



## A Qualitative Research on Ship Investments in Turkey

Ersin Fırat AKGÜL<sup>1</sup>, İsmail Bilge ÇETİN<sup>2</sup>

<sup>1</sup>Bandırma Onyedü Eylül University, Maritime Faculty, Turkey

<sup>2</sup>Dokuz Eylül University, Maritime Faculty, Turkey

eakgul@bandirma.edu.tr; ORCID ID: <https://orcid.org/0000-0002-2208-0502>

ismail.cetin@deu.edu.tr; ORCID ID: <https://orcid.org/0000-0002-4951-426X>

### Abstract

Ship investments including high amount of capital and high risk compared with other investment alternatives are important in the business life of a shipping firm. Therefore, comprehending dynamics on ship investments is essential. The motive of this study rests on this fact and it is aimed to determine the factors affecting ship investments of Turkish ship investors. In this context, a qualitative examination is employed to understand the nature of ship investments from the perspectives of professionals who have close relations with ship investors in Turkey and who are able to evaluate them in an objective manner. Findings reveals that market conditions and timing, payback period of the investment, technical features of the ship and profile, financing capacity and risk perception of investors have been identified as important criteria in ship investments in Turkey.

**Keywords:** Ship Investments, Turkey, Ship Investors, Qualitative Research.

### Türkiye'deki Gemi Yatırımları Üzerine Nitel Bir Araştırma

#### Öz

Yüksek miktarda sermaye gerektiren ve diğer yatırım alternatiflerine kıyasla yüksek risk içeren gemi yatırımları, denizcilik işletmeleri için oldukça önemlidir. Bu nedenle, gemi yatırımlarındaki dinamikleri anlamak önem arz etmektedir. Dolayısıyla bu çalışmada, Türk gemi yatırımcılarının gemi yatırımlarını etkileyen faktörlerin belirlenmesi amaçlanmaktadır. Bu bağlamda, Türkiye'deki gemi yatırımcıları ile yakın ilişkileri olan ve söz konusu yatırımcıları objektif olarak değerlendirebilecek profesyonellerin bakış açılarına yönelik nitel bir araştırma yapılmıştır. Elde edilen bulgular; Türkiye'de yatırım yapılacak gemi yatırımlarının değerlendirilmesinde; piyasa şartları ve zamanlama, yatırımın geri ödeme süresi, geminin teknik özellikleri ile yatırımcı profili, finansman kapasitesi ve risk algısının gemi yatırımlarında öne çıkan faktörler olduğu tespit edilmiştir.

**Anahtar Kelimeler:** Gemi Yatırımları, Türkiye, Gemi Yatırımcıları, Nitel Araştırma.

## 1. Introduction

Companies make investments with different characteristics throughout their economic life. In order for the companies to grow and maintain current activities in a competitive environment, they should develop new products and services and fulfill the improvements in the products and services they currently offer in a timely and complete manner. Considering maritime industry, ship investment is vital stage for a shipping company [1]. In addition to the freight earnings obtained from transportation activities, ship investors also rely on the capital gains from the ship investments [2, 3]. Especially between 2003 and 2008, ships were sold from very high levels and profit margin of ship investors were extremely high that was never seen before [4]. However, ship investments require many variables to be taken into account depending on the dynamic nature of the world economy [5]. Apart from other variables, high capital requirements and the changing nature of global markets make ship investors courageous [6]. Wrong investment decisions may not only reveal loss but also diminish the market share of the firm. Accordingly, the competitive power of the firm may be affected in the long-term period [7].

Decisions in the financial management of the shipping industry consist of three main pillars which are investment on new building or second hand vessels, financing related with debt and equity capital markets and freight market operations [8]. Given the intense trade activities in Europe and enclosed seas, a need has revealed to explore how to develop current trade and investment activities to ensure the fulfilment of the demand in the region. Accordingly, one of the most important factors that determine the profitability and efficiency is the sound investments [1]. Considering the geographical situation of the region, maritime transport is

conducted via small size vessels, which is called "coaster", bearing lower operational and financial risks compared with large-tonnage vessels.

With its connection to Europe, Asia, the Caucasus, the Middle East, and Africa; Turkey is a country at the crossroads of trade and steps forward in the region. Especially since the 1980s, the majority of maritime transport in the Mediterranean and Black Sea is carried out by Turkish owned merchant fleet consisting of coasters that vary in the range of 1.000-12.000 dwt. As emphasized by Tamer Kiran, chairman of board of directors of the Turkish chamber of shipping, in the monthly ordinary meeting held in March, 2019 [9]:

*"...Turkish owned merchant fleet, which has a 35% market share in the Mediterranean and Black Sea with around 700 ships, stands out as the strongest fleet of our region."*

According to the figures extracted from IHS Sea-web database by Istanbul Freight Index (ISTFIX) Research Department, Turkish-controlled coaster merchant fleet between 1,000 - 12,000 dwt consists of 765 ships with around 3,44 million dwt as of the beginning of 2018 that accounts for 35% of total ship supply by total carrying capacity in the region. These numbers support the speech of Mr. Kiran.

To maintain competitive power in the region, ship investments in Turkey that are affected by many volatile parameters, should be carried out thoroughly. In this respect, ship investments in Turkey are regarded as research setting in this study considering current supply power of Turkish-controlled merchant fleet in Mediterranean and Black Sea and it is aimed to determine the determinants affecting ship investments in Turkey by considering qualitative research perspective. It has been observed that there are studies regarding ship investments whether on timing or structural relationship with other parameters. However, as indicated

by Celik-Girgin et al. [10], studies on ship investments have substantially been formed by considering market analysis and research models are limited to a certain extent by considering various parameters. In this sense, there is the need for different points of view. To comprehend the dynamics on the issue, a qualitative examination is employed to understand the nature of ship investments from professionals' perspectives in this study. Qualitative research process includes semi-structured interviews applied to the professionals who are able to objectively evaluate the industry mainly because of having close relations with ship investors and experience in the industry. It is expected that comprehending the dynamics of ship investments in Turkey may provide valuable contribution both to the scholars and practitioners.

The remaining part of this paper is structured as follows. Previous studies on ship investments are discussed in section 2. Afterwards, methodology used is explained in section 3. Then, findings of the analysis are provided in section 4 and they are discussed with the current literature in discussion and conclusion.

## **2. Previous Studies on Ship Investments**

Regarding previous studies, it is seen that the majority of the studies on ship investments are related with market analysis to determine the appropriate conditions for ship investments, ship valuation, comparison of the existing valuation models and investment alternatives and the effects of external factors on ship investments. However, the studies are substantially based on secondary data sources and include empirical analysis. Accordingly, there is a gap in the related literature that address the determinants of ship investments from qualitative research perspective. Therefore, the motive of this study rests on the shortcomings in the current literature and therefore it is

intended to explore the factors affecting ship investments in Turkey by taking into account primary data sources.

Dikos and Marcus [11] investigated second hand ship valuation by using charter rates and new building ship prices in dry bulk market for 1976-2002 time period. The model they developed is based on real options approach and asset play valuation exists in second hand prices. Alizadeh and Nomikos, [12] developed a model on investment decisions in dry bulk ship sale and purchase market using price-earnings ratio for the period 1976 and 2004. They suggested that comprehending the relationship between second hand ship price and earnings can be regarded as an important signal to estimate the future price of second hand ships and to reach a decision on whether to invest or not. Alizadeh and Nomikos [13] conducted a preliminary study in which the same ratio can be regarded as a guide on whether to enter tanker market. The authors illustrated that ship prices and freight earnings are the key factors in sale and purchase transactions. Yin, et al. [14] assessed dry bulk ship investment decisions in tough and peak times by developing a model based on real option approach. The authors claims that the model developed has advantages over the traditional net present value method in uncertain investment environments in the current dry bulk shipping market. Alizadeh and Nomikos (15) investigated price-volume relationship in sale and purchase market for dry bulk ships. Findings reveal positive relationship between price of second hand dry bulk ships and ship sale and purchase volume. Accordingly, investors tend to invest more, depending on high capital gains from ship investments. Bulut et al. [16] investigated shipping assets and decisions whether to enter dry cargo shipping market considering business cycles. Return on Equity (ROE) performance analysis was applied, and the

findings revealed that the investors have a tendency to place ship investment at peak market conditions in which the ship prices are higher and the ROE rates remarkably decline.

Scarsi [1] examined the reasons why ship investors operating in the dry bulk market still make mistakes in ship investments despite their knowledge and experience. It was emphasized that errors in ship investments are usually caused by reading the market inadequately and failure to analyze market cycles.

Tsolakis, et al. [17] analyzed second hand tanker and dry bulk vessel prices over the period of 1960 and 2001. They developed error correction model considering newbuilding price, time charter rates and interest rates to figure out price valuation. They found that second-hand ship prices for the subject vessels are much more affected by new building prices rather than time charter rate on prices of second hand vessels. Merikas, et al. [18] analyzed investment decisions with other parameters namely freight rate, cost of shipbuilding, volatility in freight rates, crude oil price and interest rates. The authors measured investment decision as the ratio of second hand ship price over new building ship price in tanker market. According to the findings, investing in second hand vessels is more logical in rising freight market to meet demand. On the other hand, it is proper to invest in new building vessels in bad market as a result of optimism for the future of market. Fan and Yin [19] examined the relationship between second hand ship prices, new building ship prices, and time charter rates in container market by applying Var Cointegration model and Bai-Perron test and found that the price of new building price is more volatile than time charter rates and second hand prices, when the freight rates are lower. On the other hand, time charter rates are more volatile when freight rates

reach high levels. Moreover, second hand prices increase when the freight market is stable. Fan and Luo [7] proposed that container liners are affected by market-driven factors to expand their capacity even if order book is full. More specifically, investments increase when demand for shipping services and charter rates are higher. Besides, the authors indicated that deciding whether to invest new building or second hand ship is initially regarded than deciding ship size. In this sense, new building vessels steps forward compared to the second hand vessels. However, if demand is so intense and there is a queue at shipyard for building new vessels, then second hand ships become more preferable.

In addition to traditional Discounted Cash Flow (DCF) methods, different approaches have been examined in the evaluation of ship investment alternatives. In this respect, Bendall and Stent [6] examined the Real Option Analysis (ROA) in order to make a ship investment decision under uncertain market conditions. According to the results of the analysis, ROA was found to be more robust in real market conditions compared to the traditional DCF approach. In the following years, ROA methodology was also applied by the same authors considering different conditions and markets [5, 20] and similar results were reached.

Greenwood and Hanson [21] investigated investment cyclicity and capital returns in dry bulk industry by proposing a model based on behavioral perspective of cycles. According to the findings, firms overvalue demand for shipping services and invest more during booms and undervalue the actions of their competitors. Kalouptsidi [22] examined fluctuations of demand for shipping services and time-to-build effect on investment by using second hand and new building ship sales, fixtures and scrapping activities for the period 1998 and 2010. Findings suggests that

time to build decreases, while investment volatility increases. Marlow [23] analyzed the role of incentives on investment levels in UK shipping industry by applying an empirical model to test various variables to whole markets. Surprisingly, a negative relation was found between incentives and investment levels.

There is a limited number of studies on ship investments carried out on the national scale. Arslan and Gurel [24] aimed to emphasize that firms can reach a solution by using fuzzy logic methodology if they face multi-criteria decision making problems. By doing so, authors exemplified ship investment alternatives in different type and tonnage for an investor having an intention to enter shipping market by using fuzzy logic method. Arslan [25] evaluated the process of strategic investment decision of an institutionalized shipping company in Turkey by using the case study method.

There are also studies on the national scale that can be indirectly related with ship investments. Within the scope of operating costs; Saban and Güğercin [26] showed the effects of the factors affecting the operating costs on transportation costs in maritime transportation with an example and emphasized the importance of determining the cost structure correctly in decision making processes. Erol et al. [27] found a significant and positive relationship between ship age and daily operating costs. Additionally, it is emphasized that there is a negative relationship between ship size and crew expenses when ship age is considered as constant. Within the scope of the shipping market analysis; Dursun and Erol [28] examined the financial structure of the maritime transport sector in Turkey applying ratio analysis. According to the findings, it is emphasized that the profitability of assets in the sector has decreased to 1% due to the crises experienced, whereas costs have increased to 85% in total net sales. Derindere Köseoğlu

and Adıgüzel Mercangöz [29] examined the impact of the 2008 global financial crisis on the Baltic Handysize Index and Istanbul Freight Index empirically and found that all coaster tonnage revenues included in the analysis were structurally changed due to the 2008 crisis. Erol [30] examined the freight revenues of the ships called to Turkish ports considering their flags and ownership. According to the findings of his study, it is determined that the total freight revenues are obtained mostly by ships with foreign flags and foreign owners. Atar et al. [31] found that short-distance maritime transport and combined transport provide great advantages in coastal regions. However, due to the high average age of the existing coaster fleet, possible risks, especially investment requirements, were emphasized.

In the study conducted by Erol and Dursun [32], financial risks in the maritime sector and protection methods from these risks were discussed. In the study, it is emphasized that the most appropriate derivative instruments for tramp shipping firms are forwards and call options in terms of the ability of the parties to meet their special needs.

Korkmaz [33] found positive and significant relationship between industrial production and total trade and the number of ships calling at the ports in Turkey. Tunalı and Akarçay [34] also found a positive and significant relationship between industrial production and maritime transport.

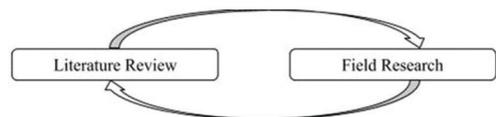
### **3. Methodology**

Qualitative research has become popular among scholars since it provides a new and alternative way of understanding the behaviors, attitudes and perceptions. Qualitative research offers important opportunities in a world where context and processes become more important than results [35]. There are three kinds of data collection techniques in qualitative

research which are in-depth open-ended interviews, direct observations and written documents [36]. Since the main purpose of this study is to present a realistic picture to the reader on determinants of ship investments in Turkey from perspectives of professionals, interviewing was employed. Semi-structured interview technique is preferred because it is both standard and flexible to a certain extent; it can remove the limitations of the survey forms and can gather in-depth information on the subject [37]. In this study, there is a cyclical research process consisting of two stages. The aim of the cyclical nature of the research process is to provide systematic comparison [38], and it was intended to analyze the current literature by reviewing the studies in ship investments in the first stage.

Field research was conducted by the first author in the second stage of the study. The number of the participants was not predetermined. In order to maximize the variations, participants were recruited by purposive sampling method. To obtain different insights and perspectives on the subject, it was intended to involve participants from various affiliations. Since data quality depends on the participants from whom data is obtained, participants to be included should be experts in the scope of the research [39]. Therefore, professionals who are able to evaluate the industry objectively on the factors affecting ship investments in Turkey would be deemed appropriate. Accordingly, sale and purchase brokers that offer intermediary services for ship investments, senior representatives of non-governmental organizations in Turkish maritime industry, the consultants who offer consultancy services to the parties on various topics, and a ship operator who charters a ship under certain conditions from the ship owners and operates it on his own account are determined as the research group of field research in this study. Details of participants are shown in

Table 1. The permissions of all participants were taken whether they were willing to participate in the study. Before starting the interviews, the reasons leading to this study were shared with the participants. A semi-structured interview form was used in each interview and whenever the doubts on how to respond to the questions occurred, the questions were clarified and simplified by giving comprehensible examples. Once the interview was done, the audiotape of each interview was transcribed according to the strategies depicted by Poland [40]. Due to the anonymity reasons, names of the participants and the institutions they work for are kept confidential. Additionally, the responses and examples on other companies that are not allowed to record of the participants were not quoted or transcribed in the study. Data were collected until the saturation was reached. Data collected from each interview were analyzed to reach the themes in ship investments in Turkey by considering induction logic. The data, obtained within the scope of the circular research process shown in Figure 1, are compared with the literature and a framework for determining the themes is formed.



**Figure 1.** Research Process

Responses collected from all participants were analyzed by using Maxqda Qualitative Data Analysis Software, which is one of the leading software packages for qualitative research including but not limited to grounded theory, literature reviews, exploratory market research, qualitative text analyses, and mixed methods approaches worldwide. It is an important tool to help the researcher in describing the collected data, identifying themes and correlating them meaningfully.

**Table 1.** Details of Participants

Participant	Code of Participant	Title	Sector Experience (year)	Date	Duration	Place of Interview
S&P Broker 1	SP-1	Owner, Broker	16	23.01.2018	1h 35m	Maltepe, Istanbul
S&P Broker 2	SP-2	Owner, Broker	15	23.01.2018	1h 20m	Kartal, Istanbul
S&P Broker 3	SP-3	Broker	11	23.01.2018	1h 15m	Etiler, Istanbul
Association 1	A-1	Secretary General	15	25.01.2018	1h 10m	Fındıklı, Istanbul
Association 2	A-2a	Director	28	26.07.2018	1h 55m	Ümraniye, Istanbul
Association 2	A-2b	Research Specialist	10	26.07.2018	1h 55m	Ümraniye, Istanbul
Consultant 1	C-1	Head of Research	15	26.01.2018	1h 45m	Ümraniye, Istanbul
Consultant 2	C-2a	Owner, Consultant	31	10.01.2019	1h 05m	Ataşehir, Istanbul
Consultant 2	C-2b	Consultant	55	21.01.2019	53m	Ataşehir, Istanbul
Consultant 3	C-3	Scholar, Consultant	41	22.01.2019	1h 40m	Moda, Istanbul
Ship Operator 1	SOP-1	Owner	39	21.01.2019	38m	Koşuyolu, Istanbul

The program allows code comparisons between interview documents with its four-window interface by organizing and categorizing complex and large data sets, managing the categories, which are called “code”, and retrieving the coded segments. Baş and Akturan [39] explained how to use the program in detail.

Data collected from participants were examined to determine the factors affecting ship investments by applying both content analysis and descriptive analysis in this study. While the aim of content analysis is to reach the themes and relationships that can explain the data collected, the aim of descriptive analysis is to summarize and interpret the data obtained according to the themes determined. During the coding process, the concepts and words expressed by the participants were used as codes, and when the concepts and words used by the participants were inadequate at the point of coding, different concepts were identified as codes by the authors. Coding was performed while analyzing the responses of the participants. Similar codes are collected in certain categories. To verify the findings, peer review examination was conducted on January 8, 2019 and April

17, 2019 with a scholar who substantially works in the field.

#### 4. Findings

In line with the purpose of the study, market conditions and timing, payback period of the investment, technical features of the ship and profile, financing capacity and risk perception of investors are found as the criteria that shape ship investments in Turkey.

##### 4.1. Market Conditions and Timing in Ship Investments

Given that the demand for maritime transport services is directly linked to international markets, the parameter of market conditions is the main factor driving ship investments. This is supported by one of the participants' contribution as follows:

*A-1: “...The positive impact of global developments on world trade is reflected in maritime trade. Therefore, ship investors invest in such an environment if they have sufficient resources.”*

Reading the market and taking the right action at the right time is of great importance in ship investments. Due to the capital intensive structure of the industry,

it is necessary to plan ship investments thoroughly. It is important to pay attention to markets, especially freight markets, during the planning process of ship investment to comprehend the current situation of the markets and the expectations of the future. In this context, a participant emphasized this situation as follows:

*C-1: "...Vessels are assets, even if they are not liquid. Commodity, S&P, new building and demolition markets needs to be followed as if following stock markets. Indices such as BDI, ISTFIX can be analyzed for technical analysis. But the basic analysis is certainly not different from the stock market. It is needed to know the profitability of the firms and the sector and also the commodity markets. For example, a dry cargo ship owner must follow the markets for all cargoes. In addition, macroeconomic information is very important. They have to dominate the economic structure, supply-demand balances of the countries to which they are transporting."*

As a matter of fact, market conditions may be worse at the time of ship delivery than when the order was placed since delivery of the ship may take a few months, and this may have unexpected consequences. A participant stated this fact as follows:

*C-3: "...There is an average of one year between the time that the order was placed and the time of ship delivery. Ship orders placed by the majority at the same time by taking into account the current market conditions constitute supply surplus at the time the ships are delivered. So, ship owners harm one another with their behaviors and the market is badly affected."*

#### **4.2. Evaluation of Ship Investment Alternatives**

The evaluation of ship investment alternatives is a very important process. Planning correctly reduces the likelihood of undesirable situations. When the statements

of the participants are considered on how investors evaluate investment alternatives, it is seen that the payback period is taken into account. In other words, it is important to know how long the investment pays itself. In this context, participants used the following statements:

*SP-3: "...The best time to invest in ships is when the price/earnings (p/e) ratio is at the lowest levels. For instance, assume that a ship purchased from 2 million usd, and expected to generate 200.000 usd freight income per year, will not be a good investment as price/earnings ratio will be 10. In other words, the ship will pay back its price in 10 years, which is considered a long time. However, if the investor estimates p/e ratio as 5-6 years even if the purchasing price is 3 million usd, then the investment becomes attractive."*

As indicated by Bendall and Stent [5] there is a high correlation between international trade activities and demand in maritime industry. Therefore, developments in any side of this relationship may generate an unpredictable change in the costs and earnings of ship investors. Accordingly, tendency of ship investments declines when uncertainty exists. This is emphasized by a participant as follows:

*SOP-1: "...The new building cost of a ship with a capacity of 5,000 dwt is around 8 million usd and the return of this amount is 15 years under the conditions of today. While it is hard to estimate next 3 years, it is impossible to foresee a long period of 15 years. And at the end of 15 years, you'll have an old ship. Even though the first 5 years will not cost much, the money will need to be spent on the repair and maintenance of the ship after 5 years. Considering the current economic conditions, investment is not attractive, given the high loan rates. That's why many of our friends are not investing today. Even if they have cash, the bank is giving 4-5% interest today. If you foresee that you will get around 7%-8% of ROI per year, it might make sense to invest in a ship. Other than that it is not rational."*

### 4.3. Technical Features of the Ship

The technical features of the ship investment alternatives are emphasized among the factors that the investors should pay attention. It is determined that the type of ship, design, machinery and equipment of which the investors are familiar, are found as important criteria in ship investments. One of the participants has the following view:

*C-2b: "...In terms of ship investment, the speed and fuel consumption of the ship in technical terms are very important items. Additionally, country in which the ship was built is an important criterion for some ship investors in Turkey. In this sense, they expect to invest in ships that are built in Germany, Holland, etc. If it was built outside these countries, they look for who carried out the project. In some cases, in order to take advantage of the low cost of production, German, Dutch, and Scandinavian ship owners can build their ships in different countries, particularly in China, by determining the design of the ship and bringing its surveyors and inspectors as the head of the project. Even if the ship is made in China, her machine, auxiliaries, pumps, valves, all filters etc. come from Europe."*

It has also been stated that some ship investors have an intention to look for the ships with certain brands of equipment. Familiarization with specific brands facilitates maintenance and minimize uncertainty by providing insights to determine problems that may arise in the future. In this context, a participant shared following statements:

*AS-2a: "...The first and most important criterion to invest in a ship is the brand of main engine for many ship owners. Indeed, many of them look for a ship having Japanese or Korean machines, because they proved themselves as being long life machines and do not cause major problems. Any machine with high operating costs may harm not only mentality of investor, but also the financial*

*and operational structure of the firm. The firm may face unexpected costs and the plans for the whole year may fail. The most important criterion in ship management is that the voyage should start and end immediately. The more the voyages, the more profits will be. Because, when calculating the TC equivalent, the daily earnings are calculated. However, the slightest failures in the equipment negatively affect the whole process"*

### 4.4. Profile, Financing Capacity and Risk Perception of Ship Investors

The profile of ship investors is often another important factor in shaping investments. The difference of perspectives between Europe and Turkey is illustrated by a participant as follows:

*C-1: "...European ship investors determine the ship they need and try to obtain the required budget afterwards. On the other side, Turkish ship investors are generally in search of ships suitable for the cash in their pocket and sometimes they are in search of assembled ships. In such cases, parameters on technical requirements, which are determined by the ship's structure are ignored."*

Perspectives on ship investments vary between investors with high and relatively limited capital power. The statements of a participant supporting this fact are as follows:

*SP-2: "...I think there are economic reasons for keeping the work under control and being reluctant to sail in distant places. When switching to large tonnage, many things need to be changed, from equipment to crewing. The higher the costs, the higher the freight income should be. When the markets were good, everyone was somehow risk seekers. Today, things are just the opposite. People have to cut it all away. There are many problem areas. If you want to work in South Asia, you have to pass the Suez Canal. There is always a risk that there will be an extra insurance for the pirates in*

Aden region, the cost of protection, and the question of whether there will be a voyage for return. As the main objective of the firms, holding high cash and having high credibility, is to maximize earnings, such companies do not hesitate to invest in large tonnage.”

“...Investors who have high capital power and operate mostly in different sectors and then enter into the maritime sector, prefer not to diversify but to be bound by a single tonnage. Instead of generating a portfolio consisting of vessels from different tonnages, they prefer to buy a series of vessels from a certain tonnage. They have an intention not to diversify their fleet and to remain connected to a single tonnage segment. The rationale of this thought is to reduce breakeven cost per ship, and to expand profit margin when a vessel from the fleet is sold.”

Speaking of capital power, it will be useful to refer to the evolution of shareholder structure of ship owner companies in Turkey. Due to the high capital requirement of ship investments, Turkish ship investors often miss many investment opportunities due to lack of sufficient capital. However, especially in recent years, Turkey has been one of the attractive destinations for Arab investors who are mainly from Qatar and Syria and who have huge amount of cash ready for investments. In this sense, Arab investors has begun to take place as shareholders in many sectors including Turkish shipping industry. This fact is expressed by one participant as follows:

SP-1: “...It can be said that the profile of Turkish ship investors has changed recently. Due to the low prices, it is observed that Turkish ship investors have turned to bigger tonnages. One of the main reasons for this may be the increase in the number of the Arab shareholders. Due to problems in the Middle East, Turkey has become an attractive place for Arab investors, especially from Syria and Qatar. Despite the fact that the company is registered as a Turkish company, Arab investors are among the shareholders. This

was also supported by the government. In order to draw hot money into the country, no tax is applied to the cash coming from abroad. Thus, Turkey has started to become one of the tax havens for foreigners.”

Small tonnage ships, which are called coaster ships, are the backbone of ship investments in Turkey since they bear lower risk and cost of capital compared with larger vessels. Given their low draft structure and high maneuver capability, they are the mostly preferred ships in Turkey. Following statements of participants exemplified the issue.

SP-3: “...I believe that there is a problem with access to the markets. We are attracted to with the idea that the risk will increase at the entrance to the larger or distant markets. Therefore, we focus on small-tonnage vessels, partly because the risk is less.”

SP-2: “...In the tonnage ranging up to 20,000 dwt, a small number of 20,000 dwt ships were built in the world after 2000. This was mainly because of that when the markets were in an upward trend, no one wanted to deal with small tonnage. With the decline of the markets, investments in this tonnage accelerated with the perception of lack of supply in the small tonnage. One of the main reasons for this is that due to reduced risk appetite since the volatility of earnings is not much. This tonnage is highly predictable compared with higher tonnages. There is a tendency to enter this market even if the ship is run at a loss.

## **5. Discussion and Conclusion**

Previous studies support our findings on the importance of reading the market thoroughly and taking the actions at the right times in ship investments. As asserted by Alizadeh and Nomikos [13] timing in maritime transport industry where competition and cyclicity are intense, is important. Scarsi [1] associates reading the market and timing with business life of a shipping company. More specifically,

ship investors operating a ship or a fleet having a lower breakeven points generate higher profits when direction of trend in freight market is upward. Besides, these ship investors are able to survive longer compared with the ones having higher breakeven points in bad market conditions. To sum up, as emphasized in our findings and also current literature, reading the markets and obtaining high level commercial and technical up-to-date information is an important factor in ship management, because it determines the effectiveness of investments.

Discounted cash flow analysis has traditionally been used for evaluating maritime investment alternatives for a long time as demonstrated by Evans [38], Gardner et al. [39]. However, new evaluation tools have been developed to be applied for ship investment alternatives. In this sense, Real Options Analysis (ROA) has drawn considerable attention for the evaluation of ship investment alternatives recently. Bendall and Stent used ROA for ship investment evaluation in their studies [5, 20]. On the other hand, our findings reveal that price/earnings ratio is also used to determine payback period of investment. The fact that ship investors generally consider price/earnings ratio while evaluating ship investment alternatives is also emphasized by Alizadeh and Nomikos [12, 13].

Considering the current literature, profile and risk perception of ship investors have been taken into account from the behavioral perspective, which has been a trend topic among scholars recently. For instance, Duru [40] alleged that the risk attitude of investors is a key enabler for ship investments referring to behavioral economics. However, our findings point out how ship investments are shaped based on the profile, risk perception and financing capability of ship investors. Moreover, one of the important drivers shaping ship

investments and that is not sufficiently emphasized in the current literature, is found as technical characteristics of the ship such as fuel consumption, speed, brands of equipment, built country etc., in this study.

Although timing is an important criterion, speculative investments in bad market conditions, where freight and ship prices are at very low levels, also involve risks. Although shipping markets have a cyclical structure, if market recovery is delayed, ship investors will have to bear significant opportunity costs.

Since ship management is an international business, it can be directly affected by global developments as well as country or region-based developments. In such a dynamic environment with many variables, ship investments turn into a strategic process, and this fact puts ship investments into risky investments category. However, it may be possible to minimize the risk if the factors highlighted in this study are taken into consideration during the evaluation of investment projects and subjected to detailed analysis.

For shipowners who are familiar with a particular ship type in technical issues such as carrying capacity, ship type, ship machinery and auxiliaries, maintenance processes will be easier and unexpected events will be less likely to occur, even if they are experienced, it will be easier to intervene with these events. In fact, a ship which is not suitable to sail due to technical errors will cause huge losses. Most of the freight revenues will be lost. Therefore, such technical issues are emphasized as one of the factors to be considered in ship investments.

In order to grow in a capital-intensive sector, investment is required. However, it is very difficult to make investments in today's world where financing sources are not easily accessible compared to previous years. Since maritime industry in Turkey has not involved in capital markets due to

its closed structure, and also access to credits has been limited, international partnerships has gained importance recently in Turkey. Investors from Arab countries have recently been shareholders in ship investments in Turkey. This may lead to the influences and revision of traditional assumptions, institutional structure of the companies.

It is always beneficial for investors to act according to their risk perception and financing capacity in ship investments where investors who buy dreams instead of ships are often disappointed. Regardless of the market conditions, it should be remembered that the investors who know their limits could survive.

This study has an exploratory nature and the findings obtained can be tested with various quantitative methods in the future. Besides, the sample can be expanded in the future and the findings can be enriched, although the individuals working in different sectors are selected as participants in order to ensure diversity in this study.

## References

- [1] Scarsi, R. (2007). The bulk shipping business: Market cycles and shipowners' biases. *Maritime Policy & Management*, 34(6): 577-590.
- [2] Kavussonos, M., and Alizadeh, A. (2002). Efficient pricing of ships in the dry bulk sector of the shipping industry. *Maritime Policy & Management*, 29(3): 303-330.
- [3] Chou, H., and Chen, D. (2017). The use of technical analysis in sale-and-purchase transactions of secondhand ships. *Maritime Economics and Logistics*, 1-18, doi: <https://doi.org/10.1057/s41278-017-0096-2>
- [4] Duru, O. (2013). Irrational exuberance, overconfidence and short termism: Knowledge to action asymmetry in shipping asset management. *The Asian Journal of Shipping and Logistics*, 29(1): 43-58.
- [5] Bendall, H., and Stent, A. (2007). Maritime investment strategies with a portfolio of real options. *Maritime Policy & Management*, 34(5): 441-452.
- [6] Bendall, H., and Stent, A. (2003). Investment strategies in market uncertainty. *Maritime Policy & Management*, 30(4): 293-303.
- [7] Fan, L., and Luo, M. (2013). Analyzing ship investment behaviour in liner shipping. *Maritime Policy & Management*, 40(6): 511-533.
- [8] Merikas, A.G., Sigalas, C. and Drobetz, W. (2011). The shipping corporate risk trade-off hypothesis. *Marine Money International*. 27(6): 40-43.
- [9] IMEAK Deniz Ticaret Odası Deniz Ticareti Dergisi. (2019). IMEAK DTO Mart Ayı Meclis Toplantı Raporu. Date of Access: 05 April 2019. <https://www.denizticaretodasi.org.tr/dergi/Sayfalar/Deniz-Ticaret-Dergisi.aspx?YIL=2019&SAYI=4>
- [10] Celik Girgin, S., Karlis, T. and Nguyen, H-O. (2018). A critical review of the literature on firm-level theories on ship investment. *International Journal of Financial Studies*, 6(1): 1-19.
- [11] Dikos, G., and Marcus, H. (2003). The term structure of second-hand prices: A structural partial equilibrium model. *Maritime Economics & Logistics*, 5(3): 251-267.
- [12] Alizadeh, A., and Nomikos, N. (2007). Investment timing and trading strategies in the sale and purchase market for ships. *Transportation Research Part B: Methodological*, 41(1): 126-143.
- [13] Alizadeh, A., and Nomikos, N. (2006). Trading strategies in the market for tankers. *Maritime Policy & Management*, 33(2): 119-140.
- [14] Yin, J., Wu, Y., & Lu, L. (2018). Assessment of investment decision in the dry bulk shipping market based on real options thinking and the shipping cycle perspective. *Maritime Policy & Management*, 46(3): 330-343.

- [15] Alizadeh, A.H. and Nomikos, N.K. (2003). The price-volume relationship in the sale and purchase market for dry bulk vessels. *Maritime Policy & Management*, 30(4): 321-337.
- [16] Bulut, E., Duru, O. and Yoshida, S. (2013). Market entry, asset returns and irrational exuberance: Asset management anomalies in dry cargo shipping. *International Journal of Shipping and Transport Logistics*, 5(6): 652-667.
- [17] Tsolakis, S., Cridland, C., and Haralambides, H. (2003). Econometric modelling of second-hand ship prices. *Maritime Economics & Logistics*, 5(4): 347-377.
- [18] Merikas, A., Merika, A., and Koutroubousis, G. (2008). Modelling the investment decision of the entrepreneur in the tanker sector: Choosing between a second-hand vessel and a newly built one. *Maritime Policy & Management*, 35(5): 433-447.
- [19] Fan, L., and Yin, J. (2016). Analysis of structural changes in container shipping. *Maritime Economics & Logistics*, 18(2): 174-191.
- [20] Bendall, H.B. and Stent, A.F. (2005). Ship Investment under Uncertainty: Valuing a Real Option on the Maximum of Several Strategies. *Maritime Economics and Logistics*, 7(1): 19-35.
- [21] Greenwood, R., and Hanson, S. G. (2015). Waves in ship prices and investment. *The Quarterly Journal*, 130: 55-109.
- [22] Kalouptsidi, M. (2014). Time to build and fluctuations in bulk shipping. *The American Economic Review*, 104(2): 564-608.
- [23] Marlow, P. (1991). Shipping and investment incentives: A trilogy part 3. The effectiveness of investment incentives for shipping—the UK experience 1950–1987. *Maritime Policy & Management*, 18(4): 283-311.
- [24] Arslan, O., and Gurel, O. (2008). Farklı tip ve boyutta gemilerin seçiminin bulanık mantık yöntemiyle incelenmesi. *Havacılık ve Uzay Teknolojileri Dergisi*, 3(4): 55-60.
- [25] Arslan, T. (2008). Stratejik bir karar: Gemi alım satım zamanlaması. *Dokuz Eylül Üniversitesi İşletme Fakültesi Dergisi*, 9(2): 227-255.
- [26] Saban, M. and Güğercin, G. (2009). Deniz taşımacılığı işletmelerinde maliyetleri etkileyen faktörler ve sefer maliyetleri. *Dokuz Eylül University Maritime Faculty Journal*, 1(1): 1-16.
- [27] Erol, S., Yaşar, A.Y., Çankaya, F. (2014). Gemi büyüklüğü ve yaşının işletme maliyetleri üzerindeki etkisi: Dökme yük gemileri üzerine bir uygulama. *Journal of ETA Maritime Science*, 2(2): 111-118.
- [28] Dursun, A. and Erol, S. (2012). Denizyolu yük taşımacılığı sektöründe faaliyet gösteren firmaların finansal yapı analizi. *Atatürk University Journal of Graduate School of Social Sciences*, 16(3): 367-382.
- [29] Derindere Köseoğlu, S. and Adıgüzel Mercanğöz, B. (2012). 2008 küresel finansal krizin küçük tonaj gelirleri üzerindeki etkisinin yapısal kırılma testi ile karşılaştırılması. *Dokuz Eylül University Maritime Faculty Journal*, 4(1): 25-38.
- [30] Erol, S. (2017). Calculation of the freight revenues in Turkey-focused maritime transportation. *Maritime Policy & Management*, 44(7): 815-824.
- [31] Atar, F., Aydoğdu, Y.V., Duru, O. and Şenol, Y.E. (2013). Kısa mesafe denizyolu taşımacılığının avantajları ve kombine taşımacılıktaki önemi üzerine bir araştırma. *Dokuz Eylül University Maritime Faculty Journal*, 5(1): 75-91
- [32] Erol, S. and Dursun, A. (2015). Denizyolu taşımacılığında finansal riskler ve riskten korunma. *Dokuz Eylül University Maritime Faculty Journal*, 7(2): 172-201.

- [33] Korkmaz, O. (2012). Türkiye'de gemi taşımacılığının bazı ekonomik göstergelere etkisi. *Business and Economics Research Journal*, 3(2): 97-109.
- [34] Tunalı, H. and Akarçay, N. (2018). Denizyolu taşımacılığı ile sanayi üretimi ilişkisinin analizi: Türkiye örneği. *Journal of Economics Business and Political Researches*, 3(6): 111-122.
- [35] Berg, B., and Lune, H. (2015). *Sosyal Bilimlerde Nitel Araştırma Yöntemleri* (8 ed.). Trans.: Aydın, H., Konya: Eğitim.
- [36] Patton, M.Q. (2002). *Qualitative Research & Evaluation Methods*. 3rd ed., Thousand Oaks: Sage.
- [37] Lune, H., and Berg, B. (2017). *Qualitative research methods for the social sciences*. Essex: Pearson Education Limited.
- [38] Ger, G. (2009). Tüketici Araştırmalarında Nitel Yöntemler Kullanmanın İncelikleri ve Zorlukları. *Tüketici ve Tüketim Araştırmaları Dergisi*, 1(1), 1-19.
- [39] Baş, T. and Akturan, U. (2017). *Sosyal Bilimlerde Bilgisayar Destekli Nitel Araştırma Yöntemleri*. Ankara: Seçkin.
- [40] Poland, B. (1995). Transcription quality as an aspect of rigor in qualitative research. *Qualitative Inquiry*, 1(3): 290-310.
- [41] Evans, J.J., (1984). Some practical aspects of investment appraisal in shipping. *Maritime Management & Policy*, 11(3): 197-222.
- [42] Gardner, B.M., Goss, R.O. and Marlow, P.B. (1984). Ship finance and fiscal policy. *Maritime Management and Policy*, 11(3): 153-196.
- [43] Duru, O. (2016). Motivations behind irrationality in the shipping asset management: Review of fundamental theories and practical challenges. *Maritime Business Review*, 1(2): 163-184.