

# Managing Shipping Risk: General Average and Marine Insurance in Early Modern Genoa

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## A. Insurance and general average in Genoa's regulations: two parallel approaches to shipping risk management

The concept of risk acquires different meanings depending on the context and it tends to change over time. In Western culture, it is associated with some sort of 'philosophy of the limit' linked to reaching or bringing under control certain conditions likely to cause difficulties and problems.<sup>1</sup> In ancient times, it was identified with fate, mysterious destiny, and natural danger; in other words, no circumstance that human action could actually challenge. Only in the late medieval age, with the growth of trade, did *risicum* – intended as a fortuitous event – become an element that businessmen would take into account and protect themselves against, in order to preserve the profitability of their investments. It is in this framework, and more specifically in maritime transport, that insurance was first developed, as a tool transferring voyage risk, in part or in full, to third parties against payment of a premium.<sup>2</sup>

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\* Luisa Piccinno wrote sections A and B, Antonio Iodice wrote section C, while both authors wrote sections D and E jointly. The research for this essay was conducted thanks to the funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme, ERC Grant agreement No. 724544: AveTransRisk. Average – Transaction Costs and Risk Management during the First Globalization (Sixteenth–Eighteenth Centuries).

<sup>1</sup> *Luca Proietti*, *Il rischio nel governo delle organizzazioni imprenditoriali tra calcolo e arte* (2008), 57.

<sup>2</sup> See *Vito Piergiovanni*, *Le assicurazioni marittime*, in: *idem*, *Norme, scienza e pratica giuridica tra Genova e l'Occidente medievale e moderno*, vol. 2 (2012), 869–882; *idem*, *L'Italia e le assicurazioni nel secolo XIX*, in: *ibid.*, 827–868. Some of the classic references on this topic are *Enrico Bensa*, *Il contratto di assicurazione nel medio evo* (1884); *Louis-*

However, within maritime commerce, there is another institution, general average, with much older origins, and designed to better cope with the perils involved with maritime adventure. Its function could be defined as complementary to insurance. As illustrated later, its general principles date back to Roman times. Its objective is to share the risks associated with sea transport proportionally among all the stakeholders in the adventure, in certain circumstances. In proportion to the capital that they have invested, the stakeholders in the maritime adventure will share any losses resulting from a voluntary action by the ship's master aimed at saving the whole ship.

This work aims to investigate the evolution of general average and insurance regulations and procedures in Genoa, as well as the ways in which they intersected, with a view to fully understanding the mechanisms for managing maritime trade risks from the late Middle Ages to the early modern age. To this end, by using two complementary sources – that is, general average claims and insurance policies – and by cross-referencing some available data sets dating to the period between the end of the sixteenth century and the beginning of the seventeenth century, we will attempt to determine how dangerous the routes connecting the port of Genoa used to be. Finally, we will give some examples to demonstrate how both institutions available to maritime merchants were actually working and complementing each other. From this point of view, Genoa offers a unique vantage point, due to the important role played by its port and its highly dynamic and resourceful businessmen, who succeeded in developing cutting-edge financial instruments, the use of which would quickly spread from Genoa to all the other European markets.<sup>3</sup>

Marine insurance first spread across Tyrrhenian coast cities in the late Middle Ages, and then to the rest of the Mediterranean, following a remarkable growth in trade and financial activities. As to marine insurance regulations, Genoa was one of the most active and innovative cities.<sup>4</sup> Indeed, the local State Archives hold the very first insurance policy known to date: it was drawn up by notary Tommaso Casanova in Genoa on 18 March 1343, although it includes a prior agreement drawn up in Pisa on 20 February. The insurance contract covers, up to 680 gold florins, a cargo of ten bales of cloth, to be carried on the galley 'Santa Catalina', led by Captain Valentino Pinello, from Porto Pisano to an unspecified port of call in Sicily.<sup>5</sup> Conversely, the first marine insurance regulations date back to 1369. They were established by a decree issued by Gabriele Adorno, then

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*Augustin Boiteux*, *La fortune de mer, le besoin de sécurité et les débuts de l'assurance maritime* (1968). On the economic evaluation of the insurance contract, see *Federigo Melis*, *Origini e sviluppo dell'assicurazione in Italia (secoli XIV–XVI)*, vol. 1 (1975).

<sup>3</sup> *Giuseppe Felloni*, *Genova e la storia della finanza: una serie di primati?* (2005).

<sup>4</sup> See *Vito Piergiovanni*, *Assicurazione e finzione*, in: idem (n. 2), 1167–1171.

<sup>5</sup> *Giulio Giaccherio*, *Storia delle assicurazioni marittime* (1984), 23, 215.

Doge of the Republic of Genoa, aimed at limiting litigations arising out of bot-tomry, loan agreements and insurance policies.<sup>6</sup> These disputes were generally provoked by people who would take advantage of the cryptic clauses – actually necessary to avoid the ban on usury imposed by the Church – contained in these agreements, in order to avoid paying up or to carry out frauds. With this decree, any policies underwritten after the accident and those covering foreign ships were declared null and void.<sup>7</sup>

During the fifteenth century, marine insurance became increasingly regulated in all the main European markets. This process went hand in hand with market expansion and continued in the following century. In Genoa, marine insurance developed along two parallel lines. On the one hand, the industry was properly regulated, through the implementation of rules contained in the Barcelona Ordinances (issued between 1435 and 1484), and attached as an Annex to the *Consolato del Mare* (known as the Customs of the Sea). They governed the forms and effects of insurance policies, while establishing specific procedures to settle disputes.<sup>8</sup> On the other hand, in order to cope with traffic expansion and a parallel growth in insurance demand, the industry was being liberalised, responding to the demands of shipowners, merchants and brokers. The ban on the insurance of foreign vessels and cargoes was formally lifted in Genoa in January 1408 – more than thirty years before Florence – while the prohibition to insure vessels bound for the Strait of Gibraltar still remained in force. However, even the latter ban was lifted only a few years later, most probably around 1420.<sup>9</sup>

Sometime in the mid-fifteenth century – this time following Florence’s lead – the use of brokers and *apodisie* became popular practice in Genoa too, although notaries were still employed in some cases. Also, as early as at the end of the fourteenth century, insurance contracts had to be recorded in a public register and a tax amounting to 0.5% of the insured value was levied on them. The insured had to pay for this tax and, according to a law enacted in 1434, the broker was directly responsible for fulfilling this obligation on behalf of the insured. It was

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<sup>6</sup> ‘Contra allegantes quod cambia et assecuramenta facta quovicumque coum scriptura, vel sine, sint illicita et usuraia’, issued on 22 October 1369, reproduced in *Bensa* (n. 2), 149–151.

<sup>7</sup> *Luisa Piccinno*, Genoa, 1340–1620: early development of marine insurance, in: Adrian B. Leonard (ed.), *Marine insurance. Origins and institutions, 1300–1850* (2016), 25–46, 33 f.

<sup>8</sup> *Andrea Addobbati*, Italy 1500–1800: cooperation and competition, in: Leonard (n. 7), 47–78, 49.

<sup>9</sup> However, this ban did not seem to have a protectionist aim. It was intended to protect Genoese businessmen from the risks linked to the difficulties of finding information about sailing in such distant areas, which at the time were still poorly connected with the Mediterranean basin, see *Melis* (n. 2), 166; *Giacchero* (n. 5), 33 f., 218 f.

a modest tax, which, however, kept rising over time up to 1.5% in 1490. About a century later, it was calculated on the paid premium.<sup>10</sup>

Further, in the same period, standard forms with set wordings were gradually developed for insurance contracts, where the blank spaces had to be filled in with key information: name of the insured; name and type of vessel; quantity or value of the goods; port of loading and unloading; and insurance premium due. The insurance policy would also specify the names of the insurers with the amounts they had underwritten, and the premium percentage due to each of them. It was then endorsed by the broker – who had put the parties in contact, and would also sign the contract – and by payment of a *gabella* (a fixed duty). As to the risks covered by the policy, the common practice of adding the *ad florentinam* clause would indicate the maximum possible extent of cover, which essentially included every possible event, beyond the traditional cases of shipwreck or capture by pirates.<sup>11</sup> For example, a deed drawn up by Notary Damiano Pastine on 5 November 1459 concerning a shipment of alum from Genoa to Barcelona specified the following:<sup>12</sup>

‘Et intelligatur assecurantes currere rixicum ad florentinam, ita quod teneantur de guasto, marcido, furto, manchamento, ribaldaria patroni, etiam si mutasset viagium et de represaliis et in omnibus et per omnia pro ut obligentur assecuratores ad florentinam.’

‘And it is established that the insurers run the risk after the Florentine [way], so that they are liable for damages, rotting, theft, disappearance, the patron’s ribaldry, also if he changed voyage, and for reprisals. And the insurers are obliged in all things and through all things after the Florentine [way].’

For the first time ever, in this policy, the premium to be paid was clearly mentioned: it amounted to 4% of the insured value of 1,223.5 *fiorini*. The policy was underwritten by as many as 22 insurers: they were mostly members of Genoa’s aristocracy – Spinola, Grimaldi, Doria, Imperiale, Negrone, Cattaneo – but also businessmen for whom insurance was a way to employ their capital and diversify their investments. In fact, they were not only working as insurers, but also as merchants and shipowners. They were thus involved in different business sectors, through which they managed to accumulate huge fortunes and become leading players in the following century, when they ended up being the main financiers of the Spanish Crown.<sup>13</sup> At this point, however, it should be pointed out that the rules in force failed to mention any insurance coverage in case of general average. No evidence found so far has succeeded in shedding light upon this

<sup>10</sup> *Giacchero* (n. 5), 119 f.

<sup>11</sup> *Giacchero* (n. 5), 33 f.

<sup>12</sup> *Melis* (n. 2), 14.

<sup>13</sup> *Giacchero* (n. 5), 36, 74.

matter. However, based on regulations that were enforced in the following century, it is fair to assume that the parties were left free to add general average to the list of risks covered by the policy.

General average, as is well known, has much older origins than marine insurance.<sup>14</sup> Since the late Middle Ages, general average was being increasingly regulated in Genoa, well beyond the mere acceptance of its tenets as set out in the aforementioned *Consolato del Mare*.<sup>15</sup> The first rules governing general average found so far date back to 1316. They are included in the Statutes for the Colony of Pera, a small Genoese possession on the Black Sea, and they are one of the oldest body of laws of the Republic of Genoa<sup>16</sup>. In the fifth book, setting the rules of maritime commerce, there are also two chapters on this topic: one contains the provisions for loading any ‘goods’ that were not suitable for being stacked on the upper deck; the other, in case of danger to the ship, covers the jettison of the cargo, which could be undertaken provided that all the merchants on board have authorised it.<sup>17</sup> The same chapters, partially reworded but with unchanged content, are found about a century later in the Statutes of the *Officium Gazariae*, the Court of Genoa with specific jurisdiction on maritime issues.<sup>18</sup>

<sup>14</sup> The Rhodians were the first to formulate and apply the principles of general average, presumably already known by the Greeks. These principles were later accepted by Roman law, albeit partially, in the *Lex Rodia de jactu*. For a detailed analysis of the origins of this institution, see *Alfredo Antonini*, *Atto d'avaria comune e contribuzione alle avarie comuni dall'antico diritto dei Rodii*, al *Libro del Consolato del Mare*, all'età moderna, in: Paolo Alberini et al. (eds.), *Tradizione giuridico-marittima del Mediterraneo tra storia e attualità* (2006), 245–276.

<sup>15</sup> In many editions of the Book of the Consulate, both manuscripts and printed, there is an appendix reported also by the jurist Giuseppe Lorenzo Maria Casaregi, according to which the chapters of the Consulate were accepted in Genoa in 1186 – that is, more than three centuries before its actual publication. Such a circumstance makes this statement unreliable. It should also be noted that the first Italian edition of the Consulate dates back to 1479. See *Giuseppe Maria Casaregi*, *Il Consolato del Mare*, in: idem, *Discursus Legales de Commercio*, vol. 3 (Venice 1740), 59; *Lorenzo Tanzini*, *Le prime edizioni a stampa in italiano del libro del consolato del mare*, in: Rossana Martorelli (ed.), *Itinerando. Senza confini dalla preistoria ad oggi. Studi in ricordo di Roberto Coroneo* (2015), 965–976, 967.

<sup>16</sup> On the administration of the Genoese territories in this area see *Carlo Taviani*, *The Genoese Casa di San Giorgio as a micro-economic and territorial nodal system*, in: Wim Blockmans et al. (eds.), *The Routledge Handbook of Maritime Trade around Europe 1300–1600: Commercial Networks and Urban Autonomy* (2017), 177–191, 185. On the first Genoese statutes, see *Vito Piervigovanni*, *Gli statuti civili e criminali di Genova nel Medioevo. La tradizione manoscritta e le edizioni* (1980).

<sup>17</sup> CCXV. *De Rebus Positis in Navi Super Cohpertam Emendandis*; CCXXXI. *De iactu emendando facto de voluntate maioris partis mercatorum*. These statutes are published in *Vincenzo Promis*, *Statuti della Colonia Genovese di Pera*, (1870) 11 *Miscellanea di Storia Italiana* 513–780, 752.

<sup>18</sup> These chapters appear in both the 1403 and the 1441 editions. VIII. *De non carrigando in coperta, nisi ut supra*; XCVIII. *De jactis et avariis factis de voluntate maioris*

## B. The need for consistent regulations and the 1589 Civil Statutes

In the late Middle Ages, the regulations enforced for marine insurance and general average – both key institutions for risk management in maritime trade – seem to follow two parallel paths, with no apparent points of contact. However, the situation changed in the sixteenth century. Since the beginning of the early modern age, maritime traffic was growing significantly in terms of both route expansion and increasing shipment volumes, coupled, since the end of the sixteenth century, with an increasing number of foreign carriers calling at Mediterranean ports. This is most probably the reason why Genoese authorities decided to restrict customary practices and enforce rules governing the relationship between insurance and general average.

Indeed, the great freedom afforded to contracting parties and the lack of any specific regulation were at the root of some disputes that erupted around the middle of the sixteenth century. They were reported in the treatise *De Mercatura decisiones et tractatus varii*, published in 1622 containing some judgments by the Civil Rota of Genoa, which had jurisdiction on all civil cases worth more than 100 Genoese *lire*.<sup>19</sup> One of these judgments, for example, concerned the acceptance of the appeal filed by the insurers Agostino Lomellino, Stefano Pinnelli and partners against Captain Lorenzo Riccio following the jettison of some goods, hence a claim that can be classified as general average (*decisio CXXIX*). The decision stated explicitly that, in the event of jettison, the insurers were not to be held liable for damage to the ship's equipment, the crew's property or the cargo on board. Therefore, they were obliged to pay for any type of damage covered by the policy *excepto iactu et avaria*. Further, this ruling was not aligned with those issued by the Rota in the previous years, which it clearly overturned. Obviously enough, because of ambiguous regulations on this issue, the judges were allowed a wide margin of discretion.<sup>20</sup>

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partis mercatorum, see *Jean-Marie Pardessus*, Collection des lois maritimes antérieures au XVIII siècle, vol. 4 (1837), 458–524. On the Statutes, see *Mario Chaudano*, Manoscritti ed edizioni degli statuti dell'“Officium Gazarie civitatis Ianue”, in: Studi di storia e diritto in onore di Arrigo Solmi, vol. 2 (1941), 443–464. Following the reforms promoted by Andrea Doria in 1528, this magistracy was replaced by the Conservatori del Mare. On this institution and its functioning, see *Manlio Calegari*, Patroni di mare e magistrature marittime: i Conservatores Navium, (1970) 2(1) *Miscellanea Storica Ligure* 57–91, 60; *Luisa Piccinno*, *Economia marittima e operatività portuale*, Genova, secc. XVII–XIX (2000), 75–76.

<sup>19</sup> *De mercatura decisiones et tractatus varii* (Cologne 1622). This book contained also three treatises by Benvenuto Stracca and his name appears on the cover. On Stracca, see *Gilberto Piccinini et al.* (eds.), *Benvenuto Straccha. Ex antiquitate renascor* (2013); *Luigi Franchi*, *Benvenuto Stracca giureconsulto anconitano del secolo XVI* (1975).

<sup>20</sup> The first point in this judgment's argumentation declares that ‘Ad remotionem antecedentis sequitur remotio subsequenti’, in: *De mercatura* (n. 19), 245. This judgment

By the beginning of the early modern age, marine insurance was already fully established. The rules governing its application, while based on common tenets, tended to vary from place to place and follow mercantile practice. From a legal point of view, Genoa was characterised by considerable freedom left to insurance parties, and by streamlined procedures. However, throughout the sixteenth century, there was consistent development of case law which, with its opinions and interpretations, contributed to a more unitary view of the principles and rules governing marine insurance.<sup>21</sup> In this period, an administrative and institutional reorganisation of the Republic of Genoa took place. Promoted by Andrea Doria, it culminated in 1528 with the *Reformationes novae* and the *Leges novae* in 1576. The long preparatory phase of the new Civil Statutes began in 1551 and ended only in December 1588, with their promulgation decree and subsequent publication and entry into force in June of the following year.<sup>22</sup> In general, the Republic's new body of laws contained many references to the preceding reforms by Andrea Doria. However, in the maritime and commercial field it builds on much older rules, dating back to the 1413 Statutes,<sup>23</sup> with a clear view to ensuring continuity in an area traditionally important to the economic interests of the Genoese ruling class – the businessmen who invested their capital in maritime commerce and in its many related businesses.

The new Statutes, as well as their subsequent editions translated into Italian and published without significant changes in the following century, devoted a great deal of space to both general average and marine insurance.<sup>24</sup> More exactly,

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is also included in the collection of decisions of the Rota published in 1582: *Decisiones Rotae Genuae De Mercatura et Pertinentibus ad eam* (Venice 1582), dec. CXXVIII f. 194r–194v (*Assecurator non obligatus ad iactum teneturramen ad naua rerum iactarum*). On the decisive role played by the judgments of the courts of the states of the Ancien Régime as a primary source of regulation of legal disputes, see *Gino Gorla*, *Civilian judicial decisions: an historical account of Italian style*, (1970) 44 *Tulane Law Review* 740–749; *Mario Sbriccoli* and *Antonella Bettoni* (eds.), *Grandi tribunali e rote nell'Italia dell'Antico Regime* (1993); *Cesare Maria Moschetti*, *Caso fortuito, trasporto marittimo e assicurazione nella giurisprudenza napoletana del Seicento* (1994); *Italo Biorocchi*, *Alla ricerca dell'ordine: fonti e cultura giuridica nell'età moderna* (2002); *Annamaria Monti*, *Iudicare tamquam deus: I modi della giustizia senatoria nel ducato di Milano tra Cinque e Seicento* (2003); *Alain Wijffels* and *Remco van Rhee* (eds.), *European supreme courts: a portrait through history* (2013).

<sup>21</sup> See *Vito Piergiorganni*, *The Rise of the Genoese Civil Rota in the XVI<sup>th</sup> Century: The 'Decisiones de Mercatura' Concerning Insurance*, in: *idem* (n. 2), 915–932.

<sup>22</sup> *Biblioteca Universitaria Genova (BUG)*, ms. C. III. 13, *Statutorum civilium Reipublicae Genuensis*, 1589.

<sup>23</sup> Attached to these statutes was also the *Liber Gazariae*, one of the few collections of laws preceding the sixteenth-century statutes, see *Rodolfo Savelli*, *Statuti e amministrazione della giustizia a Genova nel Cinquecento*, (2002) 110 *Quaderni Storici* 347–377, 362 f.

<sup>24</sup> As Savelli points out, 'a Genova si stampavano e si ristampavano gli Statuti mentre sembra esservi stata una minore attenzione per le leggi' ('in Genoa, the Statutes were

as far as general average is concerned, Chapter 9 of the first Book regulates the work of the *Ufficio dei Calcolatori*: like modern-day average adjusters, they were in charge of calculating how the expenses and damages accepted during the average procedure had to be shared among all the stakeholders in the maritime adventure. This office belonged to the Magistracy of the *Conservatori del Mare*, established in 1528 with specific jurisdiction over any maritime issue, and therefore also on general average. Additional rules were included in the fourth Book at Chapter 16, dedicated to the rules governing jettison: namely, the procedure a shipmaster or *patronus* was required to follow so that the cargo sacrificed for the common salvation could be classified as general average and the shipmaster relieved of any liability.<sup>25</sup> The following chapter was dedicated to insurance, thus confirming the very close connection between these two institutions<sup>26</sup> – a connection still visible today.

The statutory rules governing insurance in Genoa were essentially an organic collection of previously issued laws, similar to what happened to the *Statuti di Sicurezza* enacted in Florence in 1524,<sup>27</sup> and which shared some fundamental principles with the Genoese laws. While not particularly innovative, the Florentine *Statuti di Sicurezza* were the first systematic body of laws on this specific matter. This way, they became a model for all the other laws enacted on this subject in all major European markets. First, they required all parties to the insurance contract to use a standard form with blank fields to be filed with all variable elements, that is: the name of the insured; all the information necessary to identify the assets exposed to danger and assess their value; the voyage; and the name of the ship and of the shipmaster. It was also possible to include an *in quovis* clause,<sup>28</sup> whereby the name of the vessel employed could be omitted, as well as to employ the generic term ‘merchandise’ to avoid providing specific description

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printed and reprinted while the government seemed to pay less attention to the laws’). Save for minor changes, the Civil Statutes remained substantially unchanged until the end of the eighteenth century. The last edition was published in 1787, see *Rodolfo Savelli* (ed.), *Repertorio degli statuti della Liguria (XII–XVIII secc.)* (2003), 145, 150.

<sup>25</sup> Book I, Chapter 11. De’ calcolatori e ufficio loro; Book IV, Chapter 16. Del getto, e forme che si devono tenere in quello, in BUG, ms. C. III. 13, *Statutorum civilium Reipublicae Genuensis*, 1589, 19 f., 154–160.

<sup>26</sup> Book IV, Chapter XVII. De Securitatibus, in BUG, ms. C. III. 13, *Statutorum civilium Reipublicae Genuensis*, 1589, 158–160.

<sup>27</sup> The text of the Florentine Statutes can be found in *Ascanio Baldasseroni*, *Trattato delle assicurazioni marittime*, vol. 3 (Florence 1786), 500–515; see also, by the same author, the second edition of his work and, in particular, *idem*, *Collezione delle leggi costituzioni ed usi delle principali piazze di commercio d’Europa per il regolamento delle assicurazioni cambi ed avarie*, vol. 5 (1804), 238–248. See *Addobbati* (n. 8), 47–78.

<sup>28</sup> On the application of this clause, already in use at the beginning of the sixteenth century, see *Gian Savino Pene Vidari*, *Il contratto d’assicurazione nell’età moderna* (1975), 255–257.



of the insured cargo.<sup>29</sup> As already stated, the use of standard insurance forms was already common in Genoa at that time. Yet, they were not included in the Chapter on *Sigortà*, neither in the 1589 Civil Statutes of the Republic of Genoa, nor in its subsequent 1613 Italian edition.<sup>30</sup> As shown below, both the use of the *in quovis* clause and the practice of insuring cargoes without specifying their composition were commonplace. This freedom left to the contracting parties allowed them to operate in remote places, as well as in situations where it would have been difficult to have all the information on the type of shipment and, consequently, on the specific object of the insurance.

As to the scope of the insurance cover, the Florentine Statutes listed the events that would entitle the insured to be indemnified, i.e., ‘risks that may occur from all sea-going hazards: fire, jettison, confiscation, plunder by friends or foes, as well as any other conceivable chance, danger, fortune, disaster, impediment or accident, which may befall including barratry on the part of the shipmaster’. Regarding its duration, the cover was valid until all cargo was fully unloaded.<sup>31</sup> The insurer was required to pay within two months following a claim, or in any case after six months had passed without any information on the outcome of the voyage.<sup>32</sup> Conversely, in the Genoese Statutes there was no list of insured risks: instead, they focused on the distribution of damages arising from general average. In this regard, Chapter 17 *Delle Sigortà* states:<sup>33</sup>

‘Se gli assicuratori con l’assicurato, sopra l’infrascritte cose, non havranno fatto alcun patto lecito, siano tenuti del getto fatto, e provato secondo la forma degli statuti, ancora siano tenuti per l’avaria, la qual è tutto il danno, il quale segue per caso fortuito, ò accade nel naviglio, con l’inventario, ò nelle cose assicurate, oltre le spese, che possono

<sup>29</sup> However, the non-disclosure of particularly risky goods, such as perishable goods or goods of high unit value, was a sufficient reason to invalidate the contract. See *Pardessus* (n. 18), 602 f.; *Addobbati* (n. 8), 54.

<sup>30</sup> Archivio di Stato di Genova (ASG), 84.L.IX. 2, Degli statuti civili della serenissima repubblica di Genova, 1613. In his commented edition of the Civil Statutes of the Republic of 1610, Baldasseroni reports a model of the ‘Polizza di Sicurtà marittima in Genova’. This model, however, contains references to rules of 1780, which therefore excludes an earlier origin. See *Baldasseroni*, Collezione, vol. 5 (n. 27), 309. This is not the only mistake reported in good faith by Baldasseroni. In the chapter on the jettison, for example, he attributed the quote ‘Ed io in anni sessanta di pratiche marittime ho veduti gran quantità di consolati, ma non mi ricordo di averne veduti, che quattro, o cinque fatti per gettito notato giuridicamente alla forma prenarrata, ed in ognun di questi vi è stato da criticare per essere paruti troppo premeditati’ to Casaregi, see *Ascanio Baldasseroni*, Trattato delle assicurazioni marittime, vol. 4 (2<sup>nd</sup> edn., 1803), 60. This passage, however, comes from *Carlo Targa*, Ponderationi sopra la contrattazione marittima (Genoa 1692), 253.

<sup>31</sup> *Baldasseroni*, Collezione, vol. 5 (n. 27), 240.

<sup>32</sup> As pointed out by *Addobbati* (n. 8), 52, in case of litigation there ‘was the fundamental mechanism of solve et repete [pay first, fight later]’, i.e., insurers could not challenge the claim if they did not settle the amount due beforehand.

<sup>33</sup> ASG, 84.L.IX. 2, Degli statuti civili della serenissima repubblica di Genova, 1613, 142 f.

occorrere ancorché egli non segua; talmente, che si possa dire di caso sinistro esser seguito sopra il tutto; e ciò per la rata, ò del getto, o dell'avaria che spetta alla cosa assicurata.'

'Unless otherwise legitimately agreed between the insurers and the assured, the insurers are responsible for jettison, proved according to the Statutes. The insurers will also be responsible for average, which is any damage arising from a fortuitous mishap, which may involve the ship with its equipment, or the insured things, as well as the expenses which may occur even if no damage ensued, so long as it can be said that the mishap occurred over the whole. Payment will be done pro rata, whether of the jettison or of the average, which is due on the insured thing.'

Their contents, even if more detailed, are quite similar to the statutory chapter mentioned by Ascanio Baldasseroni, and dating back to a – most probably lost – 1610 edition:<sup>34</sup>

'Se gli assicuratori non vengono ad un accomodamento con gli assicurati, conforme alla pratica accordata, saranno obbligati a bonificare a seconda degli Statuti, il getto che è stato fatto, e che può provarsi, come anche l'avaria (nella quale sono inclusi tutti i danni provenienti da qualunque sinistro, che accada al bastimento, sue appartenenze, o alle mercanzie assicurate) oltre le spese, che appariranno cagionate da tale sinistro, se può dimostrarsi che le medesime furono sopra l'intiero in generale, qual porporzione che cade sulla parte delle robe assicurate, sia di getto di mare, o di avaria.'

'Unless the insurers will find a composition with the insured, after the agreed practice, they will be bound to make good, on the basis of the Statutes, the jettison effected and which can be proved, as well as the average (in which all damages arising from any mishap befalling the ship, its appurtenances, or the insured merchandise are included) and the expenses caused by such mishap, if it can be proved that such expenses were done on the whole, as the proportion falling on the insured things, both for jettison and for average.'

Therefore, for the first time, it was expressly provided that, unless otherwise agreed, the insurance would cover any loss and costs arising from general average and that the insurer would then be liable to indemnify the insured for his insurance share, properly calculated. It should be pointed out that the *Conservatori del Mare*, with jurisdiction on this matter, had first to approve the general average claim report. They would then issue instructions to adjust the average only if the jettison had been carried out in compliance with the applicable regulations. The same rule would apply to any other loss or expenses deriving from actions by the shipmaster or by the shipowner aimed at ensuring that the shipment could be successfully delivered. Therefore, under the new laws of the Republic of Genoa, insurance and general average were finally formalised as two mutually complementary instruments to manage maritime shipping risks.

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<sup>34</sup> *Baldasseroni*, Collezione, vol. 5 (n. 27), 307. No trace of this edition of the Civil Statutes actually appears in the repertories, either because it was lost in the course of time or, most likely, because of a wrong date reported by Baldasseroni. See *Savelli* (n. 24), 304 f.

### C. Routes and navigation risks: the general average claim reports

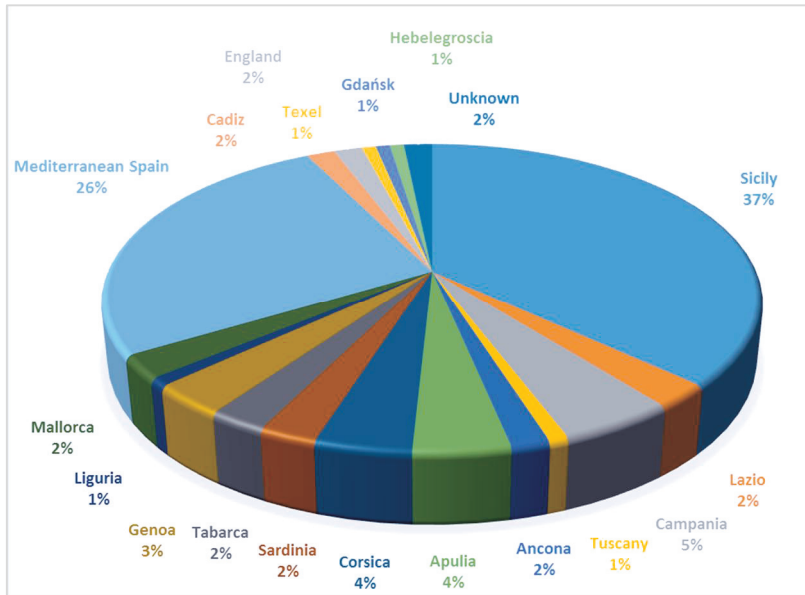
To better understand the great attention devoted by the Genoese government to institutional instruments aimed at transferring or sharing maritime risk, it is worth analysing the main factors determining the risk itself. By cross-checking data from two important and, in part, complementary documentary sources, it is possible to reconstruct the level of danger involved in some maritime routes and the key features of traffic from/to the port of Genoa between the sixteenth and seventeenth centuries. These sources are the general average claim reports, called *consolati/testimoniali* (for simplicity's sake, henceforth they will be called *consolati*), and the documents relating to insurance operations by some Genoese businessmen. In particular, as far as the *consolati* are concerned, the analysis is based on the processed information from the database produced under the ERC AveTransRisk project. The period under examination stretches from 1598 to 1600, for which there are 127 *consolati* filed with the Magistrate of the *Conservatori del Mare* in Genoa.<sup>35</sup>

A general average procedure could be initiated by reporting the event in a special form – the *consolato* – to a magistrate.<sup>36</sup> Under the provisions enforced by the *Consolato del Mare* and applicable in Genoa, when a vessel suffered a loss or made a jettison, the shipmaster had to call at the port closest to the place where the mishap occurred, report about the events that had taken place during the voyage and have them formally recorded. Based on the data available from the *consolati*, it is possible to gather detailed information about several variables in the voyages where Genoa was a port of transit or, more frequently, its final destination: namely, the port of origin; the route followed and the site where the general average had occurred; the port where the claim report (*consolato*) had been submitted; and any seasonality in reported casualties along the various trade routes. This analysis also provides useful information about the actual danger of specific trade routes followed by the ships calling at Genoa and the risks that they were willing to run. As indicated below, evidence of this is collected by analysing insurance premium trends in the period under examination based on some accounting books of Genoese underwriters operating between 1575 and 1624.

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<sup>35</sup> ASG, Notai Giudiziari, 634–636. In these documents, there are both general averages, which allocate the damage between the ship's hull, freight and goods, and particular averages, concerning only the owners of any damaged or lost goods.

<sup>36</sup> *Gerolamo Boccardo*, *Dizionario universale di economia politica e di commercio*, vol. 1 (2<sup>nd</sup> edn., 1875), 559. In other ports, such as Venice, for example, this document was more simply called Prova di Fortuna (sea protest), see *Walter Panciera*, *Testimoniali veneziani di avaria marittima (1735–1764)*, (2016) 38 *Mediterranea, ricerche storiche* 517–568.

**Chart 1. Ports of departure, 1598–1600<sup>37</sup>**

First, to have an idea of the routes to and from the port of Genoa, it is possible to analyse the ports of departure of the ships that filed general average claim reports with the Genoese authorities in the period from 1598 to 1600. During this period, on average, there were approximately 76 vessels with a capacity of more than 300 *salme* calling at the port of Genoa every year. Thus, it can be inferred that the ships reporting general average losses accounted for a significant share of the total number of ships arriving in Genoa.<sup>38</sup>

Although there were many ports of origin, two main routes can be identified from Chart 1. The first one – the Sicily-Genoa route – accounted for almost one-third of all the ships calling at Genoa at the end of the sixteenth century. The itinerary from Sicily to Liguria seems to have been quite fraught with dangers – both along the coasts and in the open sea – that did not strictly depend on the type of vessel. The ships would normally sail along the eastern coast of the Tyrrhenian Sea carrying wheat, oil, wine and raw silk. They might have called at Naples, Gaeta or Civitavecchia. Ships from Sicily would seldom sail along the

<sup>37</sup> Source: ASG, Notai Giudiziari, 634–636. Processing based on the documents present in ‘Voyages Datasets 1598–1600’, preliminary version of the AveTransRisk database.

<sup>38</sup> *Edoardo Grendi*, *I nordici e il traffico del porto di Genova: 1590–1666*, (1971) 83 *Rivista Storica Italiana* 23–71, 55. One *salma* in the sixteenth century was equal to two mine and four cantari, about 275 litres. On units of measurement and capacity of ships, see *Luciana Gatti*, *Navi e cantieri della repubblica di Genova (secoli XVI–XVIII)* (1999), 75–86.

coasts of Sardinia or Corsica, or call at their ports. Quite a wide range of vessels were employed – such as *pinchi*, *tartane*, galleons, *leudi*, as well as other types of craft with a tonnage between 30 and 300 tons. Based on the claim adjustments attached to some of the *consolati* with detailed cargo information, we learn that Palermo and Messina specialised in the silk trade, while Sciacca and Girgenti traded mainly in wheat.<sup>39</sup> In particular, wheat was consistently transported on board the vessels that we have analysed because of a chronic scarcity of grain in Liguria.<sup>40</sup> Ships loaded with grain or other foodstuffs calling at the port of Genoa accounted for a significant percentage of its total traffic.<sup>41</sup> Accordingly, the manufacturing and processing industries in the Republic of Genoa also depended on the trends of port traffic and maritime commerce.<sup>42</sup>

During the years under review, apart from the North-South Tyrrhenian routes, maritime routes with Spain – accounting for 26% of all traffic – ranked second in terms of traffic flow. Here, too, there were all types of craft: ships; galleons; boats; and polacres. Mostly wool, wine, salt and leather were shipped along these routes. In some cases, the ships sailing along the routes from Spain were coming from places farther away, even from Atlantic ports beyond Gibraltar. Usually, they loaded their cargoes in the ports of south-eastern Spain, mainly Alicante, Cartagena, Cadaquez and Barcelona. They would then sail along the Languedoc coast or head for the Balearic Islands, where they could load more goods in Ibiza or Mallorca, before continuing their journey to the islands of Hyères, and sailing along the Provençal and Ligurian coast to Genoa. The latter port was not always their final destination: in some cases, according to information contained in the bills of lading for the goods on board, the ships would continue their voyage to Leghorn, or as far down to Messina.

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<sup>39</sup> On the need for grain and raw materials in Genoa for local production, see *Paola Massa Pierviviani*, *Lineamenti di organizzazione economica in uno stato preindustriale*. La repubblica di Genova (1995), 27; *Geltrude Macri*, *Il grano di Palermo fra '500 e '600: prerogative e reti d'interesse*, (2010) 7 *Mediterranea, ricerche storiche* 87–110.

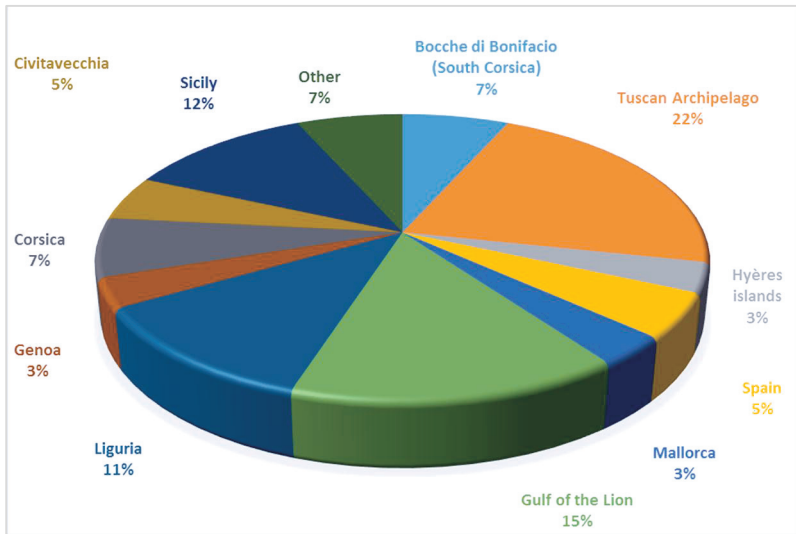
<sup>40</sup> Giuseppe Felloni hypothesised the presence of about 51,150 inhabitants in Genoa in 1531, rising to 60,529 in 1597 and 66,903 in 1608, see *Giuseppe Felloni*, *Popolazione e case a Genova nel 1531–1535*, in: *idem* (ed.), *Scritto di storia economica* (1998), 1199–1215. The local production was insufficient for the city of Genoa and it was in deficit for about 60% of the total in the rest of the republic, see *Edoardo Grendi*, *Genova alla metà del Cinquecento: una politica del grano?*, (1970) 5/13 *Quaderni Storici* 106–160, 113. According to an estimate by Grendi on the period before the 'Nordic invasion', for example for the year 1535, 95.9% of wheat imported to Genoa came from Sicily, see *idem*, *La repubblica aristocratica dei Genovesi. Politica, carità e commercio fra Cinque e Seicento* (1987), 186.

<sup>41</sup> Cf. *Brigitte Marin* and *Catherine Virilouvet* (eds.), *Nourrir les cités de Méditerranée, Antiquité-Temps modernes* (2004); *Caroline Le Mao* and *Philippe Meyzie* (eds.), *L'approvisionnement des villes portuaires en Europe du XVI<sup>e</sup> siècle à nos jours* (2011).

<sup>42</sup> *Massa Pierviviani* (n. 39), 27.

The routes and the places where the mishaps took place are described in the *consolati*, often with their exact date and description of any adverse weather conditions that had caused them. With the information provided in the shipmaster's reports – alas, not always sufficiently accurate and detailed – we have been able to geo-locate about 60% of the sites where the maritime casualties had occurred, corresponding to 69 out of 127 reports (Chart 2).

Chart 2. Sites of accidents, 1598–1600<sup>43</sup>



Out of five ships coming from beyond Gibraltar, four were damaged by bad weather in the Mediterranean, while one was attacked by enemies just off the strait. This confirms that these waters were highly dangerous, something that is often underestimated when compared to the Atlantic Ocean navigation. As a matter of fact, according to some statistical investigations carried out by Marcello Berti, strong winds and sudden tides and currents could pose unpredictable risks and hazards in the Mediterranean, perhaps even greater than those encountered during coastal navigation in the Atlantic Ocean to and from Northern Europe.<sup>44</sup> Storm winds were, irrespective of the season, the Mistral and, sometimes, the Scirocco. The Mistral, for example, can blow at more than 120 kilometres per hour, is dry and deemed to be a stormy wind, especially in Sardinia and Corsica.

<sup>43</sup> Source: ASG, Notai Giudiziari, 634–636. Processing based on the documents present in 'Voyages Datasets 1598–1600', preliminary version of the AveTransRisk database.

<sup>44</sup> Marcello Berti, *Il rischio nella navigazione commerciale mediterranea nel Seicento: aspetti tecnici e aspetti economici: prime ricerche*, in: Salvatore Di Bella (ed.), *La rivolta di Messina (1674–1678) e il mondo mediterraneo nella seconda metà del Seicento (1979)*, 271–332, 285.

Originating from the Rhone valleys and the Gulf of Lion, the Mistral blows on the upper Tyrrhenian Sea and the Ligurian Sea. General average data analysed in Chart 2 also show that events occurring along the coast and near islands and archipelagos – which often have unpredictable effects on currents and winds – accounted for a significant proportion of all losses. According to Marcello Berti's statistical analysis, the places where mishaps occurred were almost always reported along the Mediterranean coasts: depending on wind and sea conditions, every peninsula, every small island and every beach, could pose sudden and unpredictable hazards.<sup>45</sup> In particular, the Tuscan archipelago, the Ligurian Sea and the Sicilian coasts, together with the Gulf of Lion between Spain and southern France, were the most dangerous zones. The Gulf of Lion was considered by contemporaries much bigger than today, in both size and geographic borders: depending on the source, it would extend across the whole area between the Balearic Islands, Corsica and part of Sardinia.

Strong or unforeseen storms were the most common hazard at sea. Bad weather was the cause of 90% of the claim reports filed by shipmasters between 1598 and 1600 (the remaining 10% were due to issues occurring in port or to pirate or enemy attacks).<sup>46</sup> Furthermore, even general average claims relating to accidents occurred to the ship when in port, although generally attributable to inadequate harbour protection facilities, were primarily caused by extraordinary weather conditions and fires on board, or due to collisions with other ships.<sup>47</sup> The situation is much more ambiguous in cases of pirate or enemy attacks. Goods robbed by pirates were not specified in the general average forms. Thus, for all these cases, there were only the shipmasters' reports.<sup>48</sup> Even then, however, shipmasters often tried to put down the facts in such a way as to underline, as much as possible, the 'voluntary' nature of the loss, for example by reporting that they had sacrificed part of the cargo by giving it 'voluntarily' to the pirates in order to save the rest of the goods.

Another element worth analysing is the place where the *consolati* were written down. Theoretically, in case of general average, the shipmaster was supposed to file a report in the first port that his vessel would call at after the mishap. The document would then be sealed by the authorities in charge and delivered to the

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<sup>45</sup> Berti (n. 44), 285

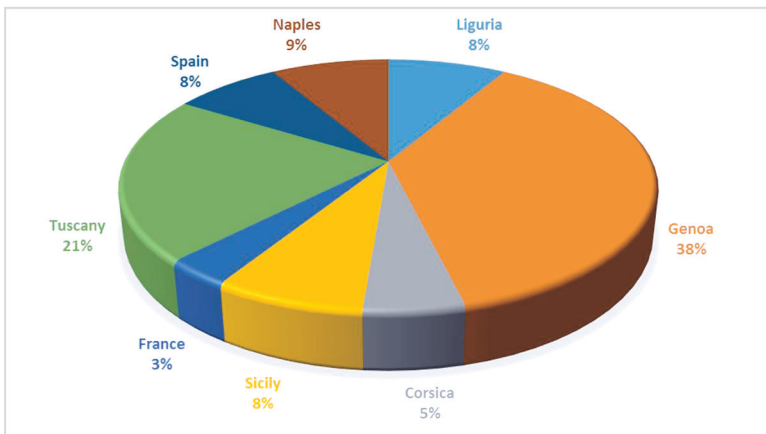
<sup>46</sup> ASG, Notai Giudiziari, 634–636. Processing based on the documents in 'Voyages Datasets 1598–1600', preliminary version of the AveTransRisk database.

<sup>47</sup> These in turn could give rise to complex and multiple cases of damage between different ships, see *Casaregi*, vol. 1 (n. 15), 163.

<sup>48</sup> ASG, Testimonialiali all'estero segreti, 277–301 (1635–1796). These folders were largely drawn up to record pirate attacks, shipwrecks and other types of accident not necessarily related to general average. The term 'segreti', in fact, as well as the absence of calculations, probably indicates that all these reports were rejected by the magistracy and the dossiers were never opened.

shipmaster. If the voyage was scheduled to continue to Genoa, the shipmaster would then file the report with the Magistracy of the *Conservatori del Mare*. Under the general average laws in force in the Republic of Genoa, the shipmaster could not stop anywhere else or unload or load any other goods before filing the *consolato* with the *Conservatori del Mare* in Genoa. However, intermediate stops might have been required to repair the ship or to wait out the storm, thus extending the voyage time. In addition, when having to stop at smaller ports, finding a notary or officer to write down the general average report as required could have led to further delays. This may perhaps explain why, as can be seen from Chart 3, more than a third of the *consolati* examined were written directly in Genoa, although in many cases the general average itself had occurred far away from Ligurian waters. Indeed, if we match these data with what is observed in Chart 2, only 14% of the events concern mishaps occurring in the waters of the Republic of Genoa – excluding Corsica, which at the time was ruled by the Genoese but was more than 150 miles from the port of Genoa, the capital city.

**Chart 3. Places where the *consolati* were drafted, 1598–1600<sup>49</sup>**



On the other hand, the great number of *consolati* drawn up in Tuscany (21%), particularly in Leghorn, can be explained by two other factors: the highly dangerous Tuscan archipelago, as already observed, given the high proportion of mishaps that occurred in these waters; and the similarities in both regulations and the way that averages were dealt with between Leghorn and Genoa. Moreover, in Leghorn there was a Genoese ambassador, who would help Ligurian shipmasters write the *consolati* and send a copy to the capital. Any differences

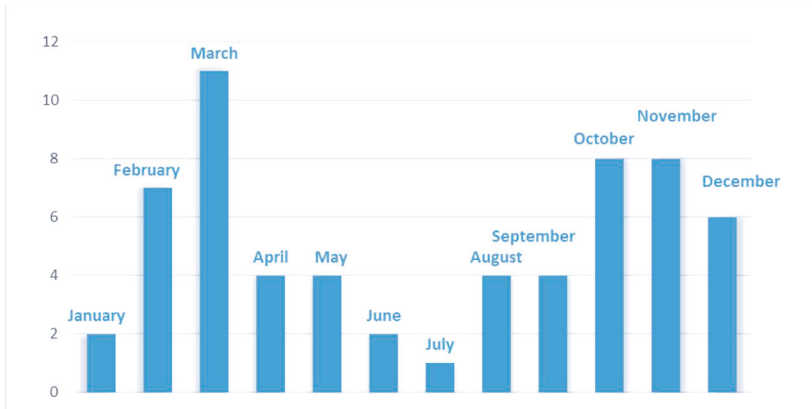
<sup>49</sup> Source: ASG, Notai Giudiziari, 634–636. Processing based on the documents present in ‘Voyages Datasets 1598–1600’, preliminary version of the AveTransRisk database.



between Genoa and Leghorn in terms of efficiency, costs and speed in handling the formalities and settling the claims will be assessed in forthcoming works.<sup>50</sup>

The investigations currently underway on the procedures applied in Leghorn have so far confirmed that there was substantial uniformity between the two cities, except for some aspects relating to the way that damages were apportioned. The *consolati* filed with the magistracies in both cities were quite similar in form and content. By analysing available data, is it possible to assume any seasonal trends in navigation hazards? As already pointed out by Fernand Braudel and confirmed by Berti, winter navigation was frequently carried out, despite its many hazards and challenges.<sup>51</sup> As observed in the examined documents, shipmasters would often decide to sail off even under adverse weather conditions. It would also happen that, after only a few miles, bad weather would force them to return to the port of departure or seek shelter in the nearest bay.

**Chart 4. Accidents per month, 1598–1600<sup>52</sup>**



As can be seen in Chart 4, maritime accidents occurred more or less throughout the whole year, although they were more frequent in autumn and late winter. This trend would coincide with what Giovanni Ceccarelli demonstrated for the sixteenth and eighteenth centuries, namely with an increase in insurance business

<sup>50</sup> Documents from both Genoa and Leghorn are being included in the database produced under the AveTransRisk project. Common sample years will allow for an appropriate comparison.

<sup>51</sup> *Fernand Braudel, Il Mediterraneo: lo spazio, gli uomini e le tradizioni* (2<sup>nd</sup> edn., 1997), 41–43; *Berti* (n. 44), 290. Studies are underway on the practice of general average in Leghorn, conducted by Andrea Addobbati and Jake Dyble, in essays soon to be published.

<sup>52</sup> Source: ASG, Notai Giudiziari, 634–636. Processing based on the documents present in ‘Voyages Datasets 1598–1600’, preliminary version of the AveTransRisk database.

in the winter season.<sup>53</sup> As mentioned above, insurance policies underwritten in Genoa could cover general average losses. Therefore, the small increase in the number of events involving general average during winter should also be reflected in a higher number of policies underwritten during this season.<sup>54</sup> On the basis of the analysis of some Genoese underwriters' businesses between the end of the sixteenth and the beginning of the seventeenth centuries, it would seem that policies and claim settlements were evenly distributed throughout the year, without any significant seasonal differences.<sup>55</sup>

As can be seen in Table 1 below, there was a slight peak in the number of departures between October and April, except for November. This is due to the fact that the sample in question only includes boats that reported general average, and that mishaps would occur more frequently during the winter months. Even so, the data reported show a constant traffic flow across the entire western Mediterranean, in particular the Tyrrhenian Sea, throughout the year. Seasonal variations were generally due to different production rates and to the seasonal nature of certain types of goods, rather than to a voluntary reduction in maritime traffic with a view to reducing the challenges of adverse weather conditions. As mentioned above, Genoa imported food and raw materials for manufacturing all year round. For this reason, its economy could not afford to restrict trade to favourable seasons. What businessmen really needed were the appropriate regulations and contract clauses to cope with the risk.

The various routes followed by the ships calling at the port of Genoa can also be seen from the figures reported in Table 1. The routes from Sicily and Spain (i.e., the two main flows identified so far), reflect the distribution of departures reported in Chart 1. If we consider all the other routes as well, no conclusions can be drawn due to the low number of cases. There are no clear trends as to departures per month, which are spread across most of the year. For example, ships from England would sail in the summer, probably to avoid bad weather

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<sup>53</sup> *Giovanni Ceccarelli*, *Stime senza probabilità: assicurazione e rischio nella Firenze rinascimentale*, (2010) 45/135 *Quaderni Storici* 651–701, 668 f.; *idem*, *Un mercato del rischio. Assicurare e farsi assicurare nella Firenze rinascimentale* (2012), 128.

<sup>54</sup> Cfr. *Giovanni Ceccarelli*, *The price for risk-taking: marine insurance and probability calculus in the Late Middle Ages*, (2007) 3 *Journal Electronique des Probabilités et des Statistiques* 1–26, 11. See also *Mario Del Treppo*, *I mercanti catalani e l'espansione della corona d'Aragona nel secolo XV* (1972); *Frank C. Spooner*, *Risk at Sea: Amsterdam Insurance and Maritime Europe, 1776–1780* (1983), 200–246.

<sup>55</sup> ASG, *Fondo Famiglie*, Spinola, 292, 1575–1578, cc. 100–108. In the Adriatic Sea, during the sixteenth century, Venetian law expressly prohibited sailing between 15 November and 20 January. Nevertheless, although referring to the following century, Walter Panciera has shown that 18% of shipmasters heading for Venice sailed from November to April during the years 1735–1764: *Panciera* (n. 36), 549.

conditions across the English Channel. Ships coming from the North could bypass it, usually by sailing off the coast of Scotland across the Irish Channel. The greatest hazard for ships from Northern Europe was the likely presence of ice in the Channel.<sup>56</sup> In this regard, the larger quantity of data currently collected and processed will soon yield more evidence, also from a long-term perspective.<sup>57</sup>

**Table 1. Ports of departure per month, 1598–1600<sup>58</sup>**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sicily	7	7	7	4	3	2	1	2	4	2	2	5
Lazio	-	-	-	1	-	-	1	-	-	-	-	-
Campania	-	-	-	2	2	1	-	-	-	-	1	-
Tuscany	-	1	-	-	-	-	-	-	-	-	-	1
Ancona	1	-	-	-	-	-	-	-	-	1	-	-
Apulia	-	-	1	1	1	1	-	1	-	-	-	-
Corsica	-	2	1	-	-	-	-	-	-	-	2	-
Sardinia	-	1	-	1	-	-	-	-	1	1	-	-
Tabarca	-	-	-	-	-	-	-	-	-	1	-	1
Genoa	-	-	-	1	-	-	-	-	-	1	-	1
Other Ligurian ports	1	-	-	-	-	-	-	-	-	-	-	-
Mallorca	-	-	2	2	-	-	-	-	2	1	-	-
Mediterranean Spain	3	2	1	1	-	-	1	2	2	5	1	3
Cadiz	-	2	-	-	-	-	-	-	-	-	-	-
England	-	-	-	-	-	1	1	-	-	-	-	-
Texel	1	-	-	-	-	-	-	-	-	-	-	-
Gdańsk	-	-	-	-	-	-	-	-	-	1	-	-
Hebelegroscia	-	-	1	-	-	-	-	-	-	-	-	-
Total	13	15	13	13	6	5	4	5	9	13	6	11

#### D. Routes and navigation hazards: policies of *Sigortá Marittima*

General average allowed the stakeholders in a voyage to share the risks amongst themselves, thus limiting their individual losses in case of accident. Conversely, the insurance market allowed them to transfer the risk to external parties against payment of a premium. However, insurance contracts did not

<sup>56</sup> See *Marcello Berti*, *I rischi nella circolazione marittima tra Europa nordica ed Europa mediterranea nel primo trentennio del Seicento ed il caso della seconda guerra anglo-olandese (1665–67)*, in: *Simonetta Cavaciocchi* (ed.), *Ricchezza del mare ricchezza dal mare: secc.13–18* (2006), 809–839, 811.

<sup>57</sup> For ship arrivals and departures year by year, see *Grendi* (n. 38), 23–71.

<sup>58</sup> Source: ASG, *Notai Giudiziari*, 634–636. Processing based on the documents present in ‘Voyages Datasets 1598–1600’, preliminary version of the AveTransRisk database.

cover all journeys, nor all goods carried by sea. Investors in the undertaking would decide whether they should take out an insurance policy after having carefully assessed transport risks, depending on the type of cargo, its value, type of vessel employed and the planned route. They would also consider whether to insure the entire cargo value or only part of it, in order to limit their premium costs and ensure the overall profitability of their shipment.

In the period between the last decades of the sixteenth century and the 1620s, Genoa was still one of the most active insurance markets. Its gradual decline began to manifest itself in 1626–1627, concurrently with the duke of Savoy's military aggression. It then continued in the following decades, due to both a slowdown in merchant activity following a general slump in the Italian economy and increasing competition from nearby Leghorn.<sup>59</sup>

Based on data contained in some accounting books of Genoese businessmen working as insurers in addition to commerce, finance and the manufacturing sector, further information can be obtained on the way that risks used to be assessed and on the dangerous nature of the routes to and from the port of Genoa.<sup>60</sup> More precisely, we have investigated the insurance business operated by Agostino Spinola during the period from 1575 to 1578,<sup>61</sup> by Ottavio Solimano from 1607 to 1609,<sup>62</sup> and by Filippo Sanmichele from 1622 to 1624.<sup>63</sup>

Agostino Spinola's firm diversified its business by investing in trade – especially in wheat – foreign exchange and insurance. In the three-year period that

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<sup>59</sup> This slight decline can also be seen in the lower income of the gabella di sicurtà, which dropped from more than 88,000 lire in 1627 to less than 52,000 lire in 1629. It then continued to decline and settled at a lower figure, between 20,000 and 30,000 lire, in the following years. See *Giacchero* (n. 5), 125. On the rise of Leghorn as a thriving commercial and insurance business centre, see *Addobbati* (n. 8), 63.

<sup>60</sup> Starting from the fourteenth century, there was a growing interest in the manufacturing sector followed by an increased production of wool, iron, paper and silk. See *Massa Piergiovanni* (n. 39), 43–69.

<sup>61</sup> ASG, Famiglie, Spinola, 292, 1575–1578. Agostino Spinola is a member of one of the oldest and noblest families in Genoa, actively involved in the political events of the Republic. Agostino was the son of Cristoforo and Tommasina Spinola and married Emilia Grimaldi, who also belonged to another important aristocratic family in Genoa. See *Giovanni Forcheri*, *Gli Spinola* (1992), 49.

<sup>62</sup> Archivio Storico del Comune di Genova (ASCG), Albergo dei Poveri, 675, 1607–1609. Ottavio Solimano belonged to an ancient Genoese family, which originated from Albenga. Son of Geronimo Solimano and brother of Gio. Giacomo and Gio. Piero, he married Geronima Riccio around 1607. See *Angelo Scorza*, *Le famiglie nobili genovesi* (1996), 233.

<sup>63</sup> ASCG, Albergo dei Poveri, 670, 1622–1624. Filippo Sanmichele belonged to an ancient and noble family originally from Chiavari. Filippo was the only male son of Bartolomeo Sanmichele. Between 1616 and 1617, he married the noblewoman Placida Frugone. Her father, Pietro Frugone, was Filippo's business partner. See again *Scorza* (n. 62), 219.

we have investigated, he would systematically and constantly carry out his insurance business, underwriting 172 policies in total, typically through brokers. In 79% of cases, they were hull insurance policies; in 3% of cases, hull and freight insurance; and in the remaining 18% of cases, cargo insurance. Some of these policies contained the *in quovis* clause (which, as mentioned above, meant that the name of the ship on which the insured goods travelled was not specified). Of the policies, 74% were underwritten on a voyage basis, while the remainder were time policies, with premiums ranging from a minimum of 1% for one month, to a maximum of 14% for a full year's coverage.

The company's insurance business was quite risky and affected by strong fluctuations, with losses reported at the end of some financial years.<sup>64</sup> The premiums collected in the three-year period totalled 5,202 Genoese *lire*. This amount was fully offset by claim settlement costs, amounting to 6,591 *lire*. Agostino Spinola tried to spread his risk by exclusively underwriting policies for fixed and relatively modest amounts: 400 *lire* in 62% of cases; 800 *lire* in 30% of cases. Larger shares (up to 4,000 *lire*) were underwritten in the remaining 8% of cases. They would generally concern shipments on ships generally deemed to be safer, such as galleys, which accounted for 4% of all policies. Since galleys were military vessels, they were better able to defend themselves or even simply discourage pirate attacks. However, as pointed out by Alberto Tenenti, the risks at sea were by no means lower on galleys than on other ships or galleons.<sup>65</sup> Beyond this basic difference as to the ability of the vessel to fend off attacks, no other risk assessment criteria seem to have been used for different kinds of vessel. Generally speaking, at the time, almost any type of medium-sized vessel could bring its

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<sup>64</sup> In early sixteenth-century Florence as well, the profits of the insurers seem to have been modest. A particularly diligent underwriter could not hope to make more than 80 fiorini, at best, in his annual business. If we compare these economic results to those achieved by some trading companies during the same period, which ranged annually between 1,500 and 4,500 fiorini, we could hardly wonder why businessmen did not make insurance their core business at the time. The low profitability of the insurance sector may perhaps help explain its failure to emerge as an activity independent from the much more lucrative commercial, banking and manufacturing ones. See *Ceccarelli* (n. 54), 298. On the profits of trading companies, see *Richard A. Goldthwaite*, *The economy of Renaissance Florence* (2011), 59 f.

<sup>65</sup> The number of policies covering galleys is small, and the data about these policies cannot be compared with the previous ones on general average (there were no galleys among the ships that submitted a general average claim). Therefore, we decided not to include these cases in our statistical survey, aimed at reconstructing the danger level for the various routes in relation to the premiums.

cargo across the Mediterranean in relatively safe conditions.<sup>66</sup> However, a slight increase in premiums can be seen for smaller boats and ships.

In Agostino Spinola's ledger, 65% of recorded insurance policies referred to journeys to or from Genoa of which 36% of them covered Tyrrhenian routes, thus confirming the figures collected by analysing the ports of origin of the ships reporting general average (see Chart 1). The second main flow, with a 27% share, came from the west. The insurance premiums related to the voyages to and from Genoa (see Table 2 below), as the port of departure or, more frequently, as the final shipment destination, would range between a minimum of 1.25% for the connection route to Leghorn and a maximum of 15% for the roundtrip to Alexandria. Insurance premiums for the routes from Leghorn to Sicily or from Messina towards the Mediterranean Spain were very similar to those that had Genoa as port of departure.<sup>67</sup> In general, premiums for round trips were lower. Further, neither the season nor the type of vessel employed seem to have affected them, except for a slight premium increase in the case of shipments on small vessels. Routes seem to be the main risk factor: not so much distance, but rather the actual course, especially if it involved sailing across stretches of sea, such as those indicated in Chart 2, which were known to be dangerous. For the western routes, premiums were relatively constant with an average of 3% to 4% premium in case of hull insurance. Premium rates in the Tyrrhenian area were more variable and depended on several factors. For example, the average premiums applied for the routes from Sardinia and Corsica were pretty high, between 4% and 6%, perhaps due to the higher risk of piracy and strong currents characterising some sea stretches, such as off the coast of Tuscany or the Strait of Bonifacio. Some outliers are probably due to bad economic conditions, as in the case of some journeys from Sciacca (in southern Sicily), Messina or Cadiz. In the case of Sciacca, premiums averaged 4%, a figure consistent with the premium rates applicable for western routes. It can thus be deemed to be an 'average' premium on the main routes to and from Genoa. On the other hand, much higher average premiums were applied on the Atlantic routes.

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<sup>66</sup> *Alberto Tenenti*, *Assicurazioni genovesi tra Atlantico e Mediterraneo nel decennio 1564–1572*, in: Jürgen Schneider (ed.), *Wirtschaftskräfte und Wirtschaftswege. Festschrift für Hermann Kellenbenz*, vol. 2 (1978), 9–36, 13 f.

<sup>67</sup> For the sake of simplicity, Table 2 shows only the routes to and from Genoa. For further information on other routes covered by Agostino Spinola's insurance business, see *ASG, Famiglie, Spinola*, 292, 1575–1578.

**Table 2. Insurance premium rates for routes from and to Genoa, 1575–1578<sup>68</sup>**

Route	Ship		Boat		Other <sup>69</sup>	
	No.	premium	No.	premium	No.	premium
<i>Western routes</i>						
Palamos	1	4%				
Tortosa	1	3%				
Valencia			1	5%		
Alicante	5	2.75–4%			1	4%
Cartagena	5	3–4%	1	5%		
Algiers			2	5–6%		
Tabarca	1	4%			2	5%
Tabarca – roundtrip	2	8%				
<i>Thyrrhenian routes</i>						
Cagliari					1	4%
Bonifacio					1	6%
Leghorn					1	1.25%
Montalto			1	3%		
Naples			3	4%	1	4%
Sicily	1	3%	1	7%	1	7%
Sciacca	11	3–6%				
Palermo	9	2.5–6%				
Trapani	1	3%				
Messina	7	2–9%				
<i>Eastern routes</i>						
Alexandria	1	8%				
Alexandria roundtrip	2	14–15%	1	14%		
Alexandria-Messina	1	12%				
<i>Atlantic routes</i>						
Canaries			1	12%	1	11%
Cadiz	4	5–9%	1	6%		
Lisbon	1	8%				
England	1	10%				
Antwerp	1	10%				
<i>Mixed routes</i>						
Cadiz-Leghorn-Genoa	2	5–7%	1	8%		
Genoa-Cadiz-Sicily	1	6%				

Of all the policies underwritten by Spinola, general averages account for quite a significant percentage; namely, 27% of the claims followed by average adjustment and settlement. The percentage of settled claims against the total sum insured is highly variable, ranging between 2% and 26%. It depended on the amount of incurred loss, as well as, above all, the general average share adjusted for each assured. In seven out of eight cases examined where payment was made

<sup>68</sup> Source: ASG, Famiglie, Spinola, 292, cc. 100–108.

<sup>69</sup> Galleon, saetta, caravel, ship, in quovis, unknown.

on the basis of a general average, the insurance was made on the hull. Only one policy covered the cargo, for a shipment of sugar from Santo Domingo.

Ottavio Solimano was an insurer working between May 1607 and February 1609. Useful information can be gathered from his ledger, to compare his business with Spinola's, to have an idea about the situation thirty years later. His business is much smaller than Spinola's. Only 11 policies were recorded in his accounting books, covering individual voyages, with either departure from or arrival at the port of Genoa. The risks covered were highly variable, with insured sums ranging between 257 and 6,000 Genoese *lire*. In 73% of the policies the object of the insurance were less than 1,200 *lire* worth. Of the policies (corresponding to six contracts), 55% covered the cargo alone. No general average adjustment was made.

**Table 3. Insurance premium rates for routes from and to Genoa, 1607–1609<sup>70</sup>**

Route	Ship		Boat		Galleon	
	No.	premium	No.	premium	No.	premium
<i>Western routes</i>						
Alicante	2	4–6%				
Cartagena	2	6–6.5%				
Cartagena roundtrip	2	8%				
Motril (Spain)					1	10%
Tunis roundtrip			2	8–9%		
<i>Atlantic routes</i>						
Arcipelago (Aegean Sea)	1	13%				
<i>Atlantic routes</i>						
Sanlúcar de Barrameda	1	7.25%				

As shown in Table 3, premiums were slightly higher than those examined in the previous case. This may be partly due to general market trends, but it could also be related to the company's organisation and the type of risk underwritten. In this case, the two years of business basically reported break-even results: collected premiums amounted to 1,002 Genoese *lire*, while settled damages totalled 1,000 *lire*.<sup>71</sup> The lowest premiums were those applied for either hull or cargo separately, although no details are provided about its specific object. So, for example, a 4% rate was applied on 'robe et merci' ('sundries and goods') from Alicante. When the premium for the same route was particularly high, this was due to the higher value of the cargo. For example, for the insurance of cash carried from Tunis to Genoa, a 9% premium was applied, and for a shipment of

<sup>70</sup> Source: ASCG, Albergo dei Poveri, 675, c. 57.

<sup>71</sup> There is a single loss, equal to 100% of the insured value, due to shipwreck.



sugar transported on a galleon from Motril (Spain) to Genoa, the premium paid amounted to 10%.

Comparing these figures with the insurance business of Filippo Sanmichele yields even more interesting results. Sanmichele worked in the insurance business in partnership with his father-in-law Pietro Frugone and the latter's brother, Gio. Andrea Frugone.<sup>72</sup> In the company's insurance ledgers (*cartulario di sicurtà*) there is an account entitled *sigurtà*, which started on 3 January 1622 with a profit of 106,958 *lire*: all the policies underwritten until 23 February 1624 are recorded here.<sup>73</sup> In this period, the company underwrote 49 marine insurance policies, evenly distributed over the two-year period, thus suggesting that there was no particular seasonal trend in marine insurance underwriting.

The company invested significantly in its insurance business: in 57% of cases, underwritten policies yielded premiums under 5,000 *lire*, while the remaining 43% were even higher. The insured assets ranged between values of 780 *lire* and 226,000 *lire*. All underwritten policies were made for specific journeys. Even the *Magistratura dell'Abbondanza* was among the insured parties for several shipments of wheat carried on the routes from Sicily and from Amsterdam, which might prove the reliability of these underwriters. Other types of cargo and hull insurance policy were underwritten in about 51% of cases. Of the voyages, 70% were routes to or from Genoa, but there were also policies covering routes from Naples and Venice to other Mediterranean ports. The premiums applied on the Naples and Venice routes, however, had very high rates, which might point to a particular market situation, or to the difficulty for business operators to assess risks accurately on far away markets.

Based on the routes to and from Genoa it is possible to make some interesting comparisons with what has already been said about the periods examined above. The Tyrrhenian and western routes are those for which the largest number of policies were underwritten, covering journeys in the Tyrrhenian Sea in 31% of cases, or to and from the Spanish and southern French ports in the remainder 35% of instances.

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<sup>72</sup> ASCG, Albergo dei Poveri, 670, cc. 23, 29, 31.

<sup>73</sup> The final balance is not included in the document. Indications regarding the profitability can be inferred from what is reported in the ledger. In 1626, there was a loss of 2,744 *lire* in the insurance section, see ASCG, Albergo dei Poveri, 671, c. 80.

**Table 4. Insurance premium rates for routes from and to Genoa, 1622–1624<sup>74</sup>**

Route	Ship		Boat		Others <sup>75</sup>	
	No.	premium	No.	premium	No.	Premium
<i>Thyrrhenian routes</i>						
Naples					1	2%
Sicily					3	7%
Messina					1	3%
Palermo					3	2.5%
<i>Western routes</i>						
Alicante	5	3.5–5%			2	3.75–4.5%
Narbona					3	3.5%
Seville <sup>76</sup>			1	8%	1	6%
Cartagena	1	4,5%			1	10%
<i>Atlantic routes</i>						
Cadiz	5	8–9%			1	5.5%
Lisbon					1	10%
Amsterdam	1	14%			2	12%

Premiums ranged from 2% for routes to and from Naples, to 14% for routes from Amsterdam. The value of insured goods does not seem to have a particular impact on premium rates, which rather depended on the route and, to a lesser extent, on the type of insured vessel. Of particular interest are the policies from Seville, which in fact covered a ‘mixed’ route: by land from Seville to Catalonia, by sea from Catalonia (Barcelona is clearly mentioned in one case) to Genoa. This is the ‘new silver route’ used to transport this precious metal from the American continent to Europe.<sup>77</sup> From Genoa, then, silver was distributed to England, the United Provinces, and beyond.<sup>78</sup>

During the two years of insurance business, the company settled 27 claims, evenly distributed over the period. Of these payments, 56% referred to general averages. Just as with Agostino Spinola’s business, the percentage of settled claims would vary significantly, ranging from a minimum of 0.3% to a maximum

<sup>74</sup> Source: ASCG, *Albergo dei Poveri*, 670, cc. 23, 29, 31. Policies on galleys, significantly different from those on the other types of ship, are not considered in this table.

<sup>75</sup> Lembo, frigate, brig, felucca, in quovis, unknown.

<sup>76</sup> Insurance policies covering the risks on both the land leg of the voyage from Seville to Catalonia and on the sea leg, from Catalonia to Genoa.

<sup>77</sup> On this definition, see *Claudio Costantini*, *La Repubblica di Genova nell’Età Moderna* (1978), 151 f.

<sup>78</sup> Transport of precious metals was usually entrusted to the private galleys of the asentists. Given the high value of the cargo, the risk was very high. See *Claudio Marsilio*, *The Genoese and Portuguese financial operators’ control of the Spanish Silver Market (1627–1657)*, (2012) 3 *Journal of European Economic History* 69–89, 77 f.

of 43.75% of the sum insured. Conversely, ship total loss due to bad weather or pirates accounted for 33% of all claims. In these cases, the amount paid corresponded to the sum insured.

## E. Conclusion

The insurance business of the three companies here examined highlights that profitability for those working in this sector was practically zero. On the other hand, it confirms that insurance was key for proper commercial operations and traffic flows to and from the port of Genoa. At the same time, it shows that Genoese businessmen were skilfully differentiating their investments in different areas, not necessarily linked to maritime commerce, also through a wide network of economic relations and fiduciary connections. By analysing the types of risk covered by insurance policies, the perils of the routes to and from the port of Genoa, premium rate trends, as well as the type of claims settled, and then by cross-referencing these data with those emerging from the study of the *consolati di avaria*, we have been able to shed light on the structural features of the risks involved in sea trade. Merchants engaged in maritime commerce could not simply rely on fate or good fortune to deal with these risks. It became necessary to take up insurance to cover them. Unlike Venice,<sup>79</sup> in other ports such as Genoa, insurance policies could also include general average clauses. This gave merchants operating in Genoa an additional and better way to protect their investments in the event of a loss.

The port of Genoa was able to maintain its leading role in the Mediterranean Sea even in times characterised by growing globalisation of trade and traffic, as well as by the emergence of new players<sup>80</sup>. If this was possible, it was also due to a highly dynamic local insurance market, its relatively flexible rules, and the extensive use of general average as a way to share losses. The extensive legislation on insurance and general average, as well as the link between these two institutions, highlights the primary role of Genoa in the development of maritime law. The rulings of the local *Rota Civile* and the writings of the jurists who worked there, such as Carlo Targa and Giuseppe Casaregi, constituted an important legal and cultural reference in the following centuries and in different contexts.

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<sup>79</sup> Insurance policies in Venice and Trieste, for example, usually excluded both general and particular average. See *Guglielmo Benecke, Sistema delle assicurazioni e del cambio marittimo*, vol. 4 (1828), 60.

<sup>80</sup> As amply demonstrated by the high number of claims of general average filed with the city authorities and the relative rapidity of the procedure.

