

**THE SHIPPING SECTOR IN ITALY: THE IMPACT OF COVID 19**

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*Maritime transport (i.e. shipping) is a strategic sector for Italy and one of the most dynamic in the national economy. According to the most recent data available (Belladonna, Gili, 2020), shipping contributes about 45 billion euros to the national GDP (2.9%) and employs about 880 thousand people including direct and induced employees (3.5% of the total workforce on a national basis). Moreover, Italy has the third largest commercial fleet among G20 countries with 17 million tonnes of tonnage, occupying significant positions in the most advanced sectors of shipping. The objective of the study is to examine the impact of the Covid 19 epidemic on maritime transport. Shipping had already shown signs of distress in previous years (in particular since the second half of 2008 and 2016), mainly linked to the fall in freight rates due to international financial crises and the global economic slowdown.*

*The research was carried out by consulting the most up-to-date bibliographic and digital sources and extrapolating the information considered most relevant to the purpose of the study.*

*The results obtained allowed us to outline the current picture of the shipping industry and to indicate the main measures that shipping operators are implementing to cope with the market crisis that became more acute in 2020 due to the Covid 19 emergency.*

***Keywords:*** *Shipping industry, Covid 19, Baltic Dry Index/BDI, Bulk shipping, Capesize, Panamax, Forward Freight Agreements/FFA, resilience and new technologies.*

***JEL Classification: O12, O14***

## **1 Introduction**

The development and performance of the shipping market should also be examined and assessed against the trend of the Baltic Dry Index (BDI), the maritime freight index.

The BDI is an index that has been listed on the Baltic Exchange in London since January 1985 and which tracks the sea transport costs and freight rates of the main categories of dry bulk cargo ships. It collects information on dry and bulk cargo ships.

In particular, the BDI records data on freight rates on the 24 busiest shipping lanes in the world and is a “tell-tale” indicator of commodity shipping costs and the relationship between supply and demand. The BDI is an index composed of the average of three indices representing the main types of Capesize, Panamax, and Supramax bulk carriers (40% Capesize, 30% Panamax, and 30% Supramax)<sup>2</sup> ([www.thomastrend.com](http://www.thomastrend.com), 5.5.2020).

The shipping industry has faced several crises in the last fifteen years. The first involved endogenous events related to the financial crisis that spread from the United States, market trends and world trade (particularly in 2008 and 2016: Ranocchia, 2018).

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<sup>2</sup> The “Capesize” type motor vessel, exceeding 90,000 DWT, transports dry bulk cargoes; the “Panamax” type motor vessel is a tanker or “bulk-carrier” (operating in the maritime transport of solid and liquid bulk cargoes) with a maximum width of 32.24 meters, therefore suitable for crossing the Panama Canal. Generally, they are motor vessels not exceeding 83,000 DWT. The “Supramax” type motor vessel is a cargo vessel with a tonnage of between 50,000 and 60,000 DWT.

The worldwide spread of Covid-19 epidemic caused the second crisis and forced all majors' players in the sector (shipowners, shippers, shipping agents, and brokers) to adopt new policies and commercial formulas to contain costs and losses. At the same time, the pandemic has also accelerated the already ongoing process of the formation of large oligopolistic conglomerates that now jointly control about 87% of the market (Belladonna, Gili, 2020 and Aragona, 2016) but has also induced the main ship owning companies to develop innovative investments in different segments of robotics and transport technology to support the business.

The crisis in the maritime sector caused by Covid 19 has affected Italy, which is called upon to reverse the current trend, which also manifested itself in 2020, when the national ship owning industry lost weight and importance at a global level (Capuzzo, 2020, who elaborated UNCTAD data, 2020), even though it excelled in some specific sectors, such as that of ferries and ro-ro ships used in international deep-sea traffic<sup>1</sup>.

## **2. Purpose of research**

The main aim of this study is to illustrate the current situation of the shipping market in Italy and its prospects after the Covid-19 pandemic, also identifying the main proposals for intervention to support shipping companies (Loffreda, 2020; Samela, 2020).

The research questions are:

- RQ1: What are the current conditions of shipping in Italy in the light of previous crises endured by the sector?
- RQ2: What choices have shipowners made to overcome the market crisis generated by Covid 19 and what are the short-term prospects for the sector?

After a brief review of national and international literature (§ 3), the study attempts to answer these questions (§ 5).

The hypotheses are:

- H1: The characteristics and peculiarities of the shipping market in Italy in the aftermath of the financial crises and the pandemic.
- H2: The new investments allow an overall improvement in the performance of the main players present in the market under examination.

The study thus aims to detect the current deficit of Italian shipping companies and, therefore, to stimulate public authorities and private companies to intervene to improve the services supporting the shipping activity.

## **3. Literature review**

The bibliography consulted can be distinguished concerning the topic of previous shipping market trends and the impact of the Covid 19 epidemic on shipping activity.

### ***Shipping market trends***

A comprehensive overview of shipping is shown in Gozzi and Scarsi (2013). It examines the main issues concerning the bulk shipping business, the dynamics underlying the supply and demand of bulk products, market cycles, and the resulting decisions of shipowners, freight risk, and derivative financial instruments used to hedge risk.

The importance and strategic role of the maritime economy in Italy is described in the recent Censis Report (2020). This economic sector has played a decisive role in supplying a country like Italy

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<sup>1</sup> Roll-on/roll-off vessels (also called RORO or ro-ro) are a type of ferry designed to carry wheeled cargo such as cars, trucks, or railway wagons. They can be used in international long sea shipping (between ports belonging to different states in any sea and at any distance from the coast) defined in maritime practice as deep-sea routes (Scafarto, 2003).

that is poor in raw materials and in ensuring a sustained volume of exports. In this context, the importance of shipbuilding and pleasure boats, the fishing sector, and national ports within the European “transport” system and in the new globalization scenarios are highlighted.

Other authors have highlighted how over the years the prolonged shipping crisis in Italy has also had an impact on the sector’s allied industries. In particular, with the collapse of freight rates, service companies such as shipping agents and brokers have experienced a gradual reduction in their commissions as well as an increase in the volume of outstanding receivables caused by the bankruptcy of some of the most important shipowning companies (Carlini, 2016).

Another phenomenon that has created difficulties for Italian shipowners has been the market’s tendency to favor the conglomeration and merger of large operators present on the world market. This trend has increasingly reduced the operating margins of Italian shipowning companies that, with a few exceptions, represent only marginal realities within a sector that suffers from “gigantism” and is managed by a global monopoly in the hands of a few oligopolists (Aragona, 2020).

Freight market trends in the shipowning market examined especially during the two periods of greatest recession (mid-year 2008 and as of 2016) were analysed by the Author by consulting International Research & Valuation (various vintages). Consultation of this weekly bulletin made it possible to examine the level of vessel charter prices that the market is willing to pay to companies that have the availability of vessels to use them<sup>1</sup>. The study of this data is very important because the level of freight rates strongly influences the economic performance of companies.

The immediate consequence of the two financial crises described above was the default of some leading Italian shipowning companies: the bankruptcy and composition procedures governed by the Judicial Authorities favored the transfer of assets to leading investment funds (above all Pillarstone and Dea Capital) which acquired entire ship fleets from some historic Italian shipowning companies in crisis.

In 2020 alone, RBD Armatori, S.p.A., Perseveranza di Navigazione S.p.A., Giuseppe Bottiglieri Shipping Company S.p.A., all of which have been operating for years in the Naples area<sup>2</sup>, had to apply for insolvency proceedings, not to mention that identical fleet acquisition operations were also carried out in the Genoa area: in fact, the turnaround fund Pillarstone acquired part of the fleet of Pb Tankers S.p.A. (Capuzzo, 2020a).

### ***Shipping and Covid 19***

The Covid 19 pandemic rapidly affected the entire global economy in the early 2020s and, as a result affected the business of shipping companies and their entire supply chain (maritime operators, port operators, shippers, brokers, seafarers, etc.). The new challenges and potential solutions to the crisis affecting shipping companies are outlined in Devran, Bekir, Tsz Leung, Po-Hsing (2020): the authors examined the structure and strengths and weaknesses of four maritime industries operating in as many different sectors (dry bulk, tankers, containers, and cruise ships).

Recent technologies currently applied in maritime supply chains and their use to facilitate their flow to overcome the negative effects caused by Covid 19 are described in Keshta, Elmesmary, Obrecht (2020).

One of the most interesting and original studies on this subject is that by Notteboom, Pallis & Rodrigue (2021). The authors, starting from the degree of resilience and adaptability of the maritime industry and ports specialising in the unloading and loading of containers in the face of economic

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<sup>1</sup> The majority of companies operating in the maritime transport sector employ their fleet in two types of services: time charter (“TC”) and spot charter (“Spot”). Limited to the first type: (a) the ship is chartered to a third party (typically other shipowners or transport companies) for a defined number of days; (b) the fees received by the company are calculated based on the number of days during which the ship is chartered by the third party (USD/day); (c) the living costs of running the ship (fuel costs and port/agency expenses) are paid by the client.

<sup>2</sup> It is also worth mentioning the sale (in 2014) by the bankruptcy procedure of Deiuemar Shipping S.p.A. of the remaining fleet consisting of twelve dry bulk ships to the Maltese company Heron Ventures Limited, majority-owned by the American financial partner York Capital and by Bunge, the Greek Oceanbulk and Augustea Atlantica.

crises, compared the main elements of crisis that affected the supply and demand of container ports and the container shipping industry in the period of the 2008-2009 financial crisis. The behaviour of the key players in the shipping industry, according to the authors, was different during the financial crisis of 2008-2009 and the pandemic from Covid 19.

Charłampowicz (2021) offered a further contribution that examined the impact of the pandemic on maritime container transport and the quality of service of maritime container terminals. The author, starting from the ever-growing data recorded in the last decade of containerised trade, highlighted how the pandemic, having had a significant impact on world trade, also negatively affected the container terminal market. The study aimed to point out that in the pandemic context, some actions aimed at improving the quality of service of maritime container terminals then have a positive impact on the entire container shipping industry.

We can find a comprehensive and complete portrait of the Italian maritime economy in *Studi e Ricerche per il Mezzogiorno-SRM* (2020). The Seventh Annual Report devotes an extensive section to analyses of the impact of the Covid-19 pandemic on ports and maritime logistics. In the following, the authors identify port models that are more resilient to both economic and health crises characterised by efficient intermodality and environmental sustainability.

A brief overview of the effects of the pandemic on the entire shipping industry can be found in Belladonna, Gili (2020). After a detailed description of the main problems that weakened the sector, the authors also draw an interesting picture of future maritime transport due to the introduction of new technologies by operators.

Among the main consequences of the pandemic, they also highlight the phenomenon of blank sailing, a practice adopted by many shipping companies to try to contain and reduce costs and losses (Lesam International Group, 2021).

#### **4. Research methodology**

The Author carried out cognitive-informative research aimed at deepening and critically analysing a specific topic using bibliographic material. In particular, the research activity was carried out by consulting written sources both on paper supports (books, magazines, the library works, etc.) and on digital supports (internet, digital magazines, etc.).

This study proposes several critical considerations, evaluating the latest scientific developments on the topics under consideration and reviewing the best international bibliography. This work also has an interdisciplinary value because it examines technical, general economic, business, and managerial aspects.

The international literature review (§ 3) was conducted using the most popular citation databases such as Scopus, ISI/WOS, etc. Some unpublished insights from direct observation and/or practical experience, enrich the collection and the critical review of the scientific proposals already published. The Author, in support of the research, has taken data and information of an experiential nature from his professional activity. In fact, as an advisor, he assisted the composition and bankruptcy procedure that managed the liquidation of some leading shipowning companies operating in the Naples area hit by very serious economic and financial crises that led them to default at various times.

The various topics were then divided into two sections: the first examined and described the effects and consequences suffered by the shipping sector because of the crisis in the freight market over about fifteen years. The second section assessed the sudden and unexpected impact of the Covid 19 pandemic on the sector and the tools and measures that shipping companies are implementing to limit and contain the effects of this new threat.

In light of the above, the paper uses a qualitative methodology with an exploratory approach to offer a systematic review of the literature on shipping in times of Covid 19. The sources used for the research are secondary such as books, articles, databases, and reports.

## 5. Key findings: description and discussion

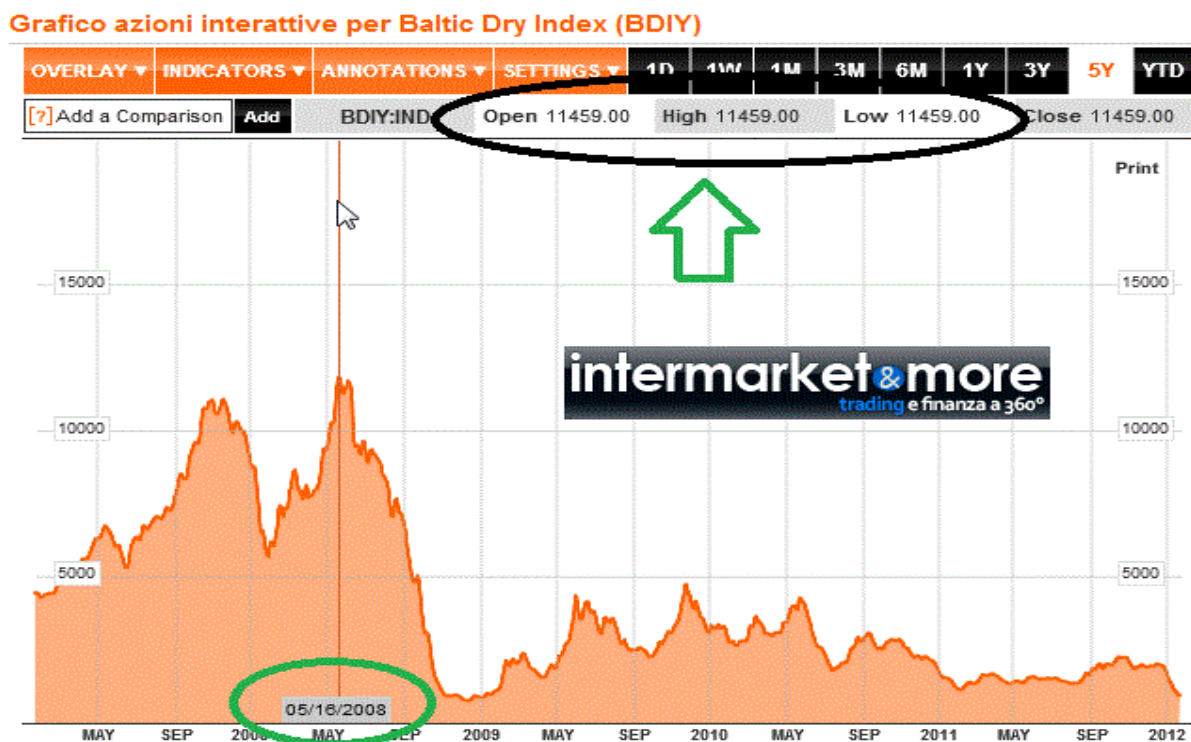
Before the collapse of the freight market in the second half of 2008, a direct consequence of the financial crisis, which erupted in that year, many Italian shipowners had launched major fleet expansion programmes in the presence of steady growth in the BDI freight rate index.

In fact, in the presence of the expansive phase of the shipping sector, many companies had ordered to shipyards (mainly Chinese and Japanese) new constructions for the transport of both dry bulk carriers and liquid cargoes (tankers). The launching of these new vessels would therefore have led to an exponential increase in the overall tonnage of the shipping companies' fleets.

In May 2008 the value of the Baltic Dry Index reached an all-time high (never to be replicated again), ending a short "run" which began at the end of 2006 and which, with a few "rebounds", had brought it to 600% above the average value recorded in the previous 23 years. This "peak" was never touched again and, therefore, this result was to be considered an exception to the normal trend that the index had always assumed.

At the same time as their investments were at their peak, Italy's major shipping companies had to face the first major collapse of the shipping market caused by the 2008 financial crisis that started in the United States. Also the competitive pressures induced mainly by the large Asiatic shipping operators, Chinese in particular, added to this event, contributing to it. Since June 2008, the BDI index has fallen from almost 12,000 points to less than 600 points.

From Bloomberg, we propose the graphical representation of the trend of the BDI for the period 2008-2012, which shows the collapse of the index from the second half of 2008:



**Figure No. 1 - Trend of the "Baltic Dry Index" for the period 2008 - 2012**

Source: Bloomberg

This trend would improve significantly in 2009 but would remain constantly below the 5,000-point threshold.

Almost all shipowning companies had entered into derivative contracts on sea freight, the so-called Forward Freight Agreements (FFA), whose exclusive purpose was to hedge against the risk of

variations in the value of freight rates of certain categories of non-owned cargo ships to be used in physical voyages, protecting themselves from an adverse market movement<sup>1</sup>.

Based on his own professional experience, however, the Author found that some shipowning companies that had gone into default had pursued a different, purely speculative aim, aimed simply at achieving positive financial results, moreover through negotiating behaviour that was already objectively unreasonable at the time.

The second major shipping crisis occurred in 2016, when the Baltic Dry Index fell below 300 points for the first time since it was recorded, to 298 (even lower than the 2008 crash). The BDI’s collapse, according to the most reliable analysts, was partly attributable to falling commodity and oil prices, partly to the abundance of ships, but also to China’s economic slowdown.

In early 2016, the average freight rate for a Capesize was \$2,743 per day (\$11,000 per day in early 2015), the average freight rate for a Supramax was \$2,837 per day, and the average freight rate for a Panamax was \$2,314 per day (\$8,000 per day in early 2015) (our calculations based on available data and reports).

The graph below shows the trend described:



**Figure No. 2 - Trend of the “Baltic Dry Index” until the year 2020**

This downturn harmed the economic and financial results of the shipping companies’ operations without any remedy. The economic results of the main companies, influenced by the level of ship charter prices, suffered from the extreme volatility of that market. More specifically, while the tanker market was buoyant, the bulk carrier market was highly depressed.

<sup>1</sup> FFAs are forward derivative contracts whereby the parties undertake to pay or receive a certain amount at a pre-determined date based on the performance of a reference indicator. In particular, the FFA, calculated on a notional amount, are substantiated in the commitment, reciprocally assumed by the parties (who are in opposite positions of “buyer” or “seller” and vice versa), to exchange, at a future date (settlement date), the differential (or netting). The latter is given by the difference between the consideration fixed for the freight on a certain route of a “virtual” ship at the time of the conclusion of the contract (contract price or contract rate) and a freight rate index (published in London by the Baltic Exchange Index-BDI) called market index at the settlement date (floating price).

Consequently, the described situation of the freight market about dry cargo harmed the financial and economic structure of the companies due to the lower financial and economic flows achieved compared to the expected results.

As already reported, many Italian shipowning companies had, in the period immediately before 2008, started substantial investments to renew and expand their fleets, ignoring, however, the short-term cycles of shipping (Stopford, 1997)<sup>1</sup>. We can define these cycles as the mechanism that coordinates supply and demand within the market.

Many investment plans were often the result of irrational or emotional attitudes rather than rational behaviour that had to be traced back to ‘counter-cyclical’ behaviour both when using their vessels directly and when chartering to third parties (Scarsi, 2007 and Gozzi and Scarsi, 2013).

Another element to consider that shipowners had recourse to the banking system as an almost exclusive source of financing

The analysis of investment decisions should be made primarily from the point of view of quantity. In fact, the size of the fleet defines the competitive positioning of the company.

Shipowning companies must also operate with chartered vessels. Chartering represents the instrument to make operational management more flexible, while owned ships represent strengths in periods of market expansion but become weaknesses when the market is depressed.

In addition, the analysis of decisions must also take into account the timing, which can be the key to success or failure for the shipowning company. In bulk shipping, it is essential to understand when profits can be derived from the use of own vessels or their chartering (Norman, 1982). Indeed, profits from the use of own ships (profits from asset play) are not always larger than those from chartering ships (profits from operating). In fact, “operating” can be a viable alternative to profitably deploying assets while waiting to make the maximum profit from the use of one’s ship (Tsolakis, 2004).

The mistake made by many shipowning companies in the period immediately preceding the second half of 2008 was to contradict in practice the ‘counter-cyclical’ conduct that should have been adopted. The practice takes place when companies buy ships when the market peak is lowest: since the cost of ships is linked to the level of freight rates, ordering a ship at the lowest market peak results in a less expensive purchase and a lower break-even point.

In reality was observed that orders for new ships were piling up when freight rates were close to their peak. Ships with a high construction cost, since this is also linked to freight rates, would then leave the yards when the freight market would have passed its peak and was already in a downward phase.

The companies that had expanded their fleets at that time, therefore, had a more rigid cost structure and increased the level of their break-even point (quantity transported/day freight rate) to zero. A company with a lower break-even point needs lower sales volumes to cover its costs and generate profits than a company with a higher break-even point. Indeed, the level of freight rates, the main element influencing the revenues of shipping companies, is an exogenous and highly volatile factor.

According to the Author’s professional experience, in addition to these erroneous entrepreneurial choices, there was the 80% of the construction price of each new motor vessel financed by bank financing guaranteed by a mortgage on the vessel under construction. The chronic undercapitalisation of Italian shipping companies, compared to their foreign competitors, led to the adoption of such a high level of leverage to cover investments.

This situation, which existed on the eve of the first major crisis in the shipping market, has had two consequences over time. The first was that such unsustainable investment plans would have worsened the companies’ capital and economic structure or affected the net financial position and the level of financial charges and their degree of coverage. The second consequence would have been that the weakened companies would have gone into default within a few years, with the result that the

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<sup>1</sup> A complete cycle consists of four moments: growth, minimum peak, maximum peak, and fall.

banks, which were the main creditors of the failed companies, would have had to manage a considerable volume of impaired loans, thus worsening their solidity rating.

Against this backdrop of generalised weakness in the shipping sector caused by a steady economic slowdown (in fact, lower demand for goods and raw materials was pushing down freight rates), 2019 saw a slight recovery in the market as reflected in the positive economic results achieved by most Italian shipping companies (Capuzzo, 2020).

However, the timid attempts at recovery in the sector were frustrated in early 2020 by the worldwide outbreak of the Covid 19 pandemic.

Most authors agree on the most immediate and direct consequences of the pandemic. The most significant effects affected the entire supply chain. Indeed, during the lockdown period, commercial operators could not pick up containers unloaded at ports because their storage facilities had closed. Consequently, the lack of container disposal congested the ports' operations, which were in turn affected by the limited availability of the workforce employed on the land. The resulting reduced operational capacity of the ports led to congestion and occupation of the space where uncollected containers were stationed, thus reducing the capacity of incoming new container cargo. This vicious circle, therefore, slowed down or even interrupted the whole supply chain.

In this context, at the beginning of the 2020s, the immediate choice for shipowners was to resort to blank sailing. This practice manifests itself when a ship cancels a port call in a geographical area or even an entire route for which goods cannot be loaded/unloaded in the ports concerned by the cancellation (Lesam, 2021)<sup>1</sup>.

Just in the March 2020 period, available data (Institute for Supply Management - ISM, 2020) reported that, globally, 75% of shipowners had been forced to disrupt their supply chain due to shipping restrictions and 46% of logistics companies had experienced significant delays in loading shipments at major Chinese ports. Gradually during 2020, cancellations of ports or entire routes, which at the beginning of the year concerned Chinese destinations, occurred for European routes (www.statista.com, 2020).

Faced with the current worrying picture, the factors that may affect a decisive recovery of shipping in Italy in the short to medium term can be summarised as follows.

1. The first concerns the strengthening, in the context of regionalisation, of Italy in the short sea shipping sector in which is already a leader in the Mediterranean Sea (Dandreis, 2021). In particular, compared to the national data, the ports of Southern Italy have shown a greater capacity to absorb the negative effects of the pandemic (Panaro, 2021);

2. the second was the substantial resilience of shipping thanks to important support measures launched by the Italian Government. These measures can be summarised as follows: (i) the possibility for companies to obtain financing by benefiting from state guarantees offered by SACE, (ii) the suspension, for a long time, of bankruptcy and insolvency petitions filed by creditors and (iii) the possibility for companies to benefit from a 12-month freeze on capital instalments for their loans repayable in instalments and to extend the repayment plan for a similar period;

3. the third factor, after the end of the emergency measures, concerns the implementation of the Recovery and Resilience Plan (PNRR), which has earmarked a considerable budget for infrastructure.

In conclusion, thanks to the opportunities offered by the PNRR, all players in the sector will be able to plan new investments aimed at (a) introduce progressive automation of the logistics chain through the use of robotics and artificial intelligence, (b) reduce harmful emissions linked to the

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<sup>1</sup> To aggravate the already serious situation and cause further economic damage, the accident in the Suez Canal between March and April 2021, caused by the grounding of a ship that blocked the passage of other ships following it for days, also contributed.

handling of goods, and (c) progressively improve the energy efficiency of ports (on this point Keshta, Elmesmary, Obrecht, 2020).

These objectives, if achieved, will allow an improvement in the performance of Italian ports, especially in the container sector which, based on recent data (UNCTAD, 2020), has an average time needed for a ship to complete all operations (berthing, unloading/embarkation of goods, unmooring) that is among the highest recorded among the most developed countries.

## **6. Conclusions and implications**

The shipping sector in Italy is characterised by the presence of some unquestionable strengths and has been able to generate a fair degree of resilience in the face of the turbulence of the world market suddenly hit by the pandemic.

Italian maritime companies have been able to exploit the dominant position they still hold in some shipping sectors such as, for example, ro-pax and ro-ro cargo ferries. Moreover, the entire national maritime sector can benefit from the funds allocated in the PNRR aimed at increasing high-tech investments to improve supply chains and modernise ports in terms of accessibility and environmental sustainability.

This brief overview confirms the two initial hypotheses (§2). The financial crisis, which exploded in 2008, caught most national shipowners unprepared, especially in the bulk carrier sector, as they had undertaken substantial investments, which were not in line with the period cycles of shipping. The consequences of these erroneous entrepreneurial choices had worsened the economic-financial performance of the companies to such an extent that many of them had downsized their investment plans, sustaining huge losses, or had even gone into default (H1). This picture stems from the brief review offered on the precarious state of the sector even after the second freight rate collapse of 2016 (RQ1). The financial difficulties of shipowning companies had also affected other players in the sector such as brokers and freight forwarders, who were unsatisfied creditors, and such as the banks financing the unrealistic investment plans, which had to deal with a huge volume of bad debts.

The innovative investments that need to be made by shipowning companies are crucial to allow operators to fully seize the opportunities offered by the reopening of the economies and the recovery of demand (H2). On the other hand, estimates for world maritime transport indicate a 4.2% increase in cargo volumes in tonnes in 2021 and a further increase of 3.1% in 2022 (Dandreis, Panaro, 2021). Within the overall maritime transport, the container segment should represent, according to the estimates provided, the segment with the most consistent growth rate.

The improvement in the performance of Italian companies is confirmed by the brief analysis offered (RQ2) regarding the leadership assumed in some sectors such as ro-ro ships by some national players (Grimaldi and Messina). In addition, Italy's supremacy in short sea shipping in the Mediterranean, in which it now holds a 37% market share, can be further increased.

The prospects for further growth are realistic and linked to the implementation of specific measures contained in the PNRR that aim to modernise and upgrade ports, with particular attention to those in central and southern Italy (Civitavecchia, Naples, and Salerno) for which the construction of the last mile by rail is planned, with an obvious improvement in the intermodality of existing infrastructure.

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