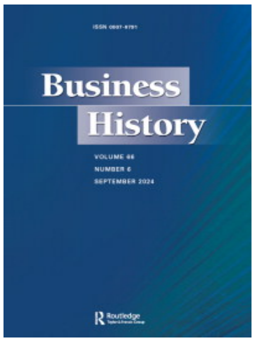

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Marine insurance firms, business networks, and the modernisation of the financial sector in Southern Italy (1820–1900)

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ABSTRACT
In this article, we study the trajectories of marine insurance companies within the Naples business network over the nineteenth century in connection with the business interests of local elites. First, we provide a detailed reconstruction of the marine insurance sector during the century, filling a gap in the literature. Second, backed by original historical and prosopographical reconstructions, the business network evolution of interlocking directorates shows how the shift of the local business system from the centrality of marine insurance companies towards banks is related to the strategic behaviours of local elites, aimed at preserving their power after the Italian unification. This interpretative perspective demonstrates the coherence of our findings with the 'passive modernisation' hypothesis in the Southern financial system.

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Marine insurance; business networks; interlocking directorates; elite power; Southern Italy in the 19th century

Introduction

Not unlike what happened in other Italian and European centres, in Southern Italy, the process of institutional innovation that transformed the marine insurance practices from individual to corporate (Kingston, 2014; Piluso, 2012; Plasschaert, 2021; Pons Pons, 2021; Pons Pons & Pearson, 2020) has occurred more intensely since the early nineteenth century. The efflorescence of marine insurance companies in Naples between the 1820s and 1830s (Bianchini, 1859; Liberatore, 1833; Rotondo, 1838) can be viewed as the chance for Southern Italy to catch up with the institutionalisation of the insurance practices that, after the fall of the Napoleonic empire, spread throughout Europe, deeply transforming, and expanding an activity functional to the relief of international trade (Go, 2009). The historical narrative describes this early stage of the spreading of joint stock companies in Southern Italy as the structuring of a system of personal and business relationships among local merchant bankers, members of a narrow 'financial oligarchy' close to political power and strongly interested in preserving market control (Davis, 1979; Ostuni, 1986; Schisani, 2001).

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In the debate on social capital and its impact on the innovation and growth capacities of an economic system (Dasgupta & Serageldin, 2000; Williamson, 1975), this tendency towards cooperation and cohesion in promoting new ventures is considered as common at the origins of entrepreneurial capitalism (Pearson & Richardson, 2001). It is widely recognised that social relationships played a role in the rise and development of nineteenth-century capitalism (Penrose, 1959) and its varieties (Hall & Soskice, 2001). During that time, amidst risky and unstable environments not accustomed to entrepreneurial innovation, business and economic actors who wanted to give rise to new ventures were challenged to engineer trust mechanisms relying on their own social networks (Casson, 1997). In this sense, Naples is a fertile ground for investigation. As a mercantile city still lacking in mercantile and financial infrastructures in the nineteenth century, Naples fostered an environment wherein merchants and businessmen strongly relied on their own experience and relationships (Schisani, 2001).[1]

In line with the above framework, in this article, we explore the evolution of the marine insurance sector within the Naples entrepreneurial network, expanding the period of analysis to nearly the entire nineteenth century. The time span covers the 80 years between the efflorescence of marine insurance companies in the 1820s and the end of the century, including the liberal turn of Unification (1861), the spreading of the first wave of globalisation (1870s), and the financial meltdown of the late 1880s (Conti et al., 2014).

We use a data-driven approach based on original archival data on the universe of Neapolitan enterprises in the nineteenth century gathered in the IFESMez database.[2] Focusing on firm-by-firm networks resulting from the interlocking roles of actors within and between the companies, we analyse the Naples business network dynamics to define the trajectory of the marine insurance sector based on participation in the power distribution within the universe of the local enterprises. We further investigate the market structure in terms of centrality by looking at the most central part of the network and firms' betweenness, thus tracing the trajectories of marine insurance companies within the local business structure.

This study is innovative for two reasons. First, we fill a gap in the historical literature on marine insurance in Southern Italy, which has limited the analysis to an incomplete group of companies during the pre-Unification phase (Avallone, 2012; Davis, 1979; Ostuni, 1986). We present an original survey of marine insurance companies formed and/or operating in Naples over the period under analysis. Furthermore, in longitudinal terms, we describe the formation of marine insurance firms of any legal type in pre- and post-Unification and then evaluate the trends in the sectoral structure by size, capital, lifespan, percentage weight in the business system, etc.

Second, we contribute to the literature explaining the internal evolutionary dynamics of the Southern business structure over the nineteenth century and evaluate the impact of Southern market openness on the balance of power among the business sectors. We frame our analysis from the perspective of the reproduction of power relationships over time and on the formation of durable networks of business relationships based on actors struggling to pursue their own interests (Bourdieu, 1977; Bourdieu & Wacquant, 1992). Within this framework, we consider the trajectories of marine insurance companies in terms of acquisition or loss of centrality of the sector in the business network as an effect of the main market players' shift of interest. The latter is intended to reproduce practices and relationships in different ventures to deal with new situations that may potentially compromise their dominant positions (Greif & Kingston, 2011). This behaviour recalls the 'passive modernisation' hypothesis, which is consistent with the strategic investment behaviour of the local business elites who accept the challenge of modernisation as long as it does not jeopardise their vested interests (Cafagna, 1988; Felice, 2013; Schisani et al., 2021).

The overall results point out the declining trajectories of marine insurance from core to periphery, more markedly so after Unification, particularly from the 1880s, parallel to the rising central position of the banking sector. Apart from confirming the centrality of the financial sector within the local business network, our analyses further demonstrate that turnover within the financial structure occurs when the insurance sector becomes too competitive due to the massive arrival of foreign companies in the local market. We explain the late catching up of the banking sector's modernisation as the result of the business elites' capacity to protect their businesses under different market conditions (Martinez & Aldrich, 2011). This trend seems to anticipate the persisting collusive attitude that also characterised Italian business organisations throughout the 20th century (Colli et al., 2016; Rinaldi & Vasta, 2005).

The remainder of the paper proceeds as follows. Section 'Historical background' includes a historical review of the literature on Southern Italy's marine insurance companies. Section 'Data and methodology' describes the original archival data used, along with the analytic strategy applied to analyse the business networks over time. Section 'Evolution of the sectoral structure' provides an in-depth illustration of the evolution of the sectoral structure by discussing the main figures. Section 'The loss of centrality of marine insurance firms and the rise of banks: the network perspective' presents the analytical results stemming from the network approach. The statistical findings are interpreted from historical and socio-economic perspectives, detecting three different periods. Finally, the section 'Concluding remarks' provides some concluding remarks.

Historical background

Interest in the historical origins and development of marine insurance has been at the fore of related debates in recent decades (Borscheid & Haueter, 2012; Harris, 2020; Hellwege & Rossi, 2021; Leonard, 2016). This serves as a key factor in deepening the understanding of more general economic issues related to the long-term processes of economic growth, such as the rise of capitalism (Coffman et al., 2013; Trivellato, 2019) and the origins of its varieties (Fusaro, 2020), the roots of market development (Botticini, 2017; Puttevils & Deloof, 2017), and the shaping of institutions (Greif, 2006; Kingston, 2014).

The literature generally agrees that the practice of insurance has spread 'globally' since the Middle Ages, from the Italian city-states across the Mediterranean and European Atlantic trade regions, thanks to individual merchants passing through well-established networks of trade and business relationships (Haueter, 2017; Hellwege & Rossi, 2021). In the following centuries, specifically during the eighteenth and early nineteenth centuries, the long process of institutional change led other countries, such as Britain, America, France, and Holland, to develop more modern institutions that governed marine insurance transactions (Kingston, 2007). Particularly, the formation of joint stock corporations spread throughout Europe (except for Great Britain) more definitively from the earlier eighteenth century as a late step of a long process of institutional change that eventually led to the transition from private underwriting to joint stock corporate one (Greif & Kingston, 2011; Kingston, 2014).

As the cradle of brokering and insurance activities, Italy and its major commercial cities deserve special attention throughout the literature because of their different approaches and various other aspects. From the origins of marine insurance in Genoa in the mid-fourteenth century (Bensa, 1884; Piccinno, 2016; Piccinno & Iodice, 2021), the evolution of the insurance market in the earliest period of Italy's economic supremacy between the fifth-teenth and the sixteenth century has been analysed in-depth with detailed reconstructions, as in the case of Renaissance Florence (Ceccarelli, 2020), Leghorn (Addobbati, 2007, 2016), and Venice (Stefani, 1958), and in comparative terms both at the national and international levels (Bensa, 1884; Leonard, 2016; Melis, 1975). In the following centuries, once the innovative capacity and economic leadership of the Italian cities declined, broader overall pictures were drawn, mostly dealing with institutional innovation that followed models established in more developed countries, which accelerated after the fall of the Napoleonic Empire (Piluso, 2012).

Within this framework, the insurance system in Naples followed a peculiar path. Indeed, even though marine insurance had been intrinsic to the structuring of mercantile capitalism in Southern Italy, the long-lasting political and economic dependence on foreign dominations (especially the Spanish government) prevented the development of an original local tradition (Del Treppo, 1958; Moschetti & de Jorio, 1979; Sirago, 1992). The process of institutional innovation was slow and studded with failures. The first attempt at indirect regulation was introduced by the Spanish government (1622) with the taxation of insurance contracts. The subsequent steps were the failed efforts of Charles III, Duke of Bourbon, to monopolise the market through a public company, *Real Compagnia di assicurazioni maritime* (1751–1802) (Assante, 1979),[3] and the endeavour to regulate insurance with a never-operating maritime code (1779) (Moschetti & de Jorio, 1979).[4] As a result of these attempts, the local insurance market remained under the control of individual local and foreign merchants for an extended period.

The establishment of marine insurance institutions in Naples emerged as a lengthy process following a parallel trajectory to that of evolving trends of trade and financial dynamics. The late eighteenth century marked a turning point in the long-lasting integration of Southern Italy into the international trade routes of foodstuffs and wheat exports (Salvemini, 1995). The deep change emerged substantially from the local market agents' behaviours. The opportunity to define direct trade routes and establish relationships with European commercial agents operating in Dutch, French, and British primary commercial centres enabled Naples to break its dependence on the dominant intermediation of Genoa, Leghorn, and Venice (Bevilacqua, 1987; Romano, 1976). As for the local system, this process required an effort to adjust both trade structures and mechanisms to market logic to compete with the most advanced European centres. These challenges were part of the process through which the Neapolitan merchants, emerging as a group (Macry, 1974), gained social acknowledgments and power,[5] parallel to the restoration of the compact 'national' sovereignty of the king, against the traditional economic and politically fragmented power of feudal and clerical dominant classes (Croce, 1925; Venturi, 1962). The creation of *Real Compagnia* seemed a sound solution to the challenges posed by Neapolitan merchants, claiming both direct trade and exchange practices by institutionalising them through the establishment of a Stock Exchange (1778) (Schisani, 2001). In any case, the public monopoly did not work and proved to be an imperfect monopoly (Addobbati, 2016), wherein private intermediaries played a role: merchants and shipowners continued to stipulate policies with foreign private insurers despite the punishment measures established by the law for those who undermined the company's privilege (Cassandro, 1959). At the same time, powerful local merchants and brokers belonging to the rising oligopolistic financial 'microcosm'

(Macry, 1974) improved their fortunes by nourishing (since the seventeenth century) the practice of the so-called 'sea loan contracts' (*prestito a cambio marittimo*) (Fusaro, 2019; Piccinno, 2016; Trifone, 1934).[6] This aspect is crucial in revealing the difficulty of building a cooperative space in Naples between formal rules and mercantile routines (Schisani, 2001). The literature underlines how the sovereign limited bargaining power towards these internal agents within the system facilitated the emergence of persisting patterns of rent-seeking behaviours within the local business environment (Davis, 1979).

As for the transition from private to corporate underwriting, similar to the Italian path (Piluso, 2012), the organisational innovation of the joint stock corporation spread more definitely from the 1820s after the regulatory innovation of the Bourbon Commercial Code in 1819. The latter, which followed the rules of the previous French Code (1808), regulated both marine insurance companies and the formation of firms of any legal type (Bianchini, 1859; Liberatore, 1833). In this context, the efflorescence of joint-stock insurance companies created between the 1820s and the 1830s, which were generally founded and owned by groups of private merchant bankers, became a breeding ground for speculative activities (Davis, 1979; Ostuni, 1986). In a poor financial landscape during the 1830s, the major activity of insurance companies was providing credit, especially usury credit, to public employees (Rotondo, 1838). Thus, banking and insurance operations substantially overlapped, as no modern separation or specialisation principle was in force, resulting in loose operational practices without specific sectoral rules. According to the literature, these companies experimented on a boom-and-bust pattern after the state intervention in 1834, which essentially prevented insurance firms to carry out their unfair credit practices,[7] leading most of them to fail (Davis, 1979). Thereafter, the literature has almost definitely lost track of the subsequent events that occurred in this business sector.

This brief review clearly demonstrates that, despite the utmost importance of the insurance sector for Naples and the South, the extant literature still provides scant studies on the topic. The institutional aspects of the evolution of regulation and of contractual and organisational forms have been the major areas of investigation for the earlier centuries. In the nineteenth century, the framework is even more scarce. Generally, the absence of more comprehensive studies is ascribed to the almost total lack of primary archival sources or to the uneven character of existing ones (Avallone, 2012). Furthermore, most of the existing works essentially consist of traditional historical descriptive analyses that generally focus on centuries and years preceding the Italian Unification (i.e. until 1861). Drawing on notary acts and procedural documents since the earliest times, the historical narrative essentially describes the steps through which marine insurance evolved in Naples by reconstructing the origins of contracts (Cassandro, 1959), the professional figures involved, the evolution of regulations and the progressive institutionalisation of the market and the relationships between insurance companies and the state (Assante, 1979; Moschetti & de Jorio, 1979). At present, a complete picture of the structure of the marine insurance sector and its evolutionary dynamics over Unification is still lacking.

Data and methodology

To meet our goals, we used a quantitative data-driven approach backed by original historical and prosopographical reconstructions. Our quantitative analysis relies on massive archival data stored in a large database (IFESMez) and on a social network analysis (SNA) methodology. The validity of the SNA approach in business history is suggested by the literature itself, which is increasingly concerned with the importance of investigating the systems of actors wherein economic action is embedded (David & Westerhuis, 2014; Mintz & Schwartz, 1981; Mizruchi, 1996; Stokman et al., 1985; Windolf, 2002). The focus on interlocking directorates and on corporate networks – as fundamental aspects of economic organisation and corporate governance systems of many countries (Buchnea, 2020; Wilson et al., 2018) – is important in revealing the interdependence among firms, economic elites, and the banking and financial systems, as well as structures of control and competition through which scholars explain power structures within different national varieties of capitalism (Hall & Soskice, 2001).

Data source

The main problem when approaching the history of marine insurance in nineteenth-century Southern Italy is related to the lack of data, both pre- and post-Unification. For one, the available pre-Unification data are sparse. Only several incomplete lists of the companies formed in the first half of the century are available in coeval publications (Bianchini, 1859; Liberatore, 1833) that later became conventional references for succeeding studies (Avallone, 2012; Davis, 1979; De Matteo, 1984; Ostuni, 1986). Meanwhile, post-Unification data are rather unreliable. Early statistical publications collecting data on the economic conditions of the newly born Italian state are generally lacking in terms of completeness and accuracy. Furthermore, surveys and annual reports edited by the National Ministry of Agriculture, Industry, and Commerce (Ministero d'agricoltura, industria e commercio [MAIC], 1865, 1874, 1884) and the subsequent industrial censuses by the National Statistical Board (from 1876 on) had gaps in data, as they were based on questionnaires that were often not answered.

Specifically for marine insurance, a statistical report was published in 1874 as part of the 1861–1871 *International Report on Transport Insurance* (marine, land, and river) promoted by the Hamburg Statistical Board. Some explanatory notes by Luigi Bodio, secretary and then director of the Italian Central Statistical Board, pointed out all the difficulties encountered in collecting data. For example, only nine Chambers of Commerce out of the 72 consulted declared having headquarters of transport insurance companies in their respective districts. The total number of companies from the 1871 survey (60 companies and agencies of which eight were foreign companies) differed from the number reported in another survey published by the MAIC itself for the same year in relation to the list of the limited liability Italian companies (85 companies and agencies of which 16 were foreign). Furthermore, the data surveyed by questionnaires were unreliable, as 'the sections […] were not entirely filled, probably because answering all the questions would have entailed not a little effort for the companies' administrative bodies' (MAIC, 1874, pp. 47–48). As for Naples, only 13 transport insurance companies (12 Italian companies and only one foreign company) existed in 1871, of which only four firms answered the questionnaire (MAIC, 1874, p. 47). Meanwhile, another coeval survey on the productive system of Naples and its province from 1870–1872, which also referred to the MAIC report, revealed 18 local companies in Naples and its province and 18 branches of Italian and foreign insurance companies (Betocchi, 1874, pp. 42–50). The abovementioned examples show how data can differ from one publication to another for the same period. Furthermore, the annual business guidebooks (both local and national) do not provide complete information and only publish the list of companies that paid to be included in the publication itself.[8] In addition, the data reported in the ministerial statistics or elsewhere do not include information about the actors involved in the companies, the governance structure, the legal type, and the market structure in terms of cross-shareholding and/or control dynamics.

In light of the available surveys, we take a different approach to constructing data in the current study. Looking at the entire entrepreneurial system of Naples and its province, we collected data from the unique official archival source, the Mercantile Court archival funds (from 1883 on the Civil Court) available at the Naples State Archive. This original source allowed us to collect data from official documents (e.g. founding acts, memoranda of association, balance sheets, appointments of directors, and minutes of general meetings) provided to the courts by firms of all legal types. Given that general partnerships, limited partnerships, and joint stock companies were required by law to register their foundation acts and documents,[9] the collected data covered the entirety of these different types of firms. As for the sole proprietorships, no mandatory requirements were provided by law; thus, the database included only those who voluntarily deposited their acts and documents at the Court. For the purposes of our analysis, this lack of information did not affect the results. Indeed, insurance companies, as well as banks or firms engaged in relevant economic activities, were not generally organised in the form of sole proprietorship.

Next, the collected data were stored in a proprietary relational database, IFESMez which included data on the universe of firms legally registered in Naples or elsewhere but operating in Naples and firms linked to actors and firms in Naples through actors functioning as co-shareholders/directors/managers/syndics/representatives/agents. Thereafter, the data were integrated with information derived from other archival sources, gray literature, periodical publications (journals, business guidebooks, etc.), electronic sources, and genealogies. Thus, our work is based on a unique and original database that has been conceived to reconstruct network ties within and between firms to define the size, composition, and centrality of business communities/coalitions and their evolution over time.[10]

Within this paper, we focus on the period between 1820–1900, beginning from the efflorescence of the marine insurance companies, just after the new Bourbon Commercial Code (1819) that regulated the foundation of marine insurances and of other firms, to the end of the century. We extracted from the IFESMez database a dataset linking actors to firms through the roles played by the actors within the firms. We used the most extensive notion of role, including shareholders, directors, and other management roles.

The analytic strategy

Our research questions call for a set of specific methodologies, each designed to address a specific issue. We describe our analytic strategy by outlining four steps: the analysis of the insurance firms operating in Naples over the period being studied; the network data definition; the extraction of the densest central and connected subgraphs *via* Islands algorithms; and the exploratory analysis of marine insurance firms' role evolution.

Analysis of insurance firms operating in Naples from 1820–1900 and network definition

In the first step of the analysis, we extracted from the database all the firms with the words 'insurance' or 'risk' and the inflected forms and variants of past Italian language (e.g. 'sicurtà') in their names, social objects, or founding acts. For these firms, we considered the foundation and the closing dates (if not available, we considered the first and the last detection in the documents), the legal type, the main activity, the legal headquarters, the presence of branches in Naples and the size of the authorised capital in the original currency converted into the value of the Italian lira in 1861. All these details are reported in Table A1.

To describe the sector evolution, we considered some simple descriptive statistics, along with a Lexis diagram, to synthesise the insurance life cycles. We then performed a regression analysis to show the relationship between the duration and the size of capital. Note that the Lexis diagram is often used in demography to analyse three time dimensions: calendar time of observation, age (or time duration), and cohort (calendar time at the initial event). These time dimensions are represented together, facilitating the analysis of the intensity of the phenomenon being studied (Tesárková & Kurtinová, 2018). We used this traditional demographic tool to visualise the lifecycles of Neapolitan (legal headquarters) insurance firms over the considered time span.

From the original database for the period 1820–1900, we extracted a dataset of all the firms whose years of foundation or years of first detection in the legal documents were between 1820 and 1900. Only one exception is given by the branch of French marine insurance firm *Luigi Despine e Compagnia* detected in Naples in 1818. With the list of firms that we extracted, all the actors that played one of the roles listed above were considered. For each actor, we identified the year in which the role was completed or last detected. Such data gave rise to a time-varying two-mode network (i.e. a set of actors and a set of firms in which the actors are involved) with links that vary over time (Ragozini et al., 2015**)**. The two-mode networks contrast with the more widely used and well-known one-mode networks andv consist of two disjointed sets of entities that are linked to each other but with ties that are not present among entities of the same type.[11] In our case, the value associated with each link among actors and firms represents how many times and how many different roles an economic actor played in each firm. Notably, in the network definition, we ignored the kinship ties and the inter-firm ties that still present many gaps in information.

We sliced this large affiliation network by considering 20-year time spans starting from 1820. Thus, we obtained four periods: 1820–1839, 1840–1859, 1860–1879 and 1880–1900. Notably, in our dataset, the date of the link appears either as a start/end date or as a point date, marking a year when the relationship was set in place. The attribution of the link in each 20-year span was completed by considering the start/end date whenever present; otherwise, the point date as existing within the 20-year span was used.

Being interested in firm positions in the local business network, we derived five temporally weighted firm-by-firm one-mode networks following the usual projection approach[12] (Borgatti et al., 2018). In such a case, for each time span, two firms co-existing in the same period in the one-mode network are linked if they have some actors playing roles in both. The weight of the link is given by the number of actors that they share. These networks belong to the strand of research focused on interlocking directorates (Mizruchi, 1996). In the present study, based on how we obtained the firm-by-firm network, we considered only the direct interlocks, i.e. if an actor a_i has seats in two firms f_j and $f_{j'}$, he/she generates an interlock between these firms. A firm or group of firms with many links in the interlocking network tends to increase their influence in the business environment, thus exerting strong coordination that acts like trusts or cartels, reducing the competition and increasing the availability of privileged information and overall prestige. At the same time, the actors playing roles in many firms tend to be part of an inner circle that disproportionately controls entire business sectors, thus giving rise to so-called 'interest groups' (Mintz & Schwartz, 1983). These elites and the people around them are the ruling class in modern literature. Firms with relevant actors on their boards gain advantages from these actors' centrality; at the same time, the actors gain advantages by gaining seats on the boards of central firms (Larcker et al., 2013). We analyse these one-mode networks in the current paper.

To study the network behaviours over time, we quantitatively describe the network structures for each time span through the usual descriptive statistics, such as the numbers of nodes, ties, and isolated nodes, as well as the density, average degree, and so on.

Extracting the densest central and connected subgraphs via the Island algorithm

As discussed above, interlocks give rise to groups of firms that are strongly connected in the network through the economic actors that are present simultaneously but with different roles (directors, owners, and majority shareholders) in many firms. These groups correspond to the densest and most connected parts of our temporal networks, and we look for them using the Island algorithm proposed by Batagelj (2009) and implemented in Pajek (De Nooy et al., 2018). Indeed, the algorithm is designed to find the most important parts in large networks with respect to a given property of nodes or links, as well as to extract coherent well-connected parts of networks for further study (Batagelj, 2009).

Specifically, a property of nodes/links is used to define the height of nodes/links and a selected threshold t is used to cut the network at a certain level. We then used the weighted degree to define such a property. A set of network islands is derived such that the links inside each island have a higher weight than those connecting the nodes outside the island with their neighbours (Batagelj et al., 2014). Like the usual hierarchical clustering algorithms, the different cuts at various levels are nested, and they determine the hierarchy.

Based on the results of the Island algorithm, we removed all firms with a height equal to zero. These correspond to all the isolated firms (0 degree) plus a large part of the marginal firms. Both isolated and marginal firms comprise the largest part of each time span. Then, given the new network structure defined by the emerging islands, we extracted all the firms belonging to the main component, i.e. the largest connected component or the maximal subgraph containing the largest number of firms and in which all nodes are mutually reachable (Cartwright & Harary, 1956). We used the term 'central largest component' (CLC) to refer to the subnetworks described above.

Exploratory analysis of marine insurance companies' role evolution

To study the evolution of the roles of marine insurance companies inside the business network structure, we first classified all firms found in the dataset, following the statistical classification of economic activities in the European Community (i.e. NACE revision 2).[13] We distinguished the insurance sector (K financial and insurance activities), considering four subsectors: local marine insurance, local general insurance, foreign insurance, and mutual insurance. In the analysis, we included the category 'bank and finance' to evaluate the historical process of financial modernisation, for which the credit activity definitely moved from loose operational practices towards institutionalisation (Cameron, 1961), as recalled in

Section 'Historical background'. Second, we visually analysed the network structures, focusing on the CLC extracted through the island algorithm, after which we characterised our networks by means of a set of network indices. Then, we focused on the composition of the CLC to evaluate the incidence of marine insurance companies over the global business system and the relative power inside the networks over time. As measures of power, we computed the betweenness for each firm as a measure of its brokerage power in the network provided by the interlocks (David & Westerhuis, 2014). We also focus on betweenness as a measure to highlight firms that are in the highest position as intermediaries in the flows of economic interests, which is also associated with the concept of the structural power of elite groups (Gould, 1989). The betweenness centrality of a node refers to the proportion of all geodesic distances between pairs of other nodes that include a given node (Freeman, 1977). In other words, it refers to the ratio between the number of shortest paths connecting any other pair of nodes passing through a given node and the number of shortest paths connecting all the other nodes.[14] With respect to the degree, it counts the number of incident links for each node, whilst betweenness depends on the entire network structure and can be interpreted as a measure of brokerage and information control power (De Nooy et al., 2018). Thus, a more central firm in terms of betweenness plays a more important role as an intermediary in the communication network.

Evolution of the sectoral structure

In this section, we present the main figures that characterise the evolution of the marine insurance sector over the century. Table A1[15] in Appendix A reports the list of all types of censused insurance companies created and/or operating in Naples in any legal form, as recorded in the database. First, based on the growth of the number of firms in the local business network, we can see that the number of insurance companies (Table 1) constantly increased over time since the 1820s, at least until the end of the examined period. The percentage weights of insurance firms on the growing local entrepreneurial system were almost constant over the considered period, with the total variation within two percentage points.

Table 1. The evolution of marine insurances and other sectors within the Naples business system.

	1820–1839	1840–1859	1860–1879	1880–1900
Firms	235	473	982	1,129
Insurance	17	25	52	83
Of which Marine Insurance (Naples and province)	11	19	36	11
Of which mutual insurances	0	0	1	43
Of which foreign insurances (marine and general)	2	2	10	16
Banking/Other financial firms	46	94	177	231
Manufacturing/Industry	51	140	215	324
Public utilities	2	12	36	65
Trade/Commerce	86	172	446	362
Other firms	33	30	56	32
Percentage of insurances over all the firms	7.23%	5.29%	5.30%	7.35%
Percentage of marine insurances over all the firms	4.68%	4.02%	3.67%	0.97%
Percentage of local marine insurances over insurances	64.7 %	76%	69%	13.25%

Under this general trend, the role of the marine insurance sector declined, as confirmed by the analysis of the weights of marine insurance companies within the insurance sector and the entire local entrepreneurial system. Moreover, the percentage of marine insurance companies over the total number of firms constantly declined throughout the entire century, showing some capacity to survive the Unification whilst demonstrating a dramatic reduction in the last 20-year period under analysis. Particularly, with respect to the entire entrepreneurial system, marine insurance companies completely lost importance over time and became nearly insignificant in terms of percentage, decreasing from 4.68% to 0.97%. Even the relative weight of the local marine insurance companies over all the insurance companies operating in Naples was quite stable up to the last 20 years until it became less than one-fifth of the previous periods. If we considered all the other sectors (bank and finance, manufacturing, public utilities, trade, and commerce), the number of firms would constantly grow at almost the same rate as the total number of firms. Thus, we can conclude that only the local marine insurance firms, even if just considering their number, followed a different evolution path.

The observed trends are generally consistent with those described for the national insurance market over the century (Piluso, 2012). The impacts of both Unification (1861) and the first wave of globalisation (1870–1913) played crucial roles in reshaping the internal structure of the Southern Italian insurance market as part of progressively larger national and international markets. The insurance companies formed after the Neapolitan French decade (1806–1815) barely survived effects of Unification. Many of them went bankrupt; in exceedingly rare cases, they showed solidity and longevity. The structure of the local insurance market remained concentrated on marine insurance, both during the pre-Unification period and in the first decades after the Unification. By the mid-1870s, the number and influence of foreign companies increased significantly; from the 1880s to the end of the century, the rapid rise of mutual insurance companies[16] was evident.

From the analysis of both capital and operational life, the Southern Italian insurance sector is characterised by small companies with the following characteristics: (1) the average size of authorised capital equal to 871,307.09 Italian lira (at 1861), which is definitely lower if only marine insurance firms with an average capital of around 350,000 lira are considered (the largest one is La Sirena with 2 million lira); (2) an average operational life of around 18 years for both marine and non-marine insurance firms; and (3) a positive correlation (0.40) between the size of the capital and the duration of the operational life. This result is also confirmed by a regression analysis in which duration and capital are the dependent and independent variables, respectively. In the regression model, we also added a dummy to code if the insurance firm was founded before or after Unification. The size of capital had a significant positive effect on the duration (standardized coefficient = 2.61, p-value = 0.012) as well as the creation before Unification (standardized coefficient = 2.77; p-value = 0.008).

The above trends identified for insurance firms in Southern Italy are evident when analysing the distribution of the years of foundation and of the duration of the operational life of the insurance firms that had legal headquarters in Naples or in its province. The Lexis plot[17] (Figure 1) reports these data for 57 insurance firms founded over the century. The solid black lines in the plot represent the marine insurance firms, and the dashed gray lines indicate the general insurance firms. The points at the end of each line mark the liquidation/failure/end of the firms. Lines that do not end with the point highlight firms that continued operations over the twentieth century. The dark gray vertical line marks

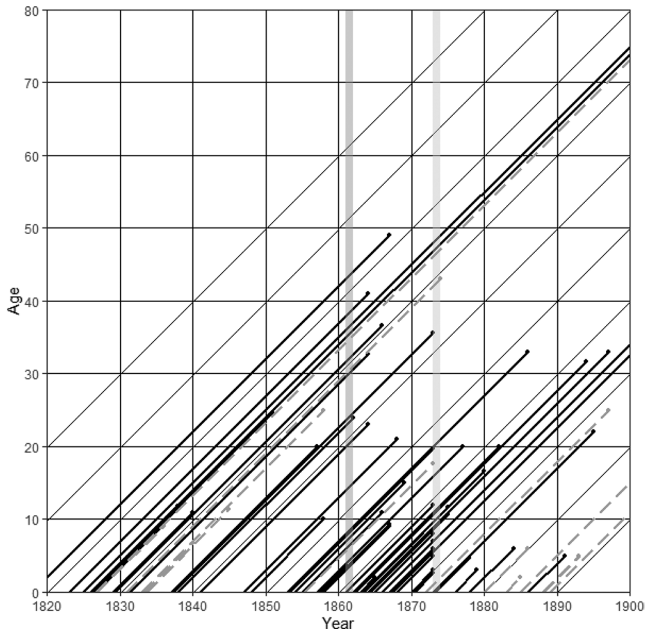

Figure 1. Lexis Plot of 57 insurance firms (1) created and operating in Naples and its province between 1820 (2) and 1900.
Note: (1) Marine insurances = Solid black lines; Insurances = dashed gray lines. The two gray vertical lines mark 1861(Unification) and 1873 (financial crisis), respectively. The points at the end of each line mark the liquidation/failure/end of firms. (2) The first solid black line starting before 1820 represents the marine insurance 'Luigi Despine e Co' founded in Naples in 1818.

the Unification (1861) period, and the light gray line represents the 1873 financial crisis. The plot shows the pre-Unification period, starting in 1818, which was characterised by a surge in the number of insurance companies, almost all of them in the marine sector, as well as the period between 1861 and the mid-1870s.

Particularly, in the pre-Unification, the impact of the 1834 state regulation on unfair insurance credit practices, which has been strongly highlighted in the literature as a watershed in the formation of joint stock companies in Southern Italy (Davis, 1979; Ostuni, 1986), has a very limited impact on the Naples insurance market. Up until the Unification, insurance corporations continued to rise in number, even though their operational life is highly variable and only a limited number survived the Unification.

For example, some marine insurance companies formed in the 1820s and 1830s, such as *Società Napolitana di Assicurazioni* (1818–1867), *Compagnia del commercio di Napoli per le sicurtà marittime* (1823–1864) and *Compagnia pe' rischi marittimi* (1829–1866), showed varying levels of resilience to the Unification, sometimes barely surviving until the 1866 crisis. Furthermore, most of the companies, such as *Compagnia di Assicurazioni Marittime Napoli-Procidana,* created in 1837 by the most powerful grain and oil merchants of the kingdom, resisted until the 1873 crisis. Less durable were the marine insurance companies created in the 1850s, such as *Compagnia del Mediterraneo di Assicurazioni Marittime* (1855–1866), *Stella Polare* (1857–1867), *Flavio Gioja* (1858–1867), *Urania* (1855–1873), *Cerere Ferdinandea* (1857–1877), etc., which – for the most part – barely survived the 1866 and 1873 crises. Rare exceptions survived for a long time. Among the pre-Unification marine insurance companies, the one with the greatest longevity after 1861 was *Compagnia Anonima Torrese Sicurtà Marittime* (1853–1886), which later transformed into a bank under the name *Compagnia anonima di credito Torrese* in 1886. On the other hand, *Società di Assicurazioni Diverse* (SAD) (1826–1909) was, by far, the most important, especially in terms of authorised capital (higher than 10 million lira), both in pre- and post-Unification, and the longest-lasting firm among the Southern insurance companies.[18] Established in 1826 as the first life insurance company in Southern Italy,[19] the company lived until 1909 and later transformed into a bank when it was absorbed by the *Banco di Roma* as its Neapolitan branch.

Approaching the Unification, the Lexis plot shows a more rapid turnover in the insurance market as well as a higher market concentration in the marine insurance sector, as demonstrated by the creation of several new companies with very short operational lives, surviving just a few years after their foundation. The liberal turn of the Italian government also seemed to provide a great impulse to the Naples insurance market, which suffered a strong backlash from the two crises of 1866 and 1873. As can be clearly seen from the plot, this latter crisis (light gray vertical line) marked a watershed in the local market that, in the face of several bankruptcies of marine insurance companies, definitely changed its nature by opening up to different types of insurance activities. From the mid-1870s, the new insurance companies were no longer related to the marine sector, either operating in general insurance covering more sectors or specialising in the coverage of generic damages, hail and fire damages, life, transport, and agriculture insurance, as well as volcanic eruptions and earthquake damages.

These trends suggest that, after the Unification, the local insurance market structure was immediately influenced by the renewed expectations for a rise in the export trade due to the new liberal policies at the national level and to the Suez Canal construction (1859–1869). The successive decline of the sector, also connected with the mostly unfulfilled expectations of national trade policies (Frascani, 1990; Galasso, 1987; Nitti, 1900), was part of the general decline at the national level in the specialisation of insurances in the marine sector. Indeed, while local marine insurance firms disappeared, and their services began to be supplied by foreign general insurance firms, the rise in individual incomes and savings led to the growth of life and other insurance sectors (Piluso, 2012).

This decline is also consistent with the emergence of the first globalisation in the early 1870s. The 1873 crisis marked a turning point in the opening of the local market to foreign general insurance companies. Whilst almost completely absent in pre-Unification,[20] the number and influence of foreign insurance firms in Naples increased sharply, albeit as a long wave of foreign capital arrived. Indeed, whilst foreign direct investments (FDI) arrived in Naples and Southern Italy immediately after the post-Unification liberal turn in 1862, thus filling structural gaps in the lack of capital and technological resources, the presence of branches and agencies of foreign insurance firms increased by the 1870s and became more relevant in the 1880s (see Tables 1 and A1). The establishment of foreign insurance operators in Naples did not follow a clear-cut pattern relative to the countries of origin as it was for the FDI (Schisani & Caiazzo, 2016). The alternation between France and Austria and Germany, consistent with the alternation of international monetary (Latin Monetary Union 1865), political (Triple Alliance 1882), and commercial (trade war with France 1878 and 1887) Italian alliances, was not so definite in the Naples insurance sector and was referred for the rest of Italy instead (Piluso, 2012). Also during the 1880s, the presence of French insurance firms in

Naples continued to be the most important, with 12 companies (two marine firms) detected during the post-Unification period. Among the seven German branches (two marine firms), most were established in the 1880s, along with four Swiss companies. As for the four Austrian insurance firms, the company with the longer-lasting presence was *Assicurazioni Generali* from Trieste, which was established in Naples since 1832 under the name *Assicurazioni generali austro-italiche*, whilst *Riunione Adriatica di Sicurtà (RAS)*, also from Trieste, had its first branch in Naples in 1878 (Table A1). Branches or agencies of marine, life, fire, or general insurance firms from all over Europe established in Naples from 1860 up to the late-1880s, particularly those from Greece, Hungary, the United Kingdom, and other Italian cities, were traditionally linked to Naples, including Genoa (four branches), and other Southern cities, such as Bari, Catania and Palermo (Table A1).

In the last 20 years, in line with the same trend at the national level (Piluso, 2012), local mutual insurance firms and cooperatives (Table 1) became the main components of the Naples insurance market. Similarly encouraged by the 1882 Code of Commerce, which established the possibility of creating cooperative firms in the legal form of limited companies, these types of companies provided a system of insurance by which the policyholders entirely owned the companies, thus becoming members under contract to pay premiums into a common fund, out of which claims were paid. In the wake of the spread of cooperation in different economic sectors, these non-profit firms, unlike stock insurance companies, had the sole purpose of providing their members with insurance coverage without the goal of maximising profits. The rise and development of mutual associations, limited liability cooperatives, and mutual companies formed locally, except for a small part coming from other Italian cities (*L'Italia Agricola* from Florence and *Società Generale Italiana di mutua assicurazione* from Padua), helped broaden the local insurance market whilst also balancing the massive presence of foreign insurance companies. This was achieved by covering diversified risks relative to accidents for crops and workers, fire, life, and marine trade and transport (Table A1).

The loss of centrality of marine insurance firms and the rise of banks: the network perspective

Beyond the analysis of the presence of marine insurance firms within the Naples business system, we analysed the role of these companies within the network, as determined by the interlocks. The business network consists of a large central component surrounded by numerous isolated or highly fragmented small groups of firms.

On the one hand, looking at the network descriptive measures (Table 2), it can be seen that the first three periods are quite similar. On the other hand, the last period is characterised by a denser and more centralised and connected network (all the network measures confirm this trend). The increase in the average degree (both simple and weighted) can be explained as an effect of the enactment of the Code of Commerce in 1882 and the consequent efflorescence of joint stock companies mainly pushed by the Risanamento Law in 1885 (see footnote 22). The 1889–1894 twin crises lost visibility within the 20-year period and were partly balanced by the continuously growing number of cooperative banks and companies encouraged by favourable legislation and supported by the Banco di Napoli (Luzzatti, 1885).

Table 2. Network characteristics and descriptive measures over time within the Naples business network.

	1820–1839	1840–1859	1860–1879	1880–1900
Firms	235	473	982	1,129
Number of isolated firms	72 (30.77%)	152 (32.34%)	370 (37.64%)	322 (28.52)
Number of marginal firms (degree 1 and 2)	80 (34.10%)	153 (32.54%)	296 (30.10%)	297 (25.30%)
Total number of ties	415	904	2,071	4,795
Density	0.014	0.0077	0.004	0.0073
Average degree	3.54 16.41 (*w*)	3.84 9.82 (*w*)	4.21 12.18 (*w*)	8.49 36.76 (*w*)
Max degree	41 481 (*w*)	37 252 (*w*)	65 407 (*w*)	231 1,866 (*w*)
Network betweenness centralisation	0.0556	0.046	0.018	0.083
Number of 0 betweenness	186 (79.49%)	373 (79.36%)	799 (81.28%)	776 (68.73%)
Number of components (excluded isolated)	33	65	138	61
Size of the main component	99 (42.13%)	202 (42.98%)	342 (34.8%)	707 (62.62%)
Size of CLC	30	81	68	117
Insurances in the CLC	13	18	23	9
Marine insurances in the CLC	10	15	22	2
Banking and financial firms in the CLC	6	14	16	57
Percentage of insurances in the CLC	43.33%	22.22%	33.82%	7.70%
Percentage of marine insurances in the CLC	33.33%	18.52%	32.35%	1.70%
Percentage of banking and financial companies in the CLC	20.00%	17.28%	23.53%	48.72%

The percentage of isolated and marginal firms was around 65% in the first three periods, although this decreased a little in the last time span (around 54%), thus showing a stronger interconnection in the business network. The size of the main component in terms of the percentage of firms included in it is quite stable over time. The average degree is almost constant and equal to about 3.5 until Unification, thus showing a structural trait of the network. This increased in the last period (8.49), especially in the 1880s, due to the liberalisation of joint stock companies (i.e. Code of Commerce 1882) and the efflorescence of large cooperative firms that have a large number of partners/shareholders. The firms that reached the maximum degree in each period represent the evolution of the business network: in the first time span, the maximum degree is reached by a large general insurance company, *Compagnia di assicurazioni generali del Sebeto*, promoted and governed by the most important Neapolitan merchant bankers (Schisani, 2001). In the subsequent period, the maximum degree belongs to a foreign railway company, *Compagnie du chemin de fer du Nord*, demonstrating the rising interest of local and foreign financiers in investing in southern infrastructures. In the last two periods, two banks, *Banca di Credito Italiano* and the cooperative bank *Banca Popolare di Napoli*, showed the maximum degree, thereby highlighting the increasing importance of the banking and financial sectors.

Following the methodology explained above, for each period, we now focus on the CLCs by characterising their composition in terms of the kind of firms. Table 2 shows that the size of the CLCs increased over time according to the general expansion of the Naples business system. However, looking at the composition of this central part of the network, the decreasing percentages of general insurance and marine insurance companies are evident, unlike the increasing number of banks and financial companies. In particular, almost all the insurance firms present in the CLCs operate in the marine sector, and their prevalence in the central part of the business network moved from 33.33% in the earlier decades to 1.70% in the last period. Furthermore, the analysis results show that, just after Unification, this sector preserved its centrality, thus showing a certain degree of resilience to institutional changes. Looking at the percentages at the end of the period, banks and financial companies replaced general insurance and marine insurance firms at the core of the local business network, reaching an incidence of 48.72%, which is similar (or even higher) to the one observed for insurance firms at the beginning of the examined period.

To explain these trends, we graphically represent the five CLCs using the Kamada Kawai spring embedding algorithm (De Nooy et al., 2018) (Figure 2, panels from *a* to *d*). To analyse the changes in the sectoral power of marine insurance firms, we also compute the average betweenness of firms in different sectors and the ratio among the average betweenness of marine insurance firms with respect to the other sectors. Likewise, we plot the evolution of these two quantities for the marine insurance sector compared to the banking and financial sectors without insurance firms (Figure 3).[21] In Table 3, we report the betweenness (normalised for the maximum value observed in each time span) only for the marine and non-marine insurance firms present in the CLCs. Finally, in Table 4, the top 10 companies are ranked according to their betweenness for the different periods under analysis.

All the analytical results and the sequence of graphs in Figure 2 confirm the progressive decline in the presence of marine insurance companies (represented as the white nodes whose sizes are proportional to the betweenness values) within the business network. These are characterised by their quite stable central position until the first 20-year period after Unification and by the rising central role of banking and financial firms (black nodes) at the end of the examined period.

Within this general trend, three subperiods can be highlighted: (1) before the Unification, (2) from Unification to the 1873 crisis, and (3) the last two decades of the century. In the first period, marine insurance firms present values close to 1 (the maximum normalised

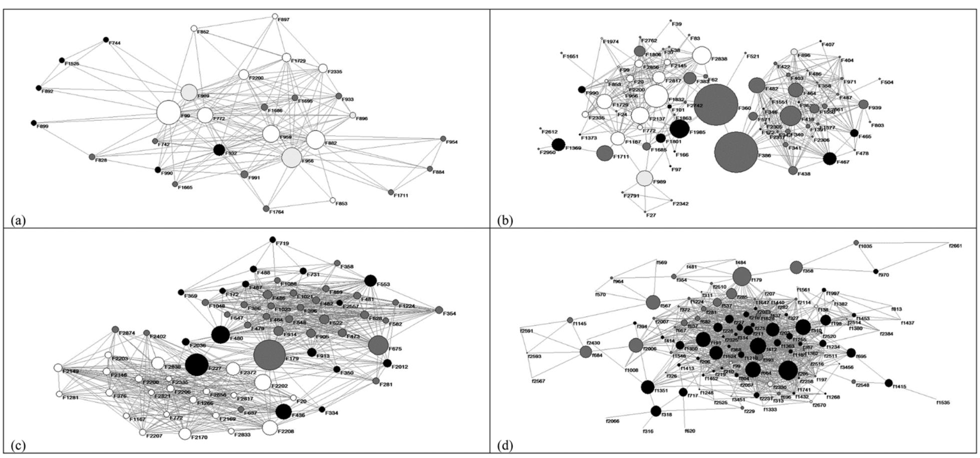

Figure 2. Sequence of the central largest islands of Naples business networks since 1820–1900: (a) years 1820–1839; (b) years 1840–1859; (c) years 1860–1879; (d) years 1880–1900.
Note: Firms are represented as nodes: marine insurances are white circles, insurances are light-gray circles, banks and financial firms are black circles, and other firms are gray circles. The size of nodes is related to the firm betwenneess.

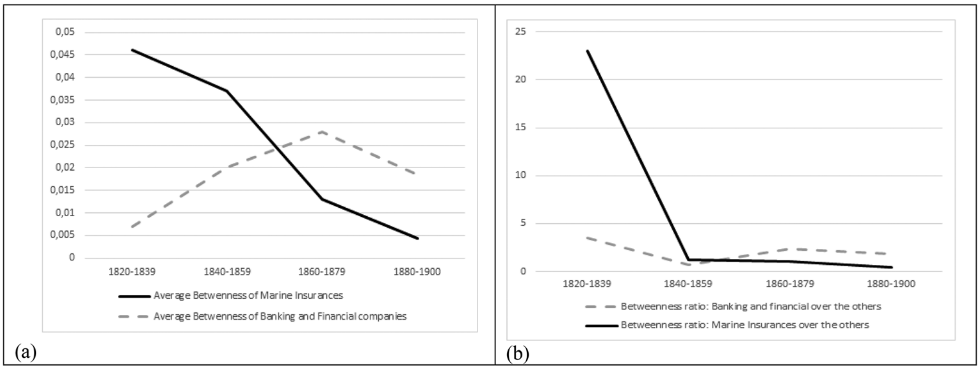

Figure 3. (a) Trends in the average betweenness of marine insurance and banking and financial companies; and (b) trends in the ratios between the average betweenness of marine insurance and banking and financial companies and that of other firms.

observed betweenness), thus showing a decreasing centrality in the business network in the subsequent periods (Table 3). In addition, company turnovers are evident, with three marine insurance firms surviving after the Unification (*Società Napolitana di Assicurazioni* F772, *Compagnia pe' rischi marittimi* F2335 and *Napoli Procidana* F2200) up until the 1873 crisis, and one general insurance firm (SAD F99) present across all periods. Finally, several marine insurance firms never gained high and durable power in terms of network centrality after 1861.

Marine insurance firms at the core of the business network

In the first pre-Unification period (Figure 2a), marine insurance companies are completely integrated within the business network and represent the most central and cohesive component of the network itself. In the 1820s, marine insurance firms in Naples held great power over the business system. The relative ratio of betweenness (Figure 3) was about 23 times higher than that of other firms and companies in the system. The second period (Figure 2b) reveals the progressive movement of these companies away from the very core of the network, which seemed to separate into two parts that embody companies from different sectors. Particularly, a cohesive group of marine insurance firms is still quite consistently central (on the left side of the figure) and is connected to another definite group of companies, essentially public utilities, through two bridging companies, namely, *Compagnia di illuminazione a gas della città di Napoli* (named *Compagnie Pouchain*) (F360) and *Jackson frères, Petin Gaudet et C.i.e. Compagnie des hauts fourneaux et des chemins de fer)* (F386), which are in the most central part in the period. The most important French investment banks, *Crédit Mobilier* (F465) and *Crédit Industriel et Commercial (CIC)* (F467), first appeared in this group. Marine insurance firms also have a slightly higher betweenness than the other sectors.

In pre-Unification, as mentioned in the literature, the boom-and-bust pattern, characterised by massive failures after the 1834 royal ban imposed on insurance firms' unfair practices, did not compromise the position of the sector in the network. As explained in Section 'Historical background', the 1834 state intervention stopped the despecialized practices carried out by marine and general insurance companies in the credit sector, including discounting bills of exchange and commodity orders (grain and olive oil) and granting

Table 3. Trends of normalised betweenness of the marine and non marine (1) insurances present in the central largest components (2).

Name	1820–1839	1840–1859	1860–1879	1880–1900
Società di Assicurazioni Diverse (SAD)[b]	1.000	0.001	–	0.039
Compagnia di Assicurazioni generali del Sebeto[b]	0.654	0.000	–	–
Società Tontina d'assicurazioni marittime[a] (1829)	0.584	–	–	–
Compagnia Commerciale di Assicurazioni[a]	0.469	–	–	–
Compagnia Sebezia Promotrice delle Industrie Nazionali[b]	0.420	0.142	–	–
Società Napolitana di Assicurazioni[a]	0.401	0.013	0.004	–
Napoli Procidana (Compagnia di assicurazioni marittime)[a]	0.150	0.002	0.022	–
Compagnia pe' rischi marittimi[a]	0.098	0.023	0.002	–
Compagnia rassicuratrice dai rischi del mare[a]	0.095	0.127	–	–
Compagnia Metese di assicurazioni e cambi marittimi (1826)	0.009	–	–	–
Banca Fruttuaria nel Regno delle due Sicilie[b]	0.008	0.020	–	–
Seconda Compagnia Metese[a]	0.001	–	–	–
Partenopea[a]	0.000	0.007	–	–
Società Anonima di Assicurazioni marittime[a]	–	0.111	0.001	–
Compagnia di assicurazioni e cambi marittimi del Piano di Sorrento[a]	–	–	–	–
Società Tontina d'assicurazioni marittime[a] (1841)	–	0.317	–	–
Compagnia Metese di assicurazioni e cambi marittimi[a] (1838)	–	0.000	–	–
Piccola Compagnia di Assicurazioni Marittime[a]	–	0.176	–	–
L'Ancora Assicuratrice[a]	–	0.029	0.001	–
Flavio Gioja[a]	–	0.020	–	–
La Stella Polare[a]	–	0.036	0.011	–
Cerere Ferdinandea[a]	–	0.086	0.002	–
Assicuratrice Marittima delle Due Sicilie (ex Compagnia Generale per le assicurazioni marittime e fluviali)[a]	–	0.194	0.146	–
Compagnia Italiana di Assicurazioni Marittime[a]	–	–	0.125	–
Nuova Compagnia Metese di assicurazioni e cambi marittimi[a]	–	–	0.021	–
Compagnia Metese (di Assicurazioni Marittime)[a]	–	–	0.154	–
Compagnia Napoli Sicilia[a]	–	–	0.021	–
Compagnia La Sirena[a]	–	–	0.200	–
Esperia (Compagnia di Assicurazioni Marittime)[a]	–	–	0.262	–
Dante[a]	–	–	0.018	–
La Perseveranza[a]	–	–	0.001	–
Italo Ellenica (Compagnia di Assicurazioni Marittime)[a]	–	–	0.002	–
Associazione Procidana di Mutua Assicurazione della Marina Mercantile Italiana[a]	–	–	0.002	–
Egeria (Compagnia di Assicurazione)[a]	–	–	0.032	–
Torquato Tasso (Compagnia di Assicurazioni Marittime e Ferrovie)[a]	–	–	0.015	–
La Nuova Fenice[a]	–	–	0.009	–
Compagnia Urania[a]	–	–	0.028	–
La Fenice[a]	–	–	0.012	–
La Meridionale[b]	–	–	–	0.097
La Napoli[b]	–	–	–	–
Compagnia Anonima Torrese Sicurtà Marittime (1853) then Compagnia anonima di credito Torrese[a]	–	–	–	0.041
	0.299	0.072	0.055	0.062

(1) [a]marine insurance; [b]non marine insurance. (2) The betweenness values have been normalised by dividing them for their maximum observed in each time span.

short-term loans at usury rates to public employees secured by wages and pensions (Bianchini, 1859; Davis, 1979; Schisani, 2001).

The crisis rather explains that the turnover of the insurance companies within the very core of the local network after the 1830s may not be necessarily due to the disappearance of the companies themselves, but rather to the emergence of other companies, which replaced the previous as stronger connectors. Indeed, some of the longest-running

Table 4. Top 10 companies in the business network for each time span (1).

1820–1839	1840–1859	1860–1879	1880–1900
Compagnia di Assicurazioni generali del Sebeto - ***General insurance***	Compagnia di illuminazione a gas della città di Napoli (detta Compagnie Pouchain) - ***Public utilities***	Banca di Credito **- *Bank and finance***	Banca Cooperativa Partenopea **- *Bank and finance***
Società di Assicurazioni Diverse (SAD) - ***Life insurance***	Jackson frères, Petin Gaudet et C.i.e. (poi H. Petin Gaudet et C.i.e.) - Compagnie des hauts fourneaux, forges et Acièries de la Marine et des chemins de fer) - ***Manufacturing***	Compagnie Napolitaine d'Éclairage et de Chauffage par le gaz- ***Public utilities***	Compagnie Napolitaine d'Éclairage et de Chauffage par le gaz - ***Public utilities***
Società Napolitana di Assicurazioni - ***Marine insurance***	Regia dei sali ed altro **- *Bank and finance***	Banca Napoletana (poi) Società di Credito Meridionale **- *Bank and finance***	Banca Popolare di Napoli **- *Bank and finance***
Compagnia Commerciale di Assicurazioni- ***Marine insurance***	Amministrazione della navigazione a vapore nel Regno delle due Sicilie - ***Transport***	Société Générale pour Favoriser le Développement du Commerce et de l'Industrie en France **- *Bank and finance***	Banca Meridionale **- *Bank and finance***
Società Tontina d'assicurazioni marittime (1829) - ***Marine insurance***	Compagnie du Chemin de Fer du Nord - ***Public utilities***	Esperia (Compagnia di Assicurazioni Marittime) **- *Marine insurance***	Banca Agricola Commerciale Napoletana**- *Bank and finance***
Compagnia d' industria e belle arti - ***Services***	Società Tontina d'assicurazioni marittime (1841) - ***Marine insurance***	Società generale immobiliare di lavori di utilità pubblica e agricola (SOGENE) -***Bank and finance***	Banca Popolare Cooperativa di Napoli **- *Bank and finance***
Giuseppe Lanoire e Compagni –***Trade and manufacturing***	Assicuratrice Marittima delle Due Sicilie (ex Compagnia Generale per le assicurazioni marittime e fluviali) - ***Marine insurance***	Cassa Marittima di Napoli **– *Bank and finance (also marine insurance)***	Société anonyme des tramways napolitains (SATN) - ***Public utilities***
Compagnia Sebezia Promotrice delle Industrie Nazionali - ***General insurance***	Cerere Ferdinandea - ***Marine insurance***	Banca Generale - ***Bank and finance***	Società per le Ferrovie Napoletane (Cumana) - ***Public utilities***
Compagnia Enologica Industriale - ***Bank and finance***	Société générale du Crédit mobilier - ***Bank and finance***	Compagnia La Sirena -***Marine insurance***	Società Italiana per l'Emigrazione e Colonizzazione **- *Bank and finance***
Compagnia rassicuratrice dai rischi del mare - ***Marine insurance***	Compagnie générale des eaux (CGE) - ***Public utilities***	Assicuratrice Marittima delle Due Sicilie (ex Compagnia Generale per le assicurazioni marittime e fluviali) **-*Marine insurance***	Banca Agricola della Campania**- *Bank and finance***

(1) Firms have been ranked according to their betweenness centrality measure in each time span.

firms in the network in the pre-Unification phase are insurance companies fully involved in the 1834/1835 crisis. The already mentioned *SAD* (1826–1909) (F99), for example, in a powerful position in the first network (1820–1830), lost its centrality after the 1830s but continued to operate in the local market. It transformed its activities from the previous speculative practices into a more definite banking and financial vocation, thus becoming a sort of holding company in post-Unification with equity stakes in diversified industrial sectors from marine insurance to wheat milling companies, iron and steel industry, and transports.

At the same time, in the face of the *SAD*'s decline in the network, another marine insurance firm involved in the crisis, *Società Tontina d'assicurazioni marittime* (1829 F882 and 1841 F1832), emerged in the 1840s. After a capital increase in 1841, it gained growing importance across the first two networks (Figure 2a,b) and then disappeared in post-Unification even if it remained active. Particularly important in explaining the growing centrality of *Tontina* is the link with *Compagnie Pouchain* (F360), the first Naples gas company. Formed by a group of Lyonnais investors, this is a large public utility firm that serves as the link between the group of marine insurance companies and the other part of the network in the third period under examination. Among the insurance firms founded just after the mid-1830s crisis, *Napoli-Procidana* (F2200) (Avallone & Salvemini, 2020) is one of the few examples of a long-lasting presence in the very core of the network. It was founded in 1837 and liquidated during the 1873 financial crisis. Even though its main activity aimed to cover every kind of sea risk specifically in favour of Procida's shipowners, similar to many other insurance companies, it operated as a despecialized financial company in the sector of short-term commercial credit (Avallone, 2012; Davis, 1979).[22]

As for nonmarine insurance firms, they only emerged within the core of the business network in pre-Unification. This is the case of the previously mentioned general insurance firm, *Assicurazioni Generali del Sebeto* (F956). Characterised by the highest degree (see the above section), it maintains a powerful position in the first two networks, even with a declining trajectory due to a strong controversy caused by agency problems between controlling shareholders and minority shareholders for typical tunnelling practices.[23]

The transition between the liberal turn of Unification and the beginning of the first wave of globalisation

The network during the post-Unification decades (1860–1879) (Figure 2c) highlights a period of transition experienced by the local financial sector before its reorganisation and readjustment to new institutional and market conditions, whilst maintaining centrality in the local business network. The bipartition of the network, already noticed in the previous period, became more evident at this point, as the structure of the companies present in the core of the network deeply changed.

None of the large foreign and Italian insurance firms that arrived since the 1870s gained centrality, unlike the large foreign public utilities and primary foreign investment banks. The presence of financial institutions like the French *CIC* (F467), *Société Générale* (F553), and *Paribas* (F359), which were among the most important credit institutions involved in railway and public utilities construction throughout Europe (Cameron, 1961) at the time, can be considered consistent with the funding dynamics of the first wave of globalisation (Cassis, 2010; Colpan et al., 2010; Hausman et al., 2008; Jones, 2002; Wilkins & Schröter, 1998). The high brokerage power of *Compagnie Napolitaine d'Éclairage et de Chauffage par le gaz* (F179), founded by foreign investors in 1862, epitomises these dynamics for which transnational business groups entered the core of the host country's business network. This was achieved by establishing ties with powerful local financial firms (*Banca di Credito Italiano* (F480) and *Banca Napoletana* (then) *Società di Credito Meridionale* (F227)), whilst remaining tied to the modern financial institutions of their home countries (*Crédit Mobilier*, *CIC*, *Société Générale* and *Paribas*), which facilitated access to more advanced capital markets (Schisani et al., 2021; Schisani & Caiazzo, 2016).

On the one hand, marine insurance companies resisted, clustered but increasingly separated (lower part of the network, Figure 2c) from the very core of the network. Albeit maintaining a certain centrality in the network, these companies never performed as those present in pre-Unification. Indeed, they immediately competed with companies from other sectors, banks, and public utilities that emerged in dominant positions in the local network. Furthermore, many of them did not survive the 1873 crisis, such as *Compagnia La Sirena* (F2208) born in 1863 and liquidated in 1875 or the *Urania* (F2206), born in pre-Unification (1855), which emerged in post-Unification and failed in 1873. A rare exception is *Cassa Marittima di Napoli* (F436), which, as evident in the network and in Table 4, gained greater power due to its prevailing vocation as a bank (indeed the node is black like other banks). Founded in 1873 on the example of *Cassa Marittima di Genova*, it aimed to provide credit specifically to the shipowners of the Sorrento and Amalfi Coast, whilst also operating as a marine insurance firm (Betocchi, 1874, pp. 75–76). Its increasing weight in the network is well explained by its closeness to its main promoter, the most important Southern credit-mobilier-type bank, the *Banca Napoletana* (then *Società di Credito Meridionale*) (F227).

Despite the changes observed in the Neapolitan business network, a factor of substantial continuity that explains the centrality of marine insurance companies at the core of the network both pre- and post-Unification lies in the ownership and control structures. The inner circles of corporate interlockers (Useem, 1984), shareholders, and directors of multiple firms served as a dominant segment in the local network, thus showing a persisting elite cohesion. These structures are formed by important members of the Neapolitan financial elite, actors that gained high power indexes in the local business environment over time (Schisani et al., 2021). Single actors and/or entire families, which often perpetuate their power through generational turnover, tend to form narrow interest groups; are linked by kinship, co-religious and cultural ties; and aim to shape the power structure underlying the most central marine insurance companies over time. Some telling examples offer a valid explanation of this mutual exchange of power between actors and companies.

The merchant banker Pietro Volpicelli was a shareholder and, in some cases, a director of eight marine insurance companies pre-Unification, including *SAD* and *Tontina* and *Assicurazioni Generali del Sebeto*. Post-Unification, his son Vincenzo had a role in the *Società Napolitana di Assicurazioni* and his nephew, Raffaele (Vincenzo's son), in *Nuova Fenice*. Another key actor during pre- and post-Unification is the powerful lawyer and businessman Tito Cacace, a founder of *Napoli-Procidana*; one of the directors of *SAD* and *Sebeto*; and founder and shareholder of *Tontina*, *La Fenice*, *Nuova Fenice*, *Sirena*, *Urania*, *Ancora assicuratrice* and other minor firms, whose power was strengthened by the presence of his brothers, Oreste and Camillo, in the same companies. A similar example is that of Francesco Saverio Castellano, from the Naples province (Castellammare di Stabia), who, together with his brothers, Luigi and Angelo, had a powerful position in many marine insurance companies both pre- and post-Unification, including *Napoli-Procidana*, *Metese*, *La Fenice*, *Nuova Fenice*, *Stella polare*, *Dante*, *Egeria*, *Esperia*, *Arcangelo* and *Il Progesso.* His son, Ambrogio, also held positions in *Cassa Marittima di Napoli*, *Seconda compagnia metese,* and *Il Progresso*, just to name the main ones. The pattern can be similarly replicated in even more well-known names, including Meuricoffre, Sorvillo, Arlotta, Giusso, Englen, Forquet, Pavoncelli, and Cilento, whose trajectories in our networks were reconstructed in detail, showing the steadier presence of these elite actors in the shareholding and governance structures of marine insurance companies, both pre- and post-Unification, compared to what was traditionally recalled in the historical literature (Davis, 1979, Ostuni, 1986).

The late catching up of financial innovation and the rise of local banks in the Naples business network

After this period of transition, the rise in centrality of local banks in the last CLC (Figure 2d) demonstrates complete reorganisation within the local financial sector. The decline of marine insurance firms is finally evident in the last network, where only very few of them remain in the core with less important roles and are completely replaced by banks. Figure 3 summarises all these results in terms of average centrality expressed as betweenness. The figure provides evidence regarding the progressive decline of the marine insurance sector (solid line in Figure 3a), whose betweenness decreased from 0.046 at the beginning to 0.0045 at the end of the analysed period. Such a decline is more evident if we consider the average betweenness ratio of marine insurance firms over the entire network (solid line in Figure 3b), which shows a more definite decreasing trend compared to other firms. As can be seen, the brokerage power of insurance companies almost disappeared when compared with the brokerage power assumed by banks and other financial companies (dashed lines in Figure 3a,b). Only *Cassa Marittima di Napoli* (F436) continued to hold a powerful position up until the end of the century, together with some general insurance firms that maintained minor roles, such as the *SAD* (F99), *Compagnia anonima di credito Torrese* (F138), ex *Compagnia Anonima Torrese Sicurtà Marittime* founded in 1853, and the fire insurance firm *La Meridionale* (F2330) established in 1889 (Table 3).

At the very core of the network, we find the most important Southern investment bank, *Banca Napoletana* (then *Società di Credito Meridionale)* (F227 then F211) that, since its creation in 1871, immediately entered the core of the business network (Table 4, 1860–1879). *Banca Napoletana* was founded in 1871 and then transformed into *Società di Credito Meridionale* in 1885. It is the first and most important credit-mobilier-type bank that renewed the southern banking system, rapidly taking on a central role in the local business upon its establishment. Directly involved in the financing of local infrastructures, this bank had great difficulties after the 1873 crisis, right before it was transformed into a financial holding closely linked to *Società del Risanamento* (1885) (a financial company for promoting a massive infrastructural plan for Naples)[24] and went into liquidation by the mid-1890s after the financial meltdown of the late 1880s (Marmo, 1976). The crisis also hit other important banks present in the network, such as *Credito Industriale Napoletano* (F203), which was founded in 1886, greatly reduced its capital and operations in 1890, and then closed in 1912.

Meanwhile, the large cooperative banks did not survive for a long time, despite their power in the network. For example, *Banca Meridionale* (F310) only operated for 13 years, from 1884–1897. *Banca Popolare Cooperativa di Napoli* (F191), founded in 1882, experienced difficulties due to the 1889 crisis and managed to operate successfully until its bankruptcy in 1915 after being involved in a scandal due to mismanagement, culminating in the suicide of its director Juanito Molteni (Moccia, 2012). Also founded in 1882, *Banca Popolare di Napoli* (F412), partly co-owned by *Società di Credito Meridionale* and by *Cassa Marittima di Napoli*, is among the longest-running firms in the central core after overcoming the twin crises. It survived until 1920 when it was transformed into a joint stock company and then absorbed by *Banca Agricola Commerciale del Mezzogiorno* in 1930 (Giglietta, 2001).

Table 4 presents the top ten central firms for each period and clarifies the progressive rise of local banks in the last period. Indeed, in the last column, seven out of the 10 firms with the highest betweenness are banks. Banking and financial firms definitely gained centrality in the local business network. The archaic Southern Italian banking system, free of the restraints posed by the Rothschilds' financial control (since 1863) (Schisani, 2015),[25] albeit with a considerable delay, finally caught up with the process of modernisation already active at an international level since the 1850s (Cameron, 1961). Thus, especially after the 1882 Code of Commerce, which liberalised limited liability companies, large modern joint-stock banks and cooperatives replaced insurance firms and foreign financial institutions within the very core of the Naples business network. Indeed, three local cooperative banks held the most prominent roles, namely, *Banca Cooperativa Partenopea* (F205), *Banca Meridionale* (F310), and *Banca Popolare di Napoli* (F412).

Furthermore, in this case, the sudden rise of banks in the core of the business network can be explained by the presence as shareholders and/or directors of nearly the same powerful elite actors (or their descendants) present in the marine insurance firms as the outcome of micro-rational behaviours aimed to protect and reproduce their power moving towards more profitable business sectors. Some examples can clarify this point and demonstrate how these actors go through the transition from insurance to banks in the first person or by successive generations. As for the Englen family, for example, before Unification we find that Giovan Vittorio, merchant of Calabrian origin, was among the founders and directors of major insurance firms, such as the *SAD*, the *Assicurazioni Generali del Sebeto,* and the *Compagnia Commerciale di Assicurazioni*. After Unification, his sons Rodolfo and Mariano, beyond having a role in the insurance sector (Rodolfo in the *SAD* and Mariano in the *Napolitana di Assicurazioni*), gained prominent positions in the Southern Italian financial and banking system. In particular, Rodolfo became director on the board of *Banco di Napoli*, and the founder and director of the *Società del Risanamento* and the *Banca di Credito Italiano*, among others. Mariano, who became deputy of the Italian Parliament, was also among the promoters of the *Cassa d'Industria e Commercio*.

A similar pattern can be described for the Arlotta family. Antonio, a powerful merchant banker during the Bourbon period, was among the founders of *Napoli-Procidana*, *Compagnia pe' rischi marittimi* and *Società Anonima di Assicurazioni maritime*. Post-Unification, his son Mariano became a powerful politician both at the local and national levels (Naples' city councillor and deputy of the Italian Parliament) and a primary banker. At the local level, he gained a prominent position in the most important Southern bank, *Società di Credito Meridionale* (since its origin as *Banca Napoletana*), *Credito Industriale Napoletano* and *Banca Popolare di Napoli*. At the national level, he held positions in *Banca Generale* and *Banca Nazionale nel Regno d'Italia*, apart from having a role in some important public utility companies, such as *Società per opere pubbliche nel Mezzogiorno d'Italia* and *Società Italiana per le Strade Ferrate del Mediterraneo*. Then, his nephew Enrico, who became a minister at the Ministry of Finance and vice-president of the Italian Parliament in the first decades of the twentieth century, had a primary role as a director and shareholder in *Banca Napoletana, then Società di Credito Meridionale*, the *Banca Popolare di Napoli* (of which he was the last President), and *Cassa Marittima di Napoli*, *Penisola Sorrentina*, as well as in the Neapolitan branch of the *Banca Commerciale Italiana* (COMIT).

For the Cilento family, preferences across generations moved from insurance firms to banks. The brothers Federico and Martino, among the most important merchants in Naples pre-Unification, were promoters of numerous insurance companies, such as *Assicuratrice Marittima delle Due Sicilie* (ex *Compagnia Generale per le assicurazioni marittime e fluviali*), *Società Tontina d'assicurazioni marittime* (1829 and 1841), and *Compagnia rassicuratrice dai rischi del mare*. Post-Unification, the powerful merchant banker Antonio, Martino's son, beyond maintaining some interest in the insurance sector (as a founder of *Compagnia La Sirena* and in the Board of *Cassa Generale delle Famiglie - Società Anonima d'assicurazione sulla vita e di prestiti vitalizi*), was one of the founders and director of *Società di Credito Meridionale*; was a shareholder of *Banca Popolare di Napoli*; was in the board of the local branch of *Banca Nazionale nel Regno d'Italia*, the Roman *Banca Tiberina*, and *Banca Subalpina of Milan*. He also had a primary role in several public utility companies, both at the local and national levels, including *Compagnie Napolitaine d'Éclairage et de Chauffage par le gaz*, *Impresa Industriale Italiana di Costruzioni metalliche* (IIICM), *Società generale napoletana di credito e costruzioni*, *Società Veneta per le imprese e le costruzioni pubbliche*, etc. Many other examples replicate the same patterns, as in the Giusso, Meuricoffre, Forquet, Volpicelli and Pavoncelli families whose members rode the wave of financial development that occurred in Southern Italy from the Bourbon period until the mid-twentieth century.

These examples show how forms of cooperation and coordination among firms within the local business network persist beyond the effect of Unification. When competition and innovation threatened the businesses of local elite actors, they were able to make a functional change from insurance to banks, slowly adapting to the new institutional context. They provided new types of firms (such as foreign infrastructure and financial multinational companies, public utilities, etc.) with local knowledge, offering access to the local business landscape. From these experiences, they learned modern financial expertise, and then used this new knowledge in the foundation and management of local banks in the last period. In doing so, these elites exploited the power of their networks by replicating patterns of interlocks resulting from chains of long-lasting personal and business relationships and consolidated business experiences.

Concluding remarks

The analysis of the Southern marine insurance companies, in terms of both structure reconstruction and their roles in the local business environment, identifies interesting patterns within the Naples business network over the nineteenth century.

Historically, the quantitative evidence of our analyses adds knowledge to traditional descriptive narratives. First, it confirms that the financial sector played a central role in the Naples network of business relationships over the nineteenth century (Davis, 1979; Schisani et al., 2021) characterised by an internal shift from the pre-eminence of marine insurance firms to banks. Second, the network analysis approach combined with historical methodologies allows us to periodize the pattern of the insurance sector within the Naples business network, resizing the effects of the institutional breaks generally claimed in the literature and identifying other relevant turning points.

In the first period (1820–1859), the persistent centrality of insurance firms in the network demonstrates that the impact of the 1834 decree on the unfair activities of the insurance companies was not particularly dramatic. Unification did not immediately produce an effect on the trajectory of insurance firms, either. Rather, the results highlight that the real turning points were the 1866 and 1873 crises. These latter marked a change in the centrality of the insurance sector in the network, more notably after 1873, even with the spread of the first wave of globalisation. The competition from Italian and foreign insurance companies in Naples led the (marine) insurance sector to lose its centrality in the local business network. Meanwhile, the banking sector gained relevance in the last period (1880–1900), also favoured by the liberalisation of the joint stock companies introduced by the 1882 Code of Commerce. This last step is key for the stable centrality of the banking sector in the network, notwithstanding the 1889 and 1894 twin crises, thanks to the presence of numerous cooperative joint-stock banks (e.g. *banche popolari*, mutual banks), whose resilience smoothed the negative effects of the crises.

Beyond these specific results, using the insurance business as a case in point for broader historical issues, several conceptual contributions can be advanced in current research about iconic questions relative to Southern Italian economic modernisation over the nineteenth century.

Our results refer to a slow process of financial modernisation in the South. The networks show that forms of cooperation and coordination among firms within the local business network persist beyond the effect of Unification. The networks highlight a system of managed competition in which firms persistently depend on prevailing nonmarket relationships to coordinate their actions. Particularly, our findings suggest the persistence of relationship capitalism (Rajan & Zingales, 2003) in Southern Italy, even in the presence of the liberal turn of Unification and the spread of the first wave of globalisation.

The interlocking directorates approach gives evidence of how liberalisation brought foreign financial and public utilities companies (*Parisienne du Gaz*, *PLM*, *Crédit Mobilier, CIC,* and the *Société Génerale*) to the core of the Neapolitan business network through links established with prominent local actors. The Neapolitan business elites used their brokerage power to provide access to foreign actors and firms in the local market, acting as the gatekeepers of local business. Thus, by entering into these new foreign firms, the local elite learned modern financial expertise from foreign business actors, and slowly adapted to financial innovations in the banking sector trying to govern it. Looking at the identity of the actors heavily engaged in local marine insurance companies, it is evident that the sudden rise of the banking sector at the core of the business network in the last period stems from replicated patterns of interlocks resulting from chains of long-lasting relationships and shared business experiences.

This point suggests a 'passive modernization' hypothesis in the financial sector. This hypothesis assumes that the challenge of modernisation that breaks into a system of settled social and cultural relationships can be seen as a threat to pre-existing balances of power and can imply an adaptive—complementary strategy to reach an integrated coexistence between innovation and consolidated dynamics (Cafagna, 1988). This hypothesis has been repeatedly confirmed in the literature with reference to the persistence of extractive institutional settings in the South as a cause of its delay (Felice, 2013; Schisani et al., 2021). Our results show that, in the aftermath of Unification, the Southern elites implemented an adaptive approach rather than a modern competitive strategy to face the challenge of modernisation brought by the opening of markets. In this sense, the financial innovation of institutionalised credit (large joint stock investment banks), already active at an international level since the 1850s (Cameron, 1961) was embraced in the South only after a period of adaptive transition, in which local elites reorganised their interests to maintain their power despite the change.

Notes

1. Similar dynamics are described in the case study of marine insurance companies in Antwerp, during the 19th century (Plasschaert, 2021)
2. The database has been conceived and implemented by Maria Carmela Schisani and Francesca Caiazzo and it is hosted on the web server of the University of Naples Federico II (https://www.ifesmez.it/pa/)
3. According to Nicola Gaetano Ageta, even though an earlier and unsuccessful experiment had already been made in 1558 (Bianchini, 1859, p. 218), the first organized form of marine insurance emerged with the creation of the *Real Compagnia di assicurazioni maritime* in 1751, soon after the Kingdom of Naples became independent and Charles III, Duke of Bourbon, acceded to the throne (1734). Up until then, marine insurance—as well as the entire Neapolitan foreign trade and the related exchange practices—depended on foreign primary commercial and financial centers, such as Genoa, Venice, and Leghorn, thus entailing high transaction costs for Neapolitan merchants, both in terms of high intermediation costs and information asymmetries to the advantage of foreign intermediaries (Galanti, 1969; Schisani, 2001). The first insurance company was part of the neo-mercantilist policies embraced by King Charles. Following the example of other Italian cities, it was a monopoly company, largely state-owned, that aimed to free Naples' marine insurance sector from its dependence on foreign centers (Piccinno 2016). Despite the evolving context, where the opening of direct trade routes led to new profitable opportunities for marine insurance, the *Real Compagnia* failed in 1802, along with the attempt to introduce new rules through the new 1781 Navigation Code (Assante, 1979; Moschetti & de Jorio, 1979).
4. The Navigation Code was elaborated by the Neapolitan lawyer Michele De Jorio between 1779 and 1781. It included many articles regulating marine insurance but never went into effect (Moschetti & de Jorio, 1979, vol. 1, pp. L–LI.). Thus, the old and fragmentary rules of the 17th century's Prammatiche remained in force until the 19th century.
5. The social rise of the Naples mercantile class is closely related to the economic decline of the local aristocracy. The heavily indebted aristocracy became independent on the financial power of merchants. Such relations, more than those established through marriage strategies, progressively led feuds and lands in the hands of merchants, who also acquired the status of noblemen through this path (Maiello 1986).
6. The sea loan contract (i.e. *contratto di cambio marittimo*) was a form of lending money to shipowners who wanted to undertake (long-distance) trading ventures. Traditionally, the literature considered this a high-risk mortgage aimed at producing high interest gains for the lender without falling into usury bans (Assante 1979; Trifone, 1934). It could alternatively conceal a trick to pay interest unrelated to the direct financing of long-distance trade (Poitras 2016). More recently, these readings have been superseded by recent scholarship that (a) did not consider these arrangements necessarily as a way to circumvent usury prohibitions, and (b) emphasised the complementary function they possessed (together with general average and other risk management techniques) in relation to premium insurance (Fusaro 2019).
7. Archivio di Stato di Napoli (ASN), Ministero di Agricoltura, Industria e Commercio (MAIC), b. 207, Real Segreteria Particolare al Ministro degli Affari Interni, comunicazione del R.R. del 17 febbraio 1834.
8. We refer, for example, *to Annuario napoletano. Grande guida commerciale storico-artistica, statistica, amministrativa, industriale e d'indirizzi della città di Napoli e provincia, redatta per cura dei signori Cesare Alliata Bronner e Gennaro Discorso Cipriani, Napoli, anno primo* 1880; *Grande guida commerciale storico-artistica scientifica amministrativa statistica industriale e d'indirizzi di Napoli e provincia compilati su dati ufficiali per cura di Augusto M. Lo Gatto, Napoli Ruggiano e figlio, dal* 1880; *Il Grande Annuario Italiano* 1886–1887, *Domenico Mele & C.ia, Bari*, 1887; *Annuario Detken guida amministrativa, commerciale, industriale e professionale della città e provincia di Napoli, Napoli, Detken & Rocholl, anno primo* 1900.
9. For the laws regulating the firms' operations, *see Codice per lo Regno delle Due Sicilie: Leggi di eccezione per gli affari di commercio*, Volume 5, Titolo III, pp. 8–14.

10. For a detailed description of the database, see Appendix 1.
11. Formally, a time-varying two-mode network can be represented by a set of K (in our case, four time spans) two-mode networks $\{\mathcal{B}_k\}_{k=1,\dots,K}$. Each network $\mathcal{B}_k$ can be expressed as a bipartite graph consisting of two sets of relationally connected units. This can be represented by a triple $\mathcal{B}_k = (\mathcal{A}_k, \mathcal{F}_k, \mathcal{L}_k)$, with $\mathcal{A}_k = \{a_{1k}, \dots, a_{nk}\}$ as the set of economic actors, $\mathcal{F}_k = \{f_{1k}, \dots, f_{mk}\}$ as the set of firms and $\mathcal{L}_k \subseteq \mathcal{A}_k \times \mathcal{F}_k$ as the set of links $(a_{ik}, f_{jk}) \in \mathcal{L}_k$ connecting the actor a_{ik} if he/she is the CEO, a shareholder, an owner, etc., in firm f_{jk}. By definition, the two sets, $\mathcal{A}_k$ and $\mathcal{F}_k$, are two disjoint sets of nodes, i.e. $\mathcal{A}_k \cap \mathcal{F}_k = \varnothing$. In the following, when not necessary, the k index will be omitted.
12. Given a bipartite graph $\mathcal{B}_k$, the corresponding affiliation matrix $\boldsymbol{X}_k = (x_{ijk})$, $x_{ijk} = 1$ if $(a_{ik}, f_{jk}) \in \mathcal{L}_k$ and $x_{ijk} = 0$ if $(a_{ik}, f_{jk}) \notin \mathcal{L}_k$. By matrix multiplication, it is possible to express the *actor-by-actor* matrix as $\mathbb{A}_k = \boldsymbol{X}_k \boldsymbol{X}_k^T$ and the firm-by-firm matrix as $\mathbb{F}_k = \boldsymbol{X}_k^T \boldsymbol{X}_k$. These two adjacent matrices correspond to two weighted one-mode networks, respectively.
13. For a detailed description of the sectoral classification, see Appendix 1
14. Given the firm-by-firm network $\mathcal{G}_F(\mathcal{F}, \mathcal{L}_F)$ obtained through the projection, the betweenness centrality for the firm f_i is computed as follow: $B(f_i) = \sum_{f_i \neq f_j \neq f_h \in \mathcal{F}} \left(\sigma_{f_j f_h}(f_i) \big/ \sigma_{f_j f_h} \right)$, with $\sigma_{f_j f_h}(f_i)$ the number of shortest path between the firms f_j and f_h passing through f_i, and $\sigma_{f_j f_h}$ the number of shortest path between the firms f_j and f_h (Magnani & Marzolla, 2014).
15. The Table A.1 in Appendix reports the annotated list of all marine and non-marine insurances formed and/or operating in Naples since 1816 to 1890. So far, at the best of our knowledge, it represents the most detailed and exhaustive inventory of insurance companies in the 19th century drawn on original archival sources.
16. The mutual insurance companies censused are not reported in Table A1 nor in the general analysis as they are rather forms of welfare for the members of the cooperative.
17. The present Lexis diagram is obtained through the R-package LexisPlotR by Ottolinger (2020).
18. Apart from the SAD, the longest-living local firm is Holmes & Co., a small marine trading company that is also operating in the field of marine insurance. It is still operational today.
19. As stated in its founding act, it operated in the following insurance areas: life, money, pensions, annuities, dowries, donations, assets, etc.
20. Before the Unification, the highly limited presence of foreign marine insurance companies of various origins established relations with Naples and the South. Better, the first marine insurance company in Naples, in the form of a general partnership, was the French *Luigi Despine et Cie*, from Marseille. Then, only just before Unification, in 1859, three foreign insurance companies, the French *Compagnie d'assurances maritimes du Finistère* of Brest, the German *La Thuringia* of Erfurth and the Spanish *Lloyd Barcellonese*, appeared as co-insurers of the *Compagnia di Navigazione a vapore delle Due Sicilie*, each for amounts varying between 20,000 and 30,000 franc, attesting to the weakness of the average capital of local insurance companies, as we will see later in this section (Table A1).
21. Table A.2 in the Appendix reports all the detailed figures.
22. The royal approval of the company's founding act regulated the interest rate to be applied for discounting bills of exchange and commodity orders (grain and olive oil) at a maximum of 7%, equal to double the interest rate applied by the royal Cassa di Sconto (ASN, Intendenza di Napoli, b. 9373 II, *Contratto della Camera di Assicurazioni Marittime Napoli-Procidana*, p. 11).
23. Tunnelling is an illegal business practice for which large shareholders or controlling shareholders have an incentive to direct company assets or future business for private benefits, thus expropriating minority shareholders. Indeed, acting as blockholders, the company's directors influenced decision-making processes thanks to their capacity to capture voting rights, thus driving the company business towards over-investments in risky projects, aimed to protect and foster their own interests at the expense of minority shareholders. For example, the company purchased from two of its directors, Carlo Forquet and Luigi Giusso, a large share package of a sugar factory facing great difficulty, thus discharging the losses on the Società del Sebeto (Schisani, 2001, pp. 141–149)

24. The Risanamento Law (n. 2892, January 15, 1885) consisted in the impressive plan of Naples sanitization (about 980,000 square meters of the city) after the cholera epidemic in 1884. It aimed to gut and rebuild the city Centre, and particularly to substitute the narrow streets of the lower city with large boulevards (Russo, 1966).
25. As the king's bankers, Karl Rothschild (1821–1855) and his son Adolphe (1855–1863) were closely linked to the Bourbon government, which allowed them to control the local financial system. As an example, in 1856, Adolphe Rothschild managed to block the initiative for establishing a credit-mobilier-type bank in the kingdom of the two Sicilies thanks to the support of the Ministry of Finance. The undisputed protection that the Rothschilds enjoyed in the political establishment in Naples made it impossible for any competitive action to succeed against them in the financial sector. This remained up until the early post-Unification when the Naples Rothschild banking house closed (1863) (see Schisani, 2015).

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ASN, Intendenza di Napoli. b. 9373 II, Contratto della Camera di Assicurazioni Marittime Napoli-Procidana, p. 11

Appendix A

IFESMez database

The IFESMez is a proprietary relational database (https://www.ifesmez.it/pa/) that includes data on the universe of firms legally registered in Naples or elsewhere, but operating in Naples and firms linked to actors and firms in Naples through actors who served as co-shareholders/directors/managers. The methodology is based on the massive application of digital tools to conduct historical research. The database responds to the aim of constructing a digital entrepreneurial memory of Southern Italy, as well as ordering and storing, managing, and relating original data from archival research.

Data retrieved from the IFESMez database have already produced considerable research results. Two main papers (Schisani & Caiazzo, 2016, Schisani et al., 2021) describe how original archival data were collected and stored according to the relational structure of the database. For completeness, after the summary is sketched in Section 'Data and methodology', we added more details about the sources and the structure of the database.

Sources

At present, the main source is the Mercantile Court archival fund (after the 1883 Civil Court), available at the Naples State Archive. This primary source has allowed us to collect data from official documents (e.g. founding acts, memoranda of associations, contracts, balance sheets, appointments of directors, and minutes of general meetings) provided to the Court by firms of any legal type (general partnerships, limited partnerships, and companies, cooperative firms, etc.) created and/or operating in Naples and its province. Other sources available at the same archive include the Royal House's Archive (Archivio Borbone), the Ministry of Finance, the Ministry of Agriculture, Industry, and Commerce, and the Naples Notary Archive.

On this basis, additional data were coded from other sources that progressively contributed to enlarging and enriching the information contained in the database. As Southern Italy's business activities extended beyond boundaries that vary over time according to institutional and economic changes, the data-gathering process required the spatialization of archival and printed sources. Thus, the additional sources include documents from other local, national, and international archives, as well as gray literature, publications, electronic sources, genealogies, and so on. Particularly, data were gathered from the Naples Chamber of Commerce Archive, the Italian State Archive in Rome, the Archive Nationales de France (*Minutier central des notaires de Paris, Légion d'Honneur*), the *Centre des Archives économique et financières* (CAEF), the Municipal Archive of Paris, the *Centre des Archives du Monde du Travail* (CAMT) in Roubaix, the London Rothschild Archive, and the National Libraries of Naples, Paris, and Geneva.

Currently, 791 sources have been coded, including 377 original archival sources, cases/registers/folders containing variable amounts of documents (800–1000 documents per folder, on average), and 414 secondary sources consisting of 116 books, 116 newspapers/yearbooks/institutional publications/bulletins, 128 different online sources (mainly genealogies/official publications/foundation acts of some firms) and 54 Naples prefecture newspapers of legal announcements. A total of 53,678 records were generated, of which 52,693 were generated through archival sources and 985 through secondary sources. This confirms that archival research is the only possible research methodology that can produce reliable historical data.

Database structure

At present, the database contains information regarding 3570 firms (created and/or operating in Naples and its province) and nearly 28,000 people for the period between 1800 and 1913. The database covers a period longer than the 70-year period under analysis in this paper. Thus, these numbers do not coincide with the numbers of the data extracted for the paper. Furthermore, the datasets concern economic and socio-political individual and collective actors operating in Southern Italy, as well as their actions/activities and other significant events. Specifically, the database is structured according to the following types of tables.

Registry tables

- The 'firm registry table' contains the following fields: company id (identity), company name, starting date, ending date, date of first detection, social object, company legal type (general partnership, joint stock corporation, cooperative, etc. or 'nd' if the source does not specify the legal type), sector type and sub-sector type. As for the business sectors/subsectors, we roughly encoded them according to the modern official classification of economic activities (NACE revision 2) from Eurostat: • Finance: insurances, financial advisors, financial agents, and brokers, commodity contracts dealers, financial representatives, portfolio management, real estate finance and banks (NACE codes K); • Public utilities and transports: gas, electricity and water suppliers, railways, tramways, navigation, telecommunications, and other minor services (NACE codes D, E, H); • Manufacturing/Industry: craftworks, manufacturing, heavy and light industry, mines, transport construction, and building construction (NACE codes B, C, F); and • Trade: retail and wholesale firms for domestic and foreign goods trading and trade agencies (NACE code G)
- The 'institution registry table' contains the following fields: institution id (identity), institution name, starting date, ending date, date of first detection, activity object, institution type, sector type, and sub-sector type.
- The 'individual actor registry table' contains the following fields: actor id (identity), surname, first name, date of first detection, place and date of birth, place, and date of death, nationality, link to biography), father's name/paternity, mother's name, and surname/maternity. The field 'father's name' must be filled in as a necessary element for the identification of individuals, in the case of homonymy, at a time when no coded identity documents existed. In cases when the source does not report the paternity or other elements, such as place of residence, professional qualification, or other identification elements recorded in the database in the specific tables, the homonyms are entered as new persons. Thus, there are some duplications of individuals that are not possible to unify according to the history logic and data reliability (in other works where the source is even less precise than ours, this problem has been solved by calculating a % error). If an individual actor is historically known, the fields are filled by using the available historical sources.

Associative tables

- actor–firm/institution-role - this kind of table links actors to firms through relations based on actors' roles within firms, such as partner, shareholder, founder, promoter, director, auditor (member of the *Collegio dei Sindaci*), banker, notary and high-level technician (e.g. director general), as well as on actors' roles within (local/national) institutions, such as city councillor, mayor, diplomat/consul/ambassador, member of Parliament and senator
- actor–actor - this kind of table links actors to one another through any form of documented relations based on kinship, personal, religious and business (e.g. legal representation) ties
- firm–firm - this kind of table links firms to one another through all forms of documented relations, such as cross-shareholdings, mergers and acquisitions, financial and trade relations and so on.

Descriptive tables

- associative table actor-professional qualification (e.g. landowner, merchant, engineer, lawyer, farmer, industrialist, etc.)
- associative table actor-place (i.e. place of birth, death, city of residence, address)

- associative table firm-place (i.e. legal headquarters, social headquarters, branch, representative office)
- associative table firm-capital variations (i.e. starting capital, paid-up capital, capital variations, stock issues, bond issues, and nominal value per share and bond; all values are expressed in the documented currencies)
- associative table firm-yearly balance sheet (where available)
- associative table firm-stock-exchange quotation (stock exchange quotations are available from 1808 to 1913)
- associative table firm-event (e.g. death of a shareholder, entry/exit of a shareholder, change of the company name, etc.)
- associative table source (each piece of information is linked to the archival or bibliographic source from which it is taken).

All tables have a link to the source from which the information is taken.

All data are numerically encoded (except the field 'notes').

Table A1. Annotated list of marine insurance formed and/or operating in Naples from 1816 to 1900.

db_id number	Name	Starting date/first detection	End date/last detection	Legal type	Activity	Duration term of legal privilege	Legal headquarters	Branch	Authorised capital	Currency
771	Luigi Despine e Compagnia	1817 in Naples (1816 foundation)		LJSP	Marine insurance	6 years	Marseille	Naples	1.000.000,00	French Franc
772	Società Napolitana di Assicurazioni	1818	1867	JSC	Marine insurance	10 years	Naples		150.000,00	Ducat
2334	Compagnia del commercio di Napoli per le sicurtà marittime (Assicurazioni)	1823	1864	JSC	Marine insurance	renewed every 10 years	Naples		50.000,00[b]	Ducat
99	Società di Assicurazioni Diverse (SAD)	1826	1909	JSC	Insurance, life insurance, marine insurance	unlimited period	Naples		2.253.000,00	Ducat
852	Compagnia Metese di assicurazioni e cambi marittimi (1826)	1826	1838	JSC	Marine insurance, bottomry loans	10 years	Naples		30.000,00	Ducat
853	Partenopea	1826	1851	JSC	Marine insurance, bottomry loans	10 years	Naples		40.000,00	Ducat
857	Cassa rurale delle Due Sicilie	1826	1836	JSC	Insurance, protection of mortgagees, support to farms and indutrial firms	unlimited period	Naples		2.000.000,00	Ducat
882	Società Tontina d'assicurazioni marittime (1829)	1829	1840	JSC	Insurance, marine insurance (with variable premiums according to the nature of the journey)	unlimited period	Naples		60.000,00	Ducat
2335	Compagnia pe' rischi marittimi (Assicurazioni)	1829	1866	JSC	Marine insurance	renewed every 10 years	Naples		50.000,00[b]	Ducat
896	Banca Fruttuaria nel Regno delle due Sicilie	1831	1874	JSC	Banking activity and marine insurance	50 years	Naples		600.000,00	Ducat

(*Continued*)

Table A1. Continued.

897	Seconda Compagnia Metese	1831	1864[a]	JSC	Marine insurance, bottomry loans and discount of bills of exchange	until 1861	Naples		47.100,00	Ducat
931	Assicurazioni generali austro-italiche	1832 in Naples (1831 foundation)		JSC	Marine insurance, every kind of transport insurance, life and annuity insurance, and any other kind of insurance	36 years	Trieste	Naples	2.000.000,00[b]	Austrian florin
956	Compagnia di Assicurazioni generali del Sebeto	1833	1858	JSC	Life insurance, marine insurance, transport insurance, fire insurance, hail damage coverange and every possible kind of insurance	unlimited period	Naples		60.000,00	Ducat
959	Compagnia Commerciale di Assicurazioni	1833	1840	JSC	Life and annuity insurance, marine insurance, transport insurance and banking and trade activities	unlimited period	Naples		320.000,00	Ducat
989	Compagnia Sebezia Promotrice delle Industrie Nazionali	1833	1845	JSC	Support of technical and economic development of agriculture, manufacturing and trade, banking activity, every kind of insurance (hearthquakes, Vesuvius eruptions, etc.)	60 years	Naples		1.000.000,00	Ducat

(*Continued*)

Table A1. Continued.

1729	Compagnia rassicuratrice dai rischi del mare	1837	1857	JSC	Marine insurance, bottomry loans	10 years	Naples	50.000,00	Ducat
2200	Napoli Procidana (Compagnia di assicurazioni marittime)	1837	1873	JSC	Marine insurance	20 years	Naples	50.000,00	Ducat
1974	Compagnia Metese di assicurazioni e cambi marittimi (1838)	1838	1862[a]	JSC	Marine insurance, bottomry loans		Meta di Sorrento		
1768	Compagnia di assicurazioni e cambi marittimi del Piano di Sorrento SPOSTARE	1825	1839[a]	JSC	Marine insurance, bottomry loans		Piano di Sorrento	30.600,00	Ducat
1832	Società Tontina d'assicurazioni marittime (1841)	1841	1864[a]	JSC	Marine insurance		Naples	60.000,00	Ducat
1167	Società Anonima di Assicurazioni marittime	1847	1868	JSC	Marine insurance	20 years	Naples	50.000,00	Ducat
2137	Piccola Compagnia di Assicurazioni Marittime	1848	1858	JSC	Marine insurance, bottomry loans	10 years	Naples	4.000,00	Ducat
138	Compagnia Anonima Torrese Sicurtà Marittime (1853) (poi) Compagnia anonima di credito Torrese	1853	1886	JSC	Insurance		Torre del Greco	40.000,00	Ducat
2203	La Fenice (Compagnia di Assicurazioni)	1853	1873	JSC	Insurance	20 years	Naples	30.000,00[b]	Ducat
20	L'Ancora Assicuratrice	1854	1869	JSC	Marine insurance, bottomry loans and discount of bills of exchange	20 years	Naples	45.000,00	Ducat
1215	Compagnia del Mediterraneo di Assicurazioni Marittime	1855	1866	JSC	Insurance	20 years	Naples	20.000,00[b]	Ducat
2206	Compagnia Urania (Assicurazioni)	1855	1873	JSC	Marine insurance and other kind of insurances	20 years	Naples	52.854,00[b]	Ducat
2817	Cerere Ferdinandea	1857	1877	JSC	Marine insurance, transport insurance, rail transport insurance, bottomry loans	20 years	Naples	240.000,00	Ducat

(*Continued*)

Table A1. Continued.

2838	Assicuratrice Marittima delle Due Sicilie (ex Compagnia Generale per le assicurazioni marittime e fluviali)	1857	1861	JSC	Marine insurance and bottomry loans		Naples		240.000,00	Ducat
2856	La Stella Polare	1857	1867	JSC	Marine and transport insurance	20 years	Naples	Catania	100.000,00	Ducat
2145	Flavio Gioja	1858	1867	JSC	Marine insurance, bottomry loans and commodity backed loans		Naples		100.000,00	Italian Lira
2946	Compagnie d'assurances maritimes du Finistère	1859 in Naples (1854 foundation)		JSC	Marine insurance		Brest	Naples – co-insurer		
2945	La Thuringia - Compagnia di Assicurazioni Marittime	1859[a]		JSC	Marine insurance		Erfurth	Naples – co-insurer		
2947	LLoyd Barcellonese	1859[a]		JSC	Insurance		Barcelona	Naples – co-insurer		
1111	Compagnia Ellenica La Fenice	1860	1865	JSC	Marine insurance		Athens	Naples	2.649.000,00[b]	Italian Lira
2170	Compagnia Italiana di Assicurazioni Marittime (ex Compagnia rassicuratrice dai rischi del mare)	1861	1873	JSC	Marine insurance		Naples		1.020.000,00	Italian Lira
376	Nuova Compagnia Metese di assicurazioni e cambi marittimi	1862	1882	JSC	Insurance and bottomry loans		Meta di Sorrento		170.000,00[b]	Italian Lira
2372	Compagnia Metese (di Assicurazioni Marittime)	1862	1894	JSC	Marine insurance		Meta di Sorrento		170.000,00[b]	Italian Lira
2146	Compagnia Napoli Sicilia	1863	1865	JSC	Marine insurance, bottomry loans and discount of bills of exchange	20 years	Castellammare di Stabia		340.000,00	Italian Lira
2208	Compagnia La Sirena	1863	1875	JSC	Marine and transport insurance	20 years	Naples		2.000.000,00	Italian Lira

(*Continued*)

Table A1. Continued.

2225	Minerva (Società di Assicurazioni Marittime)	1863	1880	JSC	Marine and transport insurance	20 years	Naples		200.000,00[b]	Italian Lira
524	Compagnia francese di Assicurazione	1864[a]		JSC	Insurance		Paris			
1144	Mutua Assicurazione della Marina Mercantile Sorrentina	1864[a]	1897	JSC	Insurance		Meta di Sorrento		it has no capital and cannot have profits	
2202	Esperia (Compagnia di Assicurazioni Marittime)	1864	1875	JSC	Marine insurance	20 years	Naples		400.000,00	Italian Lira
704	Assicurazioni Generali	1865[a]		JSC	Insurance		Trieste, Venice	Naples, Castellammare di Stabia, Pozzuoli	3.937.500,00[b]	Italian Lira
2056	Prima Società Ungherese di Assicurazioni Generali in Pest	1865 in Naples (1858 foundation)		JSC	Fire insurance, hail damage insurance, every kind of transport insurance		Budapest	Naples	7.380.000,00[b]	Italian Lira
1266	Dante (assicurazioni)	1865	1873 in liquidation[c]	JSC	Marine insurance	20 years	Castellammare di Stabia		200.000,00	Italian Lira
2833	La Perseveranza (Assicurazioni)	1866	1873 in liquidation[c]	JSC	Marine insurance and bottomry loans		Castellammare di Stabia		100.000,00	Italian Lira
1254	La Palermitana	1867		JSC	Marine insurance and water transport insurance	20 years	Palermo		1.000.000,00	Italian Lira
1281	Italo Ellenica (Compagnia di Assicurazioni Marittime)	1867	1873 in liquidation[c]	JSC	Marine insurance, bottomry loans and discount of bills of exchange	20 years	Castellammare di Stabia	Naples	200.000,00	Italian Lira
2821	Associazione Procidana di Mutua Assicurazione della Marina Mercantile Italiana	1867	1908	MIC	Marine insurance for the members of the association and only for Italian ships	unlimited period	Procida		mutually insured values of at least 1.200.000	Italian Lira

(*Continued*)

Table A1. Continued.

2149	Egeria (Compagnia di Assicurazione)	1868	1873	JSC	Marine insurance	20 years	Naples		300.000,00	Italian Lira
2155	L'Elvezia (L'Helvetia - Compagnia di Assicurazioni Generali)	1868 in Naples (1858 foundation)		JSC	Marine and transport insurance		St Gallen	Naples		
330	Cassa Generale delle Famiglie - Società Anonima d'assicurazione sulla vita e di prestiti vitalizi (dal 1871)	1868 in Naples (1858 foundation)	1872	JSC	Life insurance	90 years	Paris	Naples	3.000.000,00	French Franc
2239	Lloyd Svizzero (Compagnia di Assicurazioni)	1869 in Naples (1863 foundation)	1883	JSC	Marine and transport insurance		Winterthur	Naples - agency		
2159	Il Progresso (Compagnia di Assicurazioni)	1869		JSC	Marine insurance, bottomry loans and discount of bills of exchange	20 years	Palermo		200.000,00	Italian Lira
2169	Torquato Tasso (Compagnia di Assicurazioni Marittime e Ferrovie)	1870	1873 in liquidation[c]	JSC	Marine insurance, rail transport insurance, bottomry loans and discount of bills of exchange	30 years	Castellammare di Stabia		500.000,00	Italian Lira
2171	Masciari e Scotto Pagliara	1870	1873	not present	Marine insurance, representation of foreign and national merchants, freights, shipments, etc	5 years	Naples		500,00	Italian Lira
2173	L'Unione - Compagnia Italiana di Assicurazioni Generali	1871[a]		JSC	Marine insurance and fire insurance		Florence	Naples – agency		
2199	Europa (Società di Assicurazioni)	1872 in Naples (1869 foundation)		JSC	Insurance	50 years	Vienna	Naples	2.000.000,00	Austrian florin

(*Continued*)

Table A1. Continued.

2189	Italia (Società di assicurazioni marittime, fluviali e terrestri)	1872		JSC	Marine and water and inland transport insurance all over the world	30 years	Genoa	Naples	8.000.000,00	Italian Lira
2190	Cava de Gueva, Guillaume e C.i (Agenzia Assicurativa)	1872	1897	not present	Insurance for copyrights and publishing business	25 years	Naples		22.500,00	Italian Lira
2223	Etna (Società di assicurazioni marittime)	1872	1879	JSC	Marine and water transport insurance	25 years	Catania	Naples		
2028	Cassa Marittima di Genova	1873[a]		JSC	Insurance		Genoa	Naples – agency		
436	Cassa Marittima di Napoli	1873	1895	JSC	Financial support to marine industry, loans, discounts and advances in order to promote marine trade	30 years	Naples		4.000.000,00	Italian Lira
599	L'Arcangelo di Atene (Banco di Assicurazioni Marittime)	1873 in Naples (1868 foundation)		JSC	Insurance		Athens	Naples – agency		
2207	La Nuova Fenice	1873	1878	JSC	Marine insurance and rail transport insurance	12 years	Naples		100.000,00	Italian Lira
3228	Böckstover e Postiglione	1876	1879	GP	Representation of foreign and national merchants, commissions, insurance	6 years	Naples		25.000,00	Italian Lira
2211	Lloyd Germanico (Società di Assicurazioni)	1876 in Italy (1870 foundation)		JSC	Transport insurance (inland, river, etc.)	50 years	Berlin	Venezia	500.000,00	Thaler
2049	Compagnia di assicurazioni generali per azioni di Magdeburg (Magdeburger Allgemeine Versicherungs-Actien-Gesellschaft)	1876 in Naples (1872 foundation)		JSC	Damage insurance	unlimited period	Magdeburg	Naples	1.000.000,00	Thaler

(*Continued*)

Table A1. Continued.

497	La Reunion (Compagnie d'assurance maritimes)	1877 in Naples (1855 foundation)		JSC	Marine insurance for ordinary and war risks, river transport and any form of transport insurance, bottomry loans	50 years	Paris	Naples	6.000.000,00	French Franc
2684	L. Consiglio e C.o	1878	1884	GP	Insurance and trade commissions		Naples			
2619	Riunione Adriatica di Sicurtà (RAS)	1878 in Naples (1838 foundation)		JSC	Insurance		Trieste	Naples		
2228	L'Aquila (Compagnia di Assicurazioni)	1880[a]		JSC	Fire insurance		Paris	Naples		
1522	Società Mutua Assicurazioni Vittorio Emmanuele	1880	1886	MA	Life insurance, fire insurance and eruption damage coverage, saving bank	50 years	Naples		1.000.000,00	Italian Lira
585	L'Italia Agricola (poi) La Stella dell'Italia Agricola	1881		MIC	Hail insurance for crops		Florence	Naples	1.000.000,00	Italian Lira
2264	La Paterna (Compagnia di Assicurazioni)	1882[a]		JSC	Insurance		Paris			
579	La Baloise (Compagnia di Assicurazioni contro i rischi di trasporto)	1883 in Naples (1864 foundation)		JSC	Marine insurance	50 years	Basle	Naples, Meta di Sorrento, Bari, Syracuse, Marsala, Catania	5.000.000,00[b]	French Franc
2249	Società Generale Italiana di mutua assicurazione in Padova	1883 in Naples (1875 foundation)		MA	Fire insurance for gas explotions, lightnings, etc.		Padua			
1246	Assicurazioni (Marittime) di Mannheim - Mannheimer Versicherungsgesellschaft	1883 in Naples (1879		JSC	Marine and water transport insurance		Mannheim	Naples		
1355	La Fenice Austriaca (Società di Assicurazione in Vienna)	1883[a] in Naples (1860 foundation)		JSC	Fire and transport insurance		Vienna	Naples		

(*Continued*)

Table A1. Continued.

2230	Lloyd Generale Italiano (Compagnia di Assicurazioni)	1883 in Naples (1881 foundation)		JSC	Transport insurance		Genoa	Naples, Meta di Sorrento, Milazzo	8.000.000,00	Italian Lira
2048	Assicurazioni Generali in Napoli e Cassa Agricola	1883	1885	MA	Damage and life insurance		Naples			
1498	Italia Società di Riassicurazioni e Coassicurazioni Generali	1883		JSC	Insurance		Genoa	Naples – agency		
631	Orient-Assurances (Compagnia di Assicurazioni)	1884 inizio attività in Italia (1880 fondazione)		JSC	Marine and water transport insurance	25 years	Marseille	Naples	2.000.000,00	French Franc
373	La Svizzera (Compagnia d'Assicurazione contro i rischi del trasporto)	1884[a]		JSC	Insurance		Zurich	Meta di Sorrento, Catania, Palermo, Messina	5.000.000,00	French Franc
1499	Zurich - Soc. An. di Assicurazioni contro i Rischi di Trasporto ed i casi fortuiti	1885[a]		JSC	Insurance		Zurich	Naples – agency		
1500	Caisse Paternelle - Comp. An. d'assic. a premio fisso contro gli Accidenti	1885[a]		JSC	Insurance		Paris	Naples – agency		
587	Lloyd Siciliano (Compagnia di Assicurazioni)	1885		JSC	Marine insurance		Castellammare del Golfo	Naples, Palermo, Licata, Messina, Milazzo, Riposto, Termini Imerese, Trapani		
411	La Napoli (Compagnia di mutue assicurazioni a quota fissa)	1885	1914	MA	Accident insurance for crops, industrial and trade workers	50 years	Naples		1.000,00	Italian Lira
1284	London and Lancashire	1886[a] (in Italy since 1876)		JSC	Fire insurance		Liverpool	Naples – agency		

(*Continued*)

Table A1. Continued.

1282	L'Union (Compagnia di Assicurazioni)	1886 in Naples (1876 foundation)		JSC	Fire insurance for gas explotions, lightnings, steam machines, etc.		Paris	Naples	2.500.000,00[b]	Italian Lira
1285	North British and Mercantile (Compagnia d'Assicurazione)	1886[a]		JSC	Fire insurance		London	Naples – agency		
1286	La Centrale	1886[a]		GP	Fire insurance		Paris			
1364	Holme e C.o SPOSTARE	1866	today	GP	Insurance and intermediation		Naples			
809	Marino e Castellano	1886	1891	GP	Insurance and representation of merchants	5 years	Naples		1.000,00	Italian Lira
1612	Società Badese di Assicurazioni di Mannheim	1887[a]		JSC	Insurance		Mannheim	Naples – agency		
1564	Nuovo Lloyd Svizzero	1887 in Naples (1883 foundation)		JSC	Transport insurance		Winterthur	Naples – agency		
2124	La Pugliese	1887		JSC	Marine and water transport insurance		Bari		1.500.000,00	Italian Lira
3422	Il Mondo	1887[a]		JSC	Life and fire insurance		Paris	Naples		
3423	La Nation	1887[a]		JSC	Fire insurance		Paris	Naples		
2150	Wurttembergische Transport	1888[a]		JSC	Marine and water transport insurance		Heilbronn			
1807	La Rurale (Compagnia d'Assicurazione)	1888	1893	JSC	Livestock insurance	30 years	Naples		100.000,00	Italian Lira
2125	Banca Italiana assicurazione statica dei fabbricati e credito	1888	1893	LJSP	Building insurance and credit activity	50 years	Naples		7.000,00	Italian Lira
2327	L'Universo (Compagnia d'Assicurazione)	1889		JSC	Transport insurance		Milan	Naples		
2330	La Meridionale (Compagnia Italiana di Assicurazione contro i danni dell'incendio)	1889	1934	LLC	Fire insurance	50 years	Naples		Unlimited	Italian Lira

[a]Date of the first detection within documents; [b]Social capital as resulting from documents different from the articles of association; [c]These companies are indicated as to be in liquidation in A. Betocchi, Forze produttive della provincia di Napoli, vol. II, Napoli, De Angelis, 1874, pp. 42–43. LJSP: Limited joint-stock partnership; JSC: Joint stock company; MIC: Mutual insurance company; MA: Mutual association (fixed participation); GP: General partnership; LLC: Limited liability cooperative. *Note*: Compiled by the authors on the basis of IfesMez database created by M.C. Schisani and F. Caiazzo.

Table A2. The evolution of insurances' role and power within the Naples business system Measured through the firm betwenness.

	1820–1839	1840–1859	1860–1879	1880–1900
Average Betwenness of Marine Insurances (CLC)	0.046	0.04	0.013	0.005
Average Betwenness of Banking and Financial companies (CLC)	0.007	0.02	0.028	0.019
Average Betwenness of Others (CLC)	0.002	0.030	0.012	0.010
Average Betwenness of Marine Insurances (full network)	0.011	0.007	0.0015	0.0003
Average Betwenness of Banking and Financial companies (full network)	0.001	0.002	0.0007	0.0024
Average Betwenness of Others (full network)	0.0003	0.0007	0.0002	0.0003
Betweenness ratio: Banking and financial over the others	3.5	0.67	2.33	1.87
Betweenness ratio: Marine Insurances over the others	23.00	1.23	1.08	0.45
Betweenness ratio: Insurances over the others (full network)	36.67	10.00	7.50	1.00