest information about *galeonetti* appears in Genoese notarial documents in the second half of the sixteenth century. *Galeoni* and *galeonetti* that began travelling in this period had different characteristics from those of earlier decades: these vessels became much more similar to other sailing vessels, except for a longer keel and the rule of proportion according to which the length of the main deck is three times the greatest width, which in turn is double the height to the second deck. By the second half

Table 2 Distance from the port of origin for ships submitting Average reports in Genoa (1600–1608)

<i>Short distance (up to 90 nautical miles)</i>	<i>Medium distance (90 to 400 nautical miles)</i>	<i>Long distance (more than 400 nautical miles)</i>	<i>Distance unknown</i>	<i>Total</i>
2.7%	12.2%	73.4%	11.7%	100%

Source My analysis of data collected from ASG, *Notai Giudiziari*, ff. 636–640, *Orazio Fazio*, years 1600–1608; ADG, *G. Felloni*, box 1

their size: galleons could carry up to 5,000 *salme* of goods (almost 1,200 tons),⁶² and generally came from Sicily and Mediterranean Spain; *galeonetti*, on the other hand, had similar structure but much smaller dimensions and capacity (just under 150 tons), and were often used by French masters for the transport of various goods from Corse, Sardinia and Sicily. The use of *saette* was also quite widespread (17 cases and therefore 4.6% of the total) which is not surprising as these were fairly common in Ligurian and French merchant fleets.⁶³ These had an average capacity of 38 tons and were used to transport wine and wheat from Southern Italy. For this period, only 9 of the 369 declarations, or 2.5% of the total, report no information on the type of vessel subject of the Average report.

Vessels carrying a single product load comprised about 45% of the total, of which two thirds were represented by foodstuffs and above all cereals. The length of the journeys undertaken by carriers arriving in the port of Genoa (see Table 2) varied greatly. 73% of the journeys exceeded 400 nautical miles. Distances ranged from the 3,500 miles travelled by ships arriving from the ports of Poland, Denmark and Germany, to the approximately one thousand miles covered by those arriving from the Strait of Gibraltar and from neighbouring ports located on the Spanish coast, down to only 10–20 miles by the vessels that engaged in cabotage along the *Riviere*.

of the seventeenth century *galeoni* were rarely used by Ligurian ship-owners, and they disappeared altogether in the following century (Gatti, *Navi e cantieri*, 168–171).

⁶² One *salma* is equal to 5 *cantari*, or 238 kg (Rocca, *Pesi e misure di Genova*, 97–98).

⁶³ These were vessels with three masts, between 15 and 25 metres in length and a crew of 4–5 men (Gatti, *Navi e cantieri*, 198–200; Ciciliot, ‘Costruttori e navi’, 139).

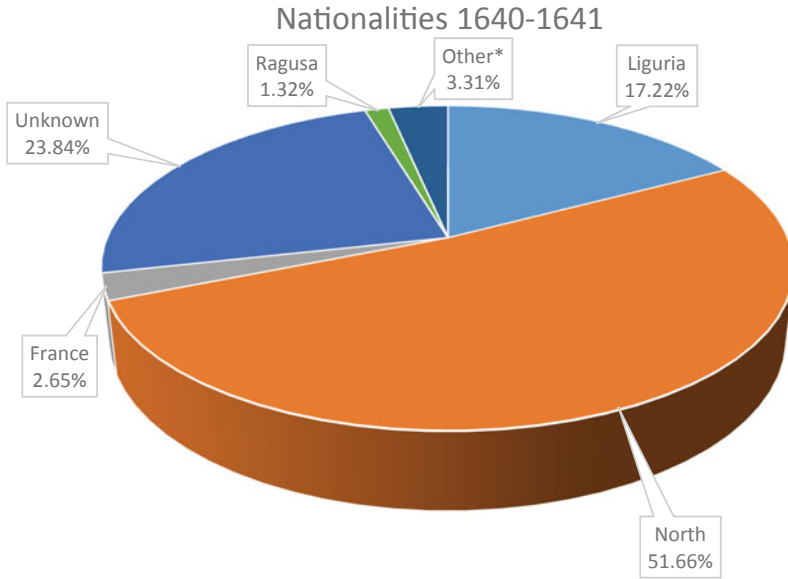
Of course, this data relates exclusively to vessels that had declared an Average. It can therefore be assumed that longer routes exposed carriers to greater risks, even if larger and thus safer ships were usually used for these voyages. Still, sailing along the coast with small vessels could also be dangerous. The presence of Average reports for modest-sized vessels (*saette*, *tartane*, *galeonetti*, *feluche*)⁶⁴ seems to confirm that even the short/medium distance routes and coastal navigation were not without risks.

CONSOLIDATION OF THE NORTHERNERS' PRESENCE AND THE SUBSIDIARY FUNCTION OF GENOESE SHIPPING IN THE PERIOD OF CRISIS

An analysis of the traffic in the port of Genoa in 1640–1641 (Graph 4), based on 151 available and complete Average declarations, reveals important changes in both the nationality and typology of vessels. First, the total volume of incoming traffic of ‘big’ vessels (with a capacity exceeding 1,500 *cantari*) after registering a relatively regular growth from the beginning of the century to about 1620, underwent a decline lasting until 1628. This was followed by a positive phase, which reached its peak between 1630 and 1633 (despite the plague that hit Genoa in 1630–1631) and ended around 1637. The following period, which includes the two-year period analysed, was characterized by a slow decline that increased around the middle of the century and saw its lowest point in 1657 due to another, and more serious, bout of the plague.

This long downturn can be explained above all by the meagre results of the *porto franco* policies, which were hit by the provisioning policies of the city government, aimed at guaranteeing the supply of cereals for the sustenance of an urban population that had now reached 75,000, thus

⁶⁴ The *tartane* were midsize ships (9–12 metres in length) similar to *pinchi* and *polacche*, albeit smaller than *polacche*. The *feluche* were different from all other vessels, with specific characteristics: a long and narrow hull with a length between 8 and 13.5 metres, and one or two masts. They were popular for transporting passengers along the coast, and by the Neapolitan and Sicilian commercial fleets (Gatti, *Navi e cantieri*, 176–177, 222–223; Ciciliot, ‘Costruttori e navi’, 114–115, 142).



Graph 4 Nationality of *patroni*/masters submitting Average reports (1640–1641) (%). The category ‘North’ includes Danes, English, Poles, Germans, Dutch and subjects of the Spanish Netherlands. *Other = 1 Spain; 1 Corsica; 1 Naples; 1 Tuscany; 1 Persia. (°) This data includes vessels that departed in 1639 and submitted an Average report in 1640 (Source <http://humanities-research.exeter.ac.uk/avetransrisk/> [last accessed on 29 November 2021])

limiting the possibilities of re-export.⁶⁵ In addition, there was a lack of return cargo for arriving ships as a result of the crisis in regional manufacturing production (silk, velvets, paper, soaps) and coastal agriculture (especially oil) caused by wars and famines. Another factor was the lack of warehouses for the storage of goods in transit, resolved only with the construction of new infrastructures that started in the second half of the century. The Genoese port could not yet be considered a real emporium (it would only become one the following century) and for this reason it

⁶⁵ For example, it has been estimated that in 1636 only 1/7 of grain imported to Genoa was re-exported. This situation changed only over the course of the eighteenth century, when the Ligurian port became a true grain entrepot (Grendi, ‘I nordici’, 62).

was very exposed to competition from both Marseille and Livorno, which offered incoming vessels more chances of obtaining return cargoes.⁶⁶

Within the negative trend that characterized traffic in the 1630s and 1640s, as underlined by Grendi, it is possible to identify a 'Northern effect' which goes against this trend, as those shipping fleets which were already protagonists of trade along the North-South routes connecting Northern Europe with Mediterranean ports, now started to get involved in a significant percentage of Mediterranean trade.⁶⁷

The picture that emerges from the 1640-1641 dataset confirms the trends discussed above and allows us to go into more detail. Shipping arriving at the Genoese port appears now firmly in the hands of the Northerners: from the 23.81% average annual activity during the so-called first wave, their presence had increased to 29.43% at beginning of the seventeenth century during the 'second wave', and by 1640-1641 had reached an impressive 51.66%. A contributing factor was the rise of the English presence in Genoa, which had been almost completely absent until the beginning of the seventeenth century. Of the ships filing Average reports which specified their origin, we find 19 English vessels (12.58% of the total), in contrast to the decline of the German presence due to the Thirty Years' War (in fact only two masters from Hamburg submitted declarations). We also find a substantial presence of Flemish masters (12, just under 8%). For the other cases examined, their Northern origin can be deduced from the information taken from the available documentation, but it is not possible to accurately trace the masters' provenance.

Another important change that occurred in this period concerns the carrying capacity of the Northern vessels which had grown, from an average of about 4,000 *cantari* at the beginning of the century to about 6,000 in the early 1640s. It should also be noted that these surveys were

⁶⁶ For the data on traffic at Genoa's port that can be deduced from the analysis of the registers of mooring tax, see Grendi, 'I nordici', 65-67; and his *Introduzione alla storia moderna della Repubblica di Genova* (Genoa 1973), 144-146. On the construction of new warehouses at the *portofranco*, see L. Piccinno, 'Città, porto, economia locale. I progetti di ampliamento del Portofranco di Genova tra Sei e Settecento', in Cavaciocchi ed., *Ricchezza del mare*, 773-794.

⁶⁷ Grendi, 'I nordici', 59.

based on the payment of port duties, which tends to provide underestimated values.⁶⁸ It is quite likely that declarations provided by masters for custom purposes upon their entry into the port, reported a capacity of the vessel lower than its real one, especially in periods of increased custom duties. The principal duty applied to vessels arriving in Genoa was the *jactus navium* (mooring tax) that was collected by the magistracy of the *Padri del Comune* which managed the port. In the last decades of the sixteenth century, it was two Genoese lire for every 1,000 *cantari* of capacity.⁶⁹ In 1638, however, following the increased financial needs due to improvements in the port's infrastructures, the customs system was modified with a considerable increase in the costs borne by the carriers.⁷⁰ The new system used as a unit of taxation the *salma di portata*—no longer 1,000 *cantari* (one *salma* was equivalent to about 5 *cantari*)—and decreed that vessels of over 800 *salme* had to pay a mooring tax of eighteen *denari*⁷¹ per each *salma*, which dropped to eight for those with a capacity between 800 and 50 *salme*; vessels under 50 *salme*, on the other hand, had to pay a fixed fee, a sort of 'subscription', of four lire a year.⁷²

⁶⁸ We should also remember that the cargo actually on board a vessel generally made up about 70% of the capacity. For an estimate of the capacity of Northern European vessels and an analysis of the relationship between cargo and capacity, see the data of A. E. Christensen, *Dutch Trade to the Baltic About 1600* (Copenhagen 1941), 91–104; and the elaboration of this data by Edoardo Grendi. He also attempted a correction of the data coming from fiscal sources in response to the problem of such values being underestimated (Grendi, 'I nordici', 38–39, 67).

⁶⁹ We should add to this other duties, mostly proportional to the vessel's capacity. These included the *gabella d'ormeggio* (the so-called '*schifato*') and the '*molagium*', aimed at vessels docking for the first time.

⁷⁰ The *Molo Nuovo* was built in 1638 to protect port from the insidious *Libeccio* South-Westerly wind. This had demanded considerable investment and the construction techniques used were copied by English architects for the construction of the mole at Tangiers (Massa Piergiovanni, *Lineamenti di organizzazione economica*, 92).

⁷¹ The Genoese Lira was divided into 20 *soldi* and 240 *denari*. In this period, its value was 0.461 grams of gold and 6.236 grams of silver (see G. Felloni, 'Profilo economico della moneta Genovese dal 1139 al 1814', in G. Felloni and G. Pesce eds., *Le monete genovesi. Storia, arte ed economia delle monete di Genova dal 1139 al 1814* [Genoa 1975], 193–358, 210).

⁷² The system remained unchanged until the fall of the Republic in 1797, on this see G. Doria, 'La gestione del porto di Genova dal 1550 al 1797', in G. Doria, P. Massa and V. Piergiovanni eds., *Il sistema portuale della Repubblica di Genova* (Genoa 1988), 135–198, 177–178.

Average documentation only occasionally reports the vessels' capacity, and therefore do not allow for an in-depth investigation of the increase in the size of Northern vessels. The very scarcity of this data, however, is itself rich in meaning. First, by analysing the calculations that took place for the distribution of damages and costs following the declaration's submission, we see that the carrying capacity, even where indicated, provides data that was not very relevant for the purposes of the calculation itself. Decisive elements were instead: the value of the vessel, generally verified through an appraisal ordered by the *Conservatori del Mare*; the value of the cargo, valued as per bill of lading; and the freight that had been paid.

The omission of the vessel's tonnage in declarations was particularly evident in the documentation relating to the period 1640–1641, immediately following the tax reform mentioned above. This had been reported in 36 declarations out of 63 submitted in the period 1589–1592—57% of cases. By contrast, in 1640–1641 this information appears in only 7 reports out of 151—4.6% of cases. Estimates of the vessels and their furnishings are instead almost always there.⁷³ It is likely that the customs tightening for arriving ships prompted masters to omit details on tonnage when submitting reports, in order to avoid problems in case of discrepancies with data provided for tax purposes.

Regarding the heavy presence of Northern ships in Genoa, we can verify which portion of traffic they had managed to penetrate, because in addition to monopolizing trade along the Atlantic route, they were now specialized in intra-Mediterranean tramp traffic. They appear to have replaced Ragusan ships, by now almost completely vanished; from 17% at the end of the sixteenth century, Ragusan presence dropped to 5% at the beginning of the following century, sinking to 1% by the 1640s. Sicilian and Iberian vessels had also disappeared, while French presence was marginal (only one master from Marseille and one French resident in

⁷³ See, for example, the appraisal of the *leudo Santa Maria Bonaventura*, drafted on 26 April, 1640, by the *Conservatori del Mare*. The document was drafted in order to proceed with the calculation and apportionment of damages following an Average declared due to bad weather in Sestri Levante, along the La Spezia-Genoa route. It is significant that in this official evaluation the vessel is classified as a *leudo*, while the *testimoniale* refers to a *cimba* and the calculation to a *fregata*. This makes clear that the only 'reliable' information was the actual value assigned to the vessel, in this case 310 Genoese *lire* (Source: <https://humanities-research.exeter.ac.uk/avetransrisk/>. Id. 50376 [last accessed on 29 November 2021]).

Venice emerge from the reports). The Franco-Spanish conflict, in progress since 1635 following the entry of Louis XIII in the Thirty Years' War, and the role of the Republic of Genoa, with its strategic position linking Spanish possessions in Italian territory and its proximity to the French border, all played a leading role in bringing about this decline.⁷⁴

Ligurian shipping remained relatively constant, even slightly increasing compared to the beginning of the century. Report related to Ligurian ships now made up 17.22% compared to 15.30% in the period 1600–1608. Next to Northern shipping, the merchant fleet of the Republic, especially ships from the *Riviera*, represented the second pole, around which the traffic of the port of Genoa revolved. It increasingly specialized in the routes from Provence, Tuscany, Livorno and the two islands of Sardinia and Corsica, as well as in cabotage for the transport of local oil production.⁷⁵ Its dynamism is also confirmed by the activity carried out along routes where the port of Genoa was not the final destination. Average declarations in the database report some interesting cases like the *San Pietro Bonaventura* of the *patrone* Antonio Gracco of Alassio. Leaving Sardinia for Livorno in October 1640 with a cargo of dried tuna products (*tonnine*), wool and cheese, the *barca* was forced to make several stops to seek refuge due to bad weather, and due to the damage suffered declared Average in Calvi in Corsica the following December.⁷⁶

The data above nuances the traditional historiographical view according to which the Genoese fleet suffered a significant decline starting from the last decades of the sixteenth century to reach its nadir at the end of the seventeenth.⁷⁷ There is no doubt that a high percentage of traffic was lost to the Northerners: this is evident for the connecting routes with Northern Europe, which at the beginning of the fourteenth century had been in Genoese hands thanks to a policy of increasing vessels' tonnage

⁷⁴ According to the findings of Renato Ghezzi, the decline of French shipping was evident also in Livorno, and not only during the Plague years (Ghezzi, *Livorno e il mondo islamico*, 33). One of the possible explanations is the internal revolts caused by Richelieu's tightening of fiscal policy to finance his military strategy (A. Tenenti, *L'età moderna* [Bologna 1980], 304–305).

⁷⁵ Grendi, 'I nordici', 54.

⁷⁶ Source: <https://humanities-research.exeter.ac.uk/avetransrisk/> (last accessed on 29 November 2021); the declaration was then sent to Genoa as Corsica was then under the control of the Republic (ASG, *Notai giudiziari*, fl. 2084, *Gio Benedetto Gritta*, years 1639–1640, doc. 187).

⁷⁷ Ghezzi, *Livorno e il mondo islamico*, 223.

and, above all, thanks to the presence of small but dynamic communities of Genoese merchants and businessmen in England and Flanders.⁷⁸ It is equally undeniable, however, that at least until the first half of the seventeenth century, the Genoese managed to defend their role in Mediterranean maritime trade, performing a subsidiary function with respect to the maritime powers of Northern Europe and specializing in short and medium routes.

THE PORT OF GENOA AND ITS NETWORK (1640–1641)

The analysis of this data allows us to create a map of the traffic network connected to the Genoese port for the period 1640–1641 to visually verify its spread. Average reports always contain precise information regarding the vessels' port of origin and the stopovers made along the route, both for technical reasons (i.e. to find shelter in case of bad weather or for urgent repairs), and for loading cargo. Only in a small percentage of cases (less than 5%) it was not possible to trace the location of the landing places indicated in the documentation.

Map 1 provides an overview of the connections between Genoa and the entire European continent. Although it was made through the survey of the travel data from vessels that submitted an Average report in 1640–1641, as argued before, we can make fairly precise considerations thanks to the representative nature of the sample. The most distant port of call is the Russian port of Arkangelsk, at the mouth of the River Dvina on the White Sea, from which two ships arrived in 1640 (*Sancti Luiggi* and *L'Huomo Libero*). Their English masters both presented an Average report. Both left Russia on the 11 of September with a miscellaneous cargo. The *Sancti Luiggi* came up against two storms, one in the Øresund and the other off the Scottish coast, and docked in Genoa on the 21 of November after 71 days of travel. *L'Huomo Libero* suffered a storm near Cadiz which forced her to stop there for a lengthy period of time, arriving in Genoa much later, on the 14 of December.⁷⁹ Traffic between

⁷⁸ On this topic there is a rich bibliography. Among the most recent publications, see A. Nicolini, 'Commercio marittimo genovese in Inghilterra nel Medioevo (1280–1495)', *Atti della Società Ligure di Storia Patria*, n.s., XLVII (2007): 215–327 and bibliography therein.

⁷⁹ Source: <https://humanities-research.exeter.ac.uk/avetransrisk/>. Id. 50397, 50402 (last accessed on 29 November 2021). The year before there had already been an arrival

Genoa and Northern Europe involved a small number of ports, namely Hamburg in Germany and Amsterdam and Texel in the Netherlands (the Spanish Netherlands are absent) from which departed ships loaded with grain and miscellaneous goods. The same was true of the Atlantic coasts of the Iberian Peninsula, as only Lisbon, Seville and Cadiz are listed as ports of departure, with cargoes of sugar, cinnamon and cochineal, generally transported by English ships. The number of English ports involved was larger; in addition to London, with the greatest number of departures, there were also Dover, Plymouth and the Isle of Wight. With the exception of the arrival from Plymouth, loaded with salted fish (the so-called *salacche*), all other vessels loaded miscellaneous cargoes. In some cases, Genoa was just one of the stops planned, with some ships continuing towards Livorno, or up the Adriatic to Venice.⁸⁰

The picture of the connections between Genoa and the Mediterranean basin is decidedly different: Map 2 highlights a dense network of ports and landings, with a greater density along the Ligurian coast (thanks to cabotage traffic), and more broadly in the area of the Northern Tyrrhenian Sea, including Corsica, which at this time was under the dominion of the Republic. The island's harbours and landings were often used as a refuge in case of bad weather by vessels that transported grain, chickpeas, pasta, salt and cheese to Genoa, in addition to rags for the paper mills of the Genoese hinterland, as well as exporting timber, oil and wine. Down the Tyrrhenian coast, the main destinations were Livorno and Piombino, from which marble and iron were imported; Rome for the import of rags and soda ash; Latina for timber, then up to the Campania ports of Naples, Sorrento and Ischia, from which came rags, wine, oil, woad and porcelain. Particularly noteworthy was the arrival of an Armenian master carrying a load of oil, cereals and fine fabrics from Corfu.⁸¹ Moving towards the coasts of the Western Mediterranean, the French ports of Cannes and

from the same Russian port. This was the ship *Il Giove* with the English master William Cuous, who had departed on the 23rd of September with a cargo of various merchandise, and arrived in Genoa on 19 December 1639 after a stop in Alicante due to bad weather (ASG, *Notai Giudiziari*, fl. 2084, *Gio Benedetto Gritta*, doc. 95).

⁸⁰ Source: <https://humanities-research.exeter.ac.uk/avetransrisk/>. Id. 50284 (last accessed on 29 November 2021).

⁸¹ This was the *galeone Santa Maria Bonaventura* whose master was the 'Persian' Bernardinus Armenius: it departed Corfu in June of, 1640, was forced by one storm to stop at the Island of Giglio along the Tuscan coast, and another storm near Corsica forced another to stop at Livorno. Among the most valuable cargo was a *gallone*, a precious cloth



Map 1 The European port network connected to Genoa (1640–1641) (*Source* <http://humanities-research.exeter.ac.uk/avetransrisk/maps/ports/> [last accessed on 29 November 2021])

Marseille were both often used as a refuge for vessels coming from Spanish ports, but a small number of vessels were also coming from Marseille with cargoes of canvases. Traffic coming from the Iberian ports of Alicante, Cartagena, Cadaqués, Barcelona and the Balearic Islands was particularly

of silk with gold and silver used for ornaments (<https://humanities-research.exeter.ac.uk/avetransrisk/>). Id 50384 (last accessed on 29 November 2021).



Map 2 The Mediterranean port network connected to Genoa (1640–1641) (Source <http://humanities-research.exeter.ac.uk/avetransrisk/maps/ports/> [last accessed on 29 November 2021])

intense and cargoes included hides, wool, salt, soda, sugar, fruit, honey and *libani* (i.e. vegetable ropes).⁸²

As mentioned earlier, the transport of wheat absorbed a substantial share of traffic, not only from Northern Europe, but also from traditional supply centres such as Apulia (Taranto, Barletta, Trani and Manfredonia were the most common ports on loading); the islet of Tabarka (from which came Barbary products and precious raw coral), and above all Sicily (Trapani, Agrigento, Sciacca, Messina and Palermo).⁸³ Wheat travelled also along the Adriatic route, from Venice and Ancona, but also from further away, as we can see from an Average declaration submitted by a Flemish ship coming from Acre in Palestine, whence it had departed in October 1639 with a cargo of wheat, soda ash and silk, and encountered

⁸² 'In seafaring language, the term *libāno* (descended from the Arabic *libāno*, meaning 'rope'), denotes a rope of plant fibres (esparto, reed or broom), braided and not twisted, used for various purposes in both navigation and fishing': G. Casaccia, *Vocabolario Genovese—Italiano* (Genoa: Tipografia dei fratelli Pagano, 1851), 273.

⁸³ On grain trade involving Genoese merchants see A. Iodice and L. Piccinno, 'Whatever the Cost: Grain Trade and the Genoese Dominating Minority in Sicily and Tabarka (Sixteenth-Eighteenth Centuries)', in L. Andreoni, L. Mocarelli, G. Ongaro, and D. Do Paço eds., *Minorities and Grain Trade in Early Modern Europe*, Special Issue—*Business History*, 2021, 1–19. <https://doi.org/10.1080/00076791.2021.1924686>.

a storm near Sicily. Due to the damage to the cargo, the master submitted his report in December in Livorno, and a few months later this reached the *Conservatori del Mare* in Genoa.⁸⁴

Such cases, especially the last one, provide useful insights for future investigations of economic and maritime history through the analysis of Average documentation. We can learn about the circulation of goods, ranging from the most valuable such as silk, to the most voluminous and of lesser value such as wheat, both along traditional and new routes.

Average documentation also give insight into the characteristics of shipping carriers and their strategies; about the function of the emporium ports (Livorno and Genoa) as supply and redistributing centres; and to the mechanisms, partly still unknown, that underlay Average management. Finally, we can also gain a better understanding of how the difficult balance between those rules shared at international level, and local customs and regulations shaped the business strategies of commercial operators.

For example, regarding to the last case sketched above, why was the declaration presented in Livorno, only for this to be sent on to Genoa some months later? Why that procedure appears to have been halted? The last one an assumption made as the apportioning calculations are not there. Who were the protagonists of that case? And what might have motivated them to proceed in that way? Only through cross-referencing the data relating to the Average reports presented in Livorno and Genoa, and uploaded in the database, it will be possible to answer these questions and, more generally, to reconstruct a more complete picture of Mediterranean maritime trade in the early modern period.

⁸⁴ <http://humanities-research.exeter.ac.uk/avetransrisk/>. Id. 50194 (last accessed on 29 November 2021).

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