ACTECON

An Excessive Pricing Simulation in Privately Operated Turkish Ports

Article by Reşat Eraksoy

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Preface

Gone were the days when all of the ports in Turkey belonged to the state. The winds of change, at least in the economic sphere, have forced governments around the world to pursue privatization efforts to create more efficient, market-minded, competitive port service companies owned by private enterprises. Like all governments, the Turkish state also hoped that with the new capital from the private undertakings poured into the stagnated and technologically backward public port managements, the infrastructure of the ports would be renovated, and the conditions of Turkey's ports would improve to match the needs of its booming trade and exports.

With this need for transformation in mind, privatization laws and regulations were enacted, and most state ports were transferred to private enterprises. The state's coffers were filled with the payments acquired from the new private operators of the ports. The new operators commenced working on improving the infrastructure and modernizing port services. The initial payment to the state for the transfer of operating rights was to be recouped with the profits earned from the ports' users. All is well if the economy grows, the number of port users increases, and the increased port fees are affordable by the already profitable port users.

The well-being of the economic actors in the port industry, unfortunately, depends upon a vulnerable economic situation. The chain of unfortunate events begins with the increase in port service fees. The increased fees in the first place are caused by the need for privatized ports' priorities to earn enough profit to recoup their initial investments and provide capital for future investments, and transferring the surplus to their shareholders. The transferred ports were not in good shape in terms of infrastructure, so the new private port managements spent more funds for infrastructure than they had anticipated. The economy did not grow as expected, so the projected earnings should have to be squeezed from a smaller number of port users than forecasted, thereby increasing the cost of using port services for trading, exporting, and the Ro-Ro liner companies obliged to use the ports for transporting cargo and people. The state and the private enterprises made their financial projections for port privatizations when the macroeconomic variables were somewhat predictable. The unpredictable steep appreciation of the US Dollar (**"USD"**) and Euro against the Turkish Lira (**"TRY"**) in recent years (the USD appreciated almost 2.5 times in the last five years against the Turkish Lira) forced the ports' new private operators to increase their tariffs to pay for the bank loans in USD that had been used to finance the payment of port privatization amounts.

Efforts first were made to resolve the complaints between the port users and port management. When the parties could not reach an agreement, the port users applied to the ultimate arbiter of economic disputes arising from the alleged excessive pricing policies, the Turkish Competition Authority (**"TCA"**). The TCA resolves disputes via decisions made by its Board (**"Competition Board" or "Board"**). The Board's decisions establish the case law in Turkey. These decisions also lay out the foundation of the excessive pricing economic analysis regarding privatized ports, presented in this article.

This article examines the excessive pricing cases of privatized ports in Turkey by using a hypothetical example assumed to happened in 2018. As the simulation is based upon a container port, the growing trend of containerization in Turkey is also described briefly.

Excessive pricing is not a frequent type of complaint filed before the TCA. In excessive pricing investigations, the Competition Board rarely finds undertakings in breach of Competition Law. The TCA's method of analyzing the excessive pricing cases, by making use of previous decisions of the European Commission (**"EC"**) and the Court of Justice of the European Union (**"CJEU"**) coupled with detailed price, cost, and profitability comparisons present a challenge for those who defend the investigated undertakings against the TCA. As the most recent and financially detailed case, the *Çelebi Bandırma Port*[1] decision is presented to illustrate the economic arguments behind the reasoned decision.

Accordingly, especially for the defendant port companies, economic arguments should be meticulously prepared, touching upon all relevant financial parameters of the case. The aim of this article is to provide an example for possible defendant port companies by means of a simulation environment so they can examine the provided equations and determine whether their prices can be deemed as excessive by the TCA.

The article exhibits a hypothetical example regarding a port alleged to practice exorbitant pricing in its container handling services. This example shows how to analyze an excessive pricing claim by considering all relevant financial considerations, such as the cost of capital used in financing the initial layout for the privatization payment, the effect of future investments, and a comparison of the port under complaint with its competitors. Using the net present values of revenue and cost data, and opportunity cost calculation methods, the hypothetical example shows both sides of the arguments in excessive pricing claims.

If the increased tariffs were realized with better operational performance, while evaluating the excessive pricing claim, one must also consider the realized gains in efficiency compared to the port's own operations before the privatization and its competitors' operations in general. Also, because the money spent on investment is cited as one of the main causes of tariff increases, the cost structure and whether the port's spending was concomitant with the necessary investments should be analyzed. We hope that by constructing a hypothetical example albeit resembling past cases, the presented arguments and inferences will be

[1] Competition Board, *ÇELEBİ BANDIRMA PORT*, decision no. 18-38/618-299, 11 October 2018.

beneficial for port users and privatized port managements in realizing how the Competition Board makes its decisions in excessive pricing cases.

Part I: Introduction

1.1 The Need for Privatization of Ports in the World

While ports around the world were mostly built, owned, and operated by states, the new understanding in economic management has forced governments to find viable alternatives for inefficiently run state-owned commercial ports. Once, these public ports connected countries via sea routes, decreased transportation costs, and contributed to the economic development of the countries: With time, port managements became politicized or bureaucratized, hired employees without considering their skill levels or its effect on total costs, causing the service quality to decrease, costs to rise, and created unproductive monopolies.[2]

As the efficiency of most public ports decreased, port managements searched for alternatives that could adapt to market conditions and found the answer in the privatization of the ports. Privatization was thought to be a solution enabling the governments' port management authorities to be only in charge of port administration as a regulator and not be responsible for subsidizing ports to fulfil commercial and sociopolitical goals that were no longer efficient.[3]

Privatization is defined as the transfer of port assets from the state to the private sector and using private equity for investments in port facilities, equipment, and systems.[4] One of the most important reasons for the privatization of the ports was to utilize the private sector's know-how in handling cargo loads which became the cornerstone of the seaborne transportation mode. Efficient and swift cargo handling in containerized units required high technology with specialized equipment that could be supplied with private firms' capital.[5] Also, outdated working conditions, obsolete port equipment and facilities that required governments to spend a considerable amount of their budgets to renovate and invest in port infrastructures forced the states to privatize the ports. The World Bank stated that the

[2] Asian Development Bank (2000), Developing Best Practices for Promoting Private Sector Investment in Infrastructure, Manila, p. 19, available at: http://www.adb.org/Documents/Books/Developing_Best_Practices/Ports/default.asp

[3] UN ECLAC (1999), "Port Modernization: A Pyramid of Interrelated Challenges, Transport Unit of The International Trade, Transport and Financing Division," p. 23, available at: http://www.eclac.cl/publicaciones/transporte/1/lcg2031/lcg2031i.pdf.

[4] UNCTAD (1998), "Guidelines for Port Authorities and Governments on the Privatization of Port Facilities, Antwerp," p. 1.

[5] World Bank (2006), The Port Reform Toolkit, Second Edition, Washington, DC, page 107-109, available at: http://www.worldbank.org/transport/ports/toolkit.htm

complex bureaucratic structure, weak cash flows, incompatibility with market trends of government-owned ports made them unable to meet the needs of the sector.[6]

As the globalization of trade requires global supply chains, ports became more important, playing the role of transportation hubs for incoming and outgoing supplies, mainly in containers. Global container operators and container terminal operators make investments in port acquisitions to satisfy the increasing demand and increase their shares in the growing seaborne transportation sector.[7] These developments also forced governments to restructure their conveniently located ports as container terminals with the help of these specialized global container companies' investments.

1.2 The Port Services Sector in Turkey

The operating rights of public ports in Turkey belong to the TCDD[8] and TDİ.[9] The TCDD ports are managed and operated by port directorates under the Ports and Ferryboat Department of the TCDD.[10] There are currently 179 ports in Turkey. Out of these ports, 21 are operated by the TCDD or TDİ, 23 ports by municipalities, and 135 by private enterprises.[11] On the other hand, the regulation and inspection authority of private and state-owned ports' operations and investments are vested upon the Ministry of Transportation and Infrastructure. In this regard, the task of determination of the general goals, strategies, and plans pertaining to ports is carried by the Ministry.

1.3 The Privatization of Ports in Turkey

The lack of container handling investments, the bureaucratic structure of public ports, and missing railway connections even in some TCDD ports led public authorities to the privatization process of the state-owned ports. [12]

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[6] Ibid., pp. 107-109.

[7] Ece, N.J., 2016, "Growth Strategies for Global Container Terminal Operators in the Competitive Container Market," Sea News, no. 28, 12-18, İstanbul.

[8] TCDD is the abbreviation for Turkish State Railways, a government-owned national railway company responsible with the ownership and maintenance of railway infrastructure in Turkey, as well as the planning and construction of new lines.

[9] TDİ is the abbreviation for the Turkish Maritime Organization, a government-owned national maritime company responsible for the operation of certain harbor and shipyards in Turkey.

[10] Sesli Evren, Competition during and after the Port Privatization Process, The Turkish Competition Authority, Master Thesis Series No. 89, 2008, p. 67.

[11] Turkish Chamber of Shipping (DTO) (2015). 2015 Maritime Sector Report, Istanbul, 2015, p. 70.

[12] EDAM (2007), Second Generation Structural Reforms: Deregulation and Competition in Infrastructure Sectors: Evolution of Telecommunications, Energy and Transportation Sectors in Turkey in Light of Compliance to European Union, Istanbul, p. 180.

Port privatizations are carried out pursuant to Articles 15 and 37 of Law No. 4046 on Privatization Practices, adopted on 24 November 1994. In line with the conditions of these articles, the right to property is granted or rented for a certain period to the private sector by other similar methods, except for the transfer of ownership, without prejudice to the right of ownership.[13]

As TCDD ports do not have autonomy on using their own earnings, although the ports were profitable, the profits could not be utilized in financing the infrastructure investments. In addition to that issue, outdated information technology and management information systems compared to modern enterprises in Turkey, insufficient port marketing and promotion strategies were the main reasons for the port privatization decisions in Turkey.[14]

Beginning from 1997, the TDİ ports of Hopa, Rize, Giresun, Sinop, Antalya, Marmaris, Alanya, Çeşme, Kuşadası, Trabzon, Dikili, Salıpazarı, Tekirdağ, Kemerköy, and Tekirdağ were privatized by the transfer of operating rights method.[15] After 2007, the TCDD ports of Mersin, Bandırma, Samsun, İskenderun and Derince were privatized, again by the transfer of operating rights method. The concessions were granted to private undertakings for over 30 years.[16]

1.4 Container Handling Services

The increase in demand regarding carrying a load from a port to a destination or handling the load in the port to transfer it to another mode of transportation or readying it for the customer to pick up is derived by the demand in trade in general. The underutilization of Turkish ports in handling containers with the growing export/import activity of Turkey helped the number of handled containers increase during the last decade. As can be seen from the below graphic, during 2009 and 2018, the number of containers in TEU[17] units grew, from 4.40 million in 2009 to 10.84 million in 2018, almost 2.5 times with respect to 2009 figures, in a decade.

[13] Sesli Evren, Competition during and after the Port Privatization Process, The Turkish Competition Authority, Master Thesis Series No. 89, 2008, p. 70.

[14] TSKB (Industrial Development Bank of Turkey) (2005), Port Operations Sectoral Analysis, Directorate of Economy and Research, p. 17; and Akarsu, M. ve S. Kumar (2002), "Turkish Container Ports: An Analysis of Problems and Potential Opportunities", pp. 6-7; IAME International Steering Committee, Panama, available at: http://www.eclac.cl/transporte/perfil/iame_papers/proceedings/Akarsu_et_al.doc.

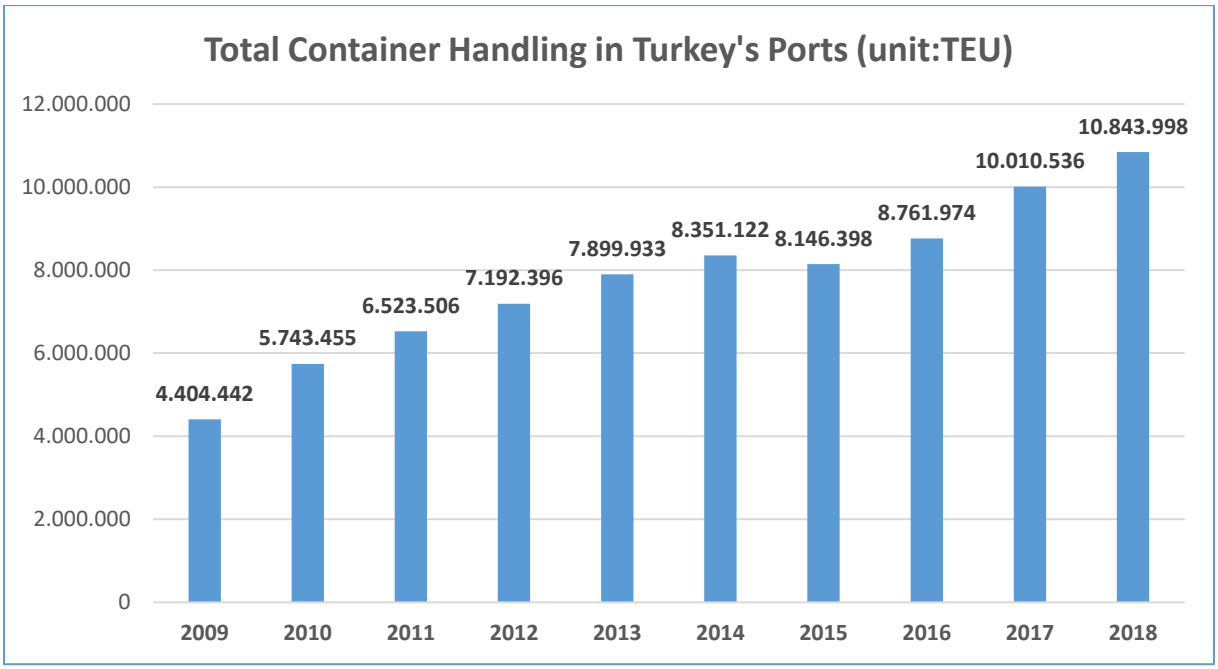
[15] TDI, available at: https://www.tdi.gov.tr/isletme-hakki-devir-yontemi-ile-ozellesen-limanlar/

[16] Ece, Nur Jale and Alkan, Güler Bilen, Privatization of Ports: Participation of Global Container Terminal Operators in Port Operations, p. 193. The Second Global Conference on Innovation in Marine Technology and the Future of Maritime Transportation, 24-25 October 2016, Bodrum, Muğla.

[17] TEU is one of the most common standardized container types. It is based on the volume of a 20-foot-long (6.1 m) intermodal container, a standard-sized metal box which can be easily transferred between different modes of transportation, such as ships, trains, and trucks.

Compared to 2010, the increase was 1.88 times in 2018. The World container traffic[18] in TEU units increased from 560 million to 793 million in 2018, almost 1.42 times compared to 2010 figures. The rate of increase in container traffic in Turkey is higher than that of the world average.

The ports use automated equipment and high-capacity cranes to load and unload the containers to and from ships. Storing the containers in the terminals and retrieving them to load onto other modes of transportation or unload them and transfer the empty ones to the ships are major planning issues for the port operators and container companies. Swifter handling of containers decreases the average waiting time for the ships, which is a major cost item in shipping. The buyer of the cargo transported in containers also requires on-time deliveries. The whole container transportation process is a major revenue item for the port operators. For many exported goods, a smaller freight cost is a competitive advantage for the exporting companies. For the port user, an increase in container handling prices will cause an increase in its sales prices or decrease its profitability while increasing the port operator's revenues. If the increased port tariffs can not be passed on to the end customers, the port service users will begin to lose money. The economic interests of the port operating companies and port service users should be reconciled, or the port service users will file a complaint before the TCA.



Graphic-1: Number of TEU Units Handled during 2009-2018 (Source: General Directorate of Maritime Trade - Department of Economic and Sectoral Analysis)

[18] Source: United Nations Conference on Trade and Development, available at: https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=13321

Part II: Excessive Pricing Theory and Related Cases

2.1 Brief Information about Excessive Pricing Analysis

According to the definition used in modern industrial economics, excessive price is defined as "a significant and lasting price charged to products/services above the competitive level because of dominant market power."[19] In practice, the general trend in specifying a pricing behaviour as excessive or not lies in evaluations concerning the reasonability relationship between the "economic value" of the product or service and its "price."[20] If the product or service is charged without any meaningful relation to its economic value, the case for excessive pricing is strengthened. In this regard, the Competition Board generally uses the Economic Value Test (**"EVT"**) to determine whether the prices are excessive. The EVT method is based on the approach used by the CJEU in the *United Brand of Company v. Commission (1978)* case and later this approach is clarified in the EC's *Port of Helsingborg (2004)* case.

The EVT employs a two-staged test to investigate excessive price claims. The first stage includes the Price-Cost Difference Test. In this stage, the difference between the actual price and actual incurred cost of the product or service subject to the excessive pricing claim is analyzed to see whether the difference is normal or extreme. If an excess above normal value is detected, the second stage of the test is implemented. The second stage of the test is called the Price Comparison Analysis. This analysis compares the prices of the investigated company with its own prices charged in different time periods and with its competitors' prices, thus analyzing whether the prices are excessive. In the Price Comparison Analysis, a product/service price subject to an excessive pricing investigation can be compared by price, geographic location, what type of consumer, in different time periods. This price comparison also can be made with the prices of competitors operating in the same market, other undertakings operating in competitive markets, or another company that is dominant in another geographic location. Moreover, when it is not possible to conduct a price-cost test, excessive price determination can be made by using solely the Price Comparison Analysis.[21]

2.2 Criticism of the EVT

Discussion about using the EVT to determine excessive prices focuses on which cost items will be used in the price-cost margin calculation and how to define a reasonable profit margin. There are some difficulties in implementing accounting methods to calculate costs that are essential to comparing prices and costs for multi-product manufacturing undertakings active

[19] R. Donoghue and J. Padilla (2006), *The Law and Economics of Article 82* (Oxford and Portland, Oregon: Hart Publishing), p. 604.

[20] Judgment of the Court of 14 February 1978, United Brands Company and United Brands Continentaal B.V.v Commission of the European Community Case 27/76, United Brands Company v. Commission [1978], Summary para. 9.

[21] Competition Board, *TÜPRAŞ* full-fledged investigation decision, no. 14-03/60-24, 17 January 2014.

in different markets. Some methods are developed to allocate joint costs and general expenses to different products, but none of these methods yields satisfactory results.

Also, there is a question as to which cost should be used in calculations, the investigated undertaking's cost, or the most effective company's cost in the relevant market. On the other hand, in its United Brands decision,[22] the CJEU stressed that the incurred costs alone related to supply-side factors are not sufficient to determine the economic value of the product or service, and peculiar characteristics of the case and demand for the product/service should be factored in.

One of the difficulties in the first step of EVT is to determine how much of the profit margin will be excessive. The special circumstances of the investigated undertaking's market, the necessary level of investments, sunk costs, and opportunity costs also should be considered in calculating the reasonable profit margin. Even if all these considerations are considered, a price-cost comparison can not yield satisfactory results for all sectors all the time. Therefore, as the first stage of the test is not sufficient to decide just by evaluating the findings in that stage, the second stage of EVT, which is price comparison, should be employed.

2.3 The Board's Approach to Regulated Markets Regarding Excessive Pricing

According to the Competition Board, it is not possible to conclude that an excessive price can not occur in regulated markets or regulated markets can not be scrutinized according to competition law. Therefore, the Board evaluates that it is always probable that there will be some cases in which the regulating authorities do not intervene although they should. The Council of State stated in its decision[23] that the Competition Board's authority has not been abolished and the Board is still empowered to investigate competition law violations in cases where the investigated market's prices are regulated by a regulating authority.

[22] CJEU, *United Brand* decision, no. 27/76, 14 February 1978.

[23] The 13th Chamber of Council of State, 2008/14245 E., published in *Council of State Journal Year*: 2012, no. 131, pp. 243-265)

PART III: Major Excessive Pricing Case in the Port Services Sector

3.1 The Çelebi Bandırma Port Decision[24]

3.1.1 The Nature of the Complaint

According to the Competition Board's decision,[25] a preliminary investigation was opened against Çelebi Bandırma Uluslararası Liman İşletmeciliği A.Ş.[26] ("Çelebi Bandırma Port," "Bandırma Port," or "Port") to determine whether the Port had violated Article 6 of the Competition Law by way of charging excessive pricing to Ro-Ro[27] ship companies while providing relevant port services. Further to the preliminary investigation, the Competition Board opened a full-fledged investigation against the Port, in line with Article 41 of the Competition Law.

The alleged claim ("application") was made by a Ro-Ro ship company carrying wheeled heavy vehicles operating on the Ambarlı-Bandırma line. The application briefly contained the following:

- Bandırma Port was operated by the TCDD until 2010, upon which the operation rights were transferred to Çelebi Holding;

- Çelebi Bandırma Port charges fees to its Ro-Ro service users, namely Ro-Ro ship companies, while loading and unloading, and the tariffs are in USD terms per vehicle. Ro-Ro ship companies then pass on the Port fees to the vehicles using its carrying services. The Ro-Ro carriers pay an extra fee for mooring and sheltering.

- After the privatization of Bandırma Port, per vehicle fares increased much more than the annual inflation rate.

- During 2010-2017, the price increase was 87.50% in USD term and 34.70% in TRY term.

[24] The Competition Board's 11 October 2018 dated and 18-38/618-299 nr. *Çelebi Bandırma Port* full-fledged investigation decision

[25] The Competition Board's 06.04.2017 dated and 17-12/152-M nr. *Çelebi Bandırma Port* preliminary investigation decision

[26] The port belongs to Çelebi Holding, which is controlled by the Çelebi family.

[27] Ro-Ro is the abbreviation for Roll-On/Roll-Off and is used to denote commercial ships usually carrying trucks, and TIRs loaded with goods to be transported to their destination. The wheeled cargo enters and exits the Ro-Ro with its own wheels. Ro-Ro ships are specially constructed to carry load and unload the vehicles. Advantages of Ro-Ro transportation include speed delivery of cargo and cost efficiency against using highways. Ro-Ro transportation is most economic for distances up to 1800 miles. In terms of required port services, as the needed handling is very limited and the waiting time of the loads at the ports is short, the related port costs are low. The main disadvantages of Ro-Ro transportation are high costs of fuel for high-speed and maneuverable Ro-Ro ships and the need for special ports for berthing.

- Çelebi Bandırma Port should determine the cabotage line (domestic sea operations through Turkey's ports) fares below the highway driving costs.

- Although Ro-Ro carriers' revenues are in TRY, Çelebi Bandırma Port's fares are pegged to USD. Because of the appreciation of USD against TRY, the Ro-Ro carriers have lost money every year since the privatization of Bandırma Port.

- Bandırma Port is the only port opening to the Aegean region that can be used by Ro-Ro carriers and there is no other port in which Ro-Ro ships can berth in the South Marmara region.

- Informed by the price increases in Bandırma Port, other port operators also increased their prices above the inflation rate.

3.1.2 Information about Çelebi Bandırma Port

Çelebi Bandırma Port's operations include combined load transportation with railways, mainly dry bulk cargo, general cargo, liquid bulk cargo, and project cargo.[28] The port services also contain Ro-Ro transportation services, live animal shipping, vehicle handling, and container shipping, with related seaside operations.

In accordance with the Concession Agreement regarding the Transfer of Operating Rights of the TCDD Bandırma Port for 36 years ("Agreement") signed by the Directorate of Privatization and the TCDD, Çelebi Bandırma Port holds the operating rights of Bandırma Port.

3.1.3 Dominant Market Power Analysis and Relevant Market Determination

The subject of the investigation was to conduct an inquiry into whether Çelebi Bandırma Port, in the context of Competition Law, had implemented excessive pricing for services provided to Ro-Ro ships. Article 6 of Competition Law prohibits "*the abuse, by one or more undertakings of their dominant position in a market for goods or services within the whole or a part of the country on their own or through agreements with others or through concerted practices*."

Activities specific to this case, which were mentioned in the complaints, correspond generally to the abuse of dominant market position as stated in Article 6 of the Competition Law, and especially the type of abuse defined as exploitative competition practices by excessive pricing.

Considering the highway transporters' responses using Ro-Ro sea lines, it has been decided that highway transportation is not a substitute for chartered Ro-Ro maritime transportation carrying wheeled and mobile loads. In addition, it is understood that highway transporters will not switch to highway transportation mode in case of a small, steady price increase. Thus, the relevant product market is defined as Ro-Ro transportation services without including

[28] Project Cargo transportation is defined as the transportation of special loads and equipment such as wind energy turbines.

highway transportation. Because the claims of this investigation pertain to Bandırma Port's services to Ro-Ro ships, the relevant product market is determined as "Port services for Ro-Ro ships."

The relevant geographic market is determined as the Aegean, Southern Marmara, and West of Central Anatolia regions.

According to the relevant market definitions, the Ro-Ro lines pertaining to the market were the Tekirdağ-Erdek, Tekirdağ-Bandırma, and Ambarlı-Bandırma lines, and Southern Marmara arrival and destinations are provided through Erdek and Bandırma Ports. Considering the comparisons between these ports, the Competition Board decided that Bandırma Port has a dominant market position in the relevant market.

3.1.4 Summary of Defense made by Çelebi Bandırma Port

The following are main points of the summary of defense made by the Çelebi Bandırma Port management regarding mainly the economic issues of the case:

- The reason behind the price increases beginning from 2010 has been the continuous investment made for the Port, mostly for the upkeep of Ro-Ro piers and area. According to the agreement made with the TCDD, Çelebi Bandırma Port should make investments in the Port. In the near future, Çelebi Bandırma will make an additional investment mostly for the Ro-Ro service area under the supervision of the TCDD and the Ministry of Transport and Infrastructure; and at the end of operating term, Çelebi Bandırma Port will transfer the Port to the TCDD, including all procured equipment.

- Ro-Ro piers are designated areas and can only be used by Ro-Ro ships, not for other uses that could earn revenues for the Port.

- The Ro-Ro service area consists of 1/3 of the total Port area and yet provides only 10% of total Port revenue.

- Çelebi Bandırma Port notifies the TCDD before price increases, and it is not possible to discriminate against or in favour of an undertaking under the agreement signed with the TCDD. The TCDD has a wide span of control in these terms.

- Çelebi Bandırma Port must make new investments to the Port to upgrade its facilities. The realized separate Port services revenues should be profitable enough to enable the Port management to set aside provisions for future investments for those separate port services. Beginning from 2021, USD 15 million worth of investment will be made for the Ro-Ro service area. When this investment's a certain portion is allocated to the Ro-Ro service area as a cost item, the net profit will decrease further.

- Reevaluation of fixed assets to carry them at their revalued amounts in accounting books is not applied to the depreciation costs of USD-based fixed asset investments. On the date of recording USD-based depreciation cost, the accounting books show the TRY conversion value of the depreciation costs. The net effect in the cost structure is positive as the reevaluation of the assets would most likely increase the depreciation costs. Combined with the USD-based port tariffs, these matters increase the profitability of the port which might be deemed as excessive without further financial investigation.

- During the 2012-2017 July period, the highest amount of profitability earned by Ro-Ro services was below the risk-free interest rate that could be earned by depositing the money in a commercial bank. This comparison shows that no excessive pricing is possible with these low profitability values.

- Çelebi Holding did not have the authority to dictate Port prices and the prices were set by the TCDD for the first 3 years of Port operations. After three years of having obtained the concession rights of the Ports, the prices were subject to the TCDD's approval and since then Çelebi's Port prices have been under the strict control and supervision of the TCDD. Thus, excessively pricing of Port services is not possible.

- If Çelebi Bandırma Port had implemented excessive pricing, this would have encouraged new entrants into the port market.

- The prices seem high because the amortized concession rights payments and operating costs are high.

- Because of the Bandırma Port's structural differences in comparison to other ports, Bandırma Port faces some atypical costs, which should be allocated to Ro-Ro service prices due to the direct relation of these costs to Ro-Ro services.

- While deciding about excessive pricing, one should not only consider costs as this decision will make use of only the supply side of the services. Demand-side evaluations are also important because Bandırma Port's features and its value according to the Port users can explain the prices compared to those of the other Ports. Çelebi Bandırma Port is preferred both by Ro-Ro ship carriers and transportation companies for its location and various other ancillary services and thus is economically valuable in the eyes of those users. As the Port is economically more valuable than other ports, it is reasonable to charge higher prices compared to other ports.

3.1.5 Economic Analysis

To assess whether Çelebi Bandırma Port implemented excessive prices, an economic Analysis Report was prepared by the TCA's Department of Economic Analysis and Research ("**EAAD**").

The report delves deeper into the pricing practices of Bandırma Port and investigates whether any excessive pricing was implemented during 2012-2017 July.

The EAAD thought that the best analysis method while investigating the claim made by Ro-Ro ship carriers alleging Çelebi Bandırma Port charged excessive prices for Ro-Ro port services would be the Economic Value Test (**"EVT"**)

In line with EVT methodology, first Bandırma Port tariffs and their relations between unit costs were evaluated. Subsequently, Bandırma Port's unit prices, unit costs, and differences between unit prices and unit costs were compared to those of its competitors operating in the same geographic location while taking into consideration that Bandırma Port and its competitors have different price and cost structures.

After evaluating the relevant cost allocation methods, the EAAD decided to use the Fully Distributed Cost (**"FDC"**) method as it is more practical. This method shows the causality relation of costs to Ro-Ro port services more accurately than the other methods, especially in this case. In the FDC method, the full cost of a product is calculated by adding fixed and variable costs directly related to the product with allocated portions of joint and general costs indirectly related to the product. First, the direct costs are charged to the product and then joint and general costs are allocated to the product with specific distribution procedures. In this regard, 25% of the Port's fixed costs are deemed as the fixed costs of Ro-Ro services, as Ro-Ro services take place in 25% of the overall port area. The same percentage is used while allocating the Port's total depreciation, insurance, amortized concession right payment, and finance costs to Ro-Ro service costs.

The Relative Revenue Method is used to analyze the variable costs of the Port. In this regard, because the percentage of Ro-Ro services revenue in total port's revenue changes every year during 2012-2017, those annual different revenue percentages were employed in cost formulae.

3.1.6 Opportunity Cost of the Equity Capital

At this point, the EAAD determined Çelebi Bandırma Port's request for an evaluation, taking into consideration the opportunity cost of the equity capital paid for obtaining the concession rights of the Port. Çelebi Bandırma Port claimed that this cost stemming from not investing the equity in an alternative risk-free investment should be added, proportional to the Ro-Ro service area, to the accounting costs of the Ro-Ro port services. In the economic analysis of Çelebi Bandırma Port's defense, while calculating the alternative interest rate revenue, the future value of the equity capital paid for the concession rights of the Port for the next 36 years was found by employing the compound interest method. Then by utilizing the net present value method, the alternative revenue's present value was calculated. This alternative revenue is allocated to the Ro-Ro port services with respect to the Ro-Ro area percentage in the total Port area.

If a company finances investment with a bank loan and debt, the principal amount that is borrowed and its interest can be written as cost items in the cost of accounts. On the other hand, if the same investment is wholly or partially financed with equity, the cost of using equity will not be listed as a cost item. As using equity to finance an investment creates a cost even if it is not listed in the cost of accounts, this type of financing should be considered in this regard. Otherwise, using equity to finance an investment compared to using debt will be deemed as costless, which is wrong. In case the cost of equity is included in calculations, how this cost will be allocated, and which interest rate will be used should be addressed. From this perspective, the EAAD decided that, in terms of procedural economy, the cost of using capital to pay a portion of obtaining the concession rights of Bandırma Port was not included in the economic analysis, and if a negative finding against Çelebi Holding came up, the cost of capital would be included in the analysis.

3.1.7 Analysis of Çelebi Bandırma Port's Prices

To understand if these prices are excessive and how these increased prices reflect costs that varied during this period, a comparison is made between yearly tariffs and unit costs. Because the cost data of Bandırma Port is prepared annually, the USD prices are converted to TRY by using annual average currency rates.

Despite the price increases in Ro-Ro services, the costs were above the charged prices until 2017. But as per the Competition Board's *Belko* decision,[29] even if the prices are below the costs, this does not mean that prices can not be assessed as excessive. So, to further the analysis of whether the Port implemented excessive prices, the Ro-Ro port service prices are compared to in and of themselves and those of competitors as the second stage of the EVT.

Although the Ro-Ro service prices increased during 2012-2017, costs remained above prices until the end of 2016, when costs and prices were break-even. After 2017, the Port earned profit. As a result, the EAAD decided that Bandırma Port's tariffs and its comparison with costs did not indicate excessive pricing.

3.1.8 Comparison of Çelebi Bandırma Port's Prices with Those of Other Marmara Region Ports

In this part of the evaluations, nine ports located in the Marmara region providing Ro-Ro services (Akçansa, Kumport, Martaş, Tekirdağ, Erdek, UN Ro-Ro, Haydarpaşa, Borusan, and Gemport) and Bandırma Port are analyzed together in terms of price and profitability.[30] Some of these ports arrange shuttle Ro-Ro services with Bandırma Port, while others provide international Ro-Ro transportation. This method is preferred to include as many ports as possible from the southern and northern Marmara region. While making the comparisons, the distinction between Ro-Ro servicing ports and international Ro-Ro transportation ports was

[29] Competition Board, *Belko* full-fledged investigation, no. 01-17/150-39, 6 April 2001.
[30] Profitability is simply defined as price minus cost in this analysis and it does not express its true meaning in accounting.

considered. The analysis made comparisons separately for all the nine ports and only for shuttles servicing Ports with Bandırma Port.

To summarize the findings, according to calculations and analyses, Bandırma Port's unit prices during 2012-2017 July were below the average unit prices of the observed group (all nine ports) in both USD and TRY terms. However, Bandırma Port's unit prices were above the average unit prices of the Ports which arrange shuttle services, in both USD and TRY terms. Despite its high prices, excluding 2014, Bandırma Port never implemented the highest price among the Marmara region Ports during 2012-2017 July.

When all the observation group's prices were analyzed in terms of USD, it could be seen that the price increase in USD was much lower than the price increase in TRY. This fact proved that all ports, including Bandırma Port, charged their service users higher prices in TRY because of that currency's depreciation against the USD during 2012-2017 July. Considering these observations and analyses, the Price Comparison Analysis in which the unit prices of Bandırma Port and other ports' unit prices were compared did not support the claim that Çelebi Bandırma Port implemented an excessive pricing policy.

3.1.9 Comparison of Çelebi Bandırma Port's Profitability with Other Marmara Region Ports

Bandırma Port's unit profitability calculated by subtracting unit cost from unit price was compared to other ports' unit profitability in the observation group. While computing the unit costs, a fully distributed cost methodology, used in finding Bandırma Port's Ro-Ro service costs, was employed, and the fixed costs of the Ports were allocated to Ro-Ro services according to the Ro-Ro service areas' percentages in total Port areas. The variable costs of the Ro-Ro services were allocated according to the revenue share of Ro-Ro services in total Port revenues. After finding the costs of Ro-Ro services for each Port, the number of loaded/unloaded vehicles per year was divided by the difference between price and cost to calculate the unit profitability of the Ports.

According to the calculated unit profitability values of the ports for each year, it was seen that the average unit profitability of the ports was positive only for 2017, whereas the unit profitability was negative for the other years.

Bandırma Port's unit profitability values are compared to those of Marmara region Ports (excluding Bandırma Port) which arranges shuttle service with Bandırma Port and separately to all the ports in the observation group. These comparisons showed that until 2016, the unit profitability of Bandırma Port was below the average of that of the Marmara region Ports and the observation group. Only in 2016 and 2017, did Bandırma Port's unit values exceed the average of Marmara Region and observation group Ports.

By elaborating on these results of the difference between price and cost comparisons, and based on data used in the analyses, the Competition Board decided it was not possible to make an economic inference arguing that Bandırma Port had implemented excessive pricing during 2012-2017 July.

PART IV: Hypothetical Economic Analysis of a Port Regarding a Fictional Excessive Pricing Complaint

4.1 Introduction

A hypothetical example was prepared to show whether the pricing of port services for container handling constituted a violation of the Competition Law by implementing excessive pricing policy and hence abusing a dominant market position pertaining to a fictional Port. The employed methods resemble previous analyses made by the TCA, but the hypothetical economic analysis uses a representative Port's constructed financial data. The major goal of this mock investigation is to create an economic case of a fictitious excessive pricing complaint and use it as a vehicle to better understand the rationale behind excessive pricing decisions.

The hypothetical port will be called "Container Port." We assume that in accordance with a Concession Agreement, the Container Port holds the operating rights of once a state-owned port located in a suitable geographical location for exporters and importers to use the port facilities to transport their cargo with containers. The Container Port is deemed to have a dominant market position because of its better-equipped container handling operations and connections to railroads and highways, facilitating easier intermodal transportation. The Container Port also provides Ro-Ro and bulk cargo handling services, which constitute a share of its revenues secondary to its container handling services.

The analysis includes **(i)** a comparison of Container Port's operating, general, administrative, and finance costs allocated to container services and its pricing during 2014-2018 to analyze whether the service profits are excessive, and **(ii)** evaluation of the economic value of the port and comparison of its prices and profitability with competitor ports serving the same hinterland.

4.2 Brief Summary of the Methodology Used in the Report

A summary of the methodology in the Economic Analysis Report is stated below:

- Comparison of Container Port's overall revenues and costs with the revenues and costs of port services for container handling is carried out.

- Evaluation of port service profitability is realized.

- Comparison of realized profit with the expected profit of the shareholders, considering the foregone interest revenue **("alternative interest revenue")** because of the equity payment made to obtain the rights of operating the Container Port is evaluated.

- Overall, the amortization/depreciation, finance, insurance costs and payment for the long-term concession agreement made with the Privatization Administration to operate the Container Port are allocated to container services based on the area of the

container handling services in the total Container Port area, whereas general management costs are allocated based on container handling operations' revenue share in total Container Port revenues. By analyzing the allocated costs of container handling services, the unit container handling profitability will be evaluated for the 2014-2018 period regarding each year and in total value. The realized profits will be recalculated with the foregone alternative interest revenue.

- All revenue, cost, and profit analyses are calculated according to the net present value method considering the inflation rate as announced by the Turkish Statistical Institute **("TÜİK")** in the annual Consumer Price Index numbers**.** The costs and revenues are discounted with the annual inflation rates and 2014 January is used as the base month of the present value after which the financial transactions are discounted back to their present value. As the overall port profitability is low in USD terms and retained earnings will be used for future investment needs, no interest revenue is calculated for the profitable years while using the net present value method. Profits calculated using net present value method is compared to the reasonable profit expectations of the shareholders while reckoning with the alternative interest revenue.

4.3 Explanation of the Cost Allocation Method

While determining the pricing policy of Container Port services, the port management evaluates many long and short-term financial factors such as operating costs, the economic value of the port, the alternative interest revenue of the equity payment made for the concession right, and provisions for future expansion and upkeep investments.

Port service prices are usually calculated by adding a profit value or percentage to port costs as part of usual business practice. If the hypothetical Container Port charged one uniform price for all different port services, cost allocation would not be of paramount importance. Port service user expectations and market rates dictate that different services should have different pricing. This will create a need to prepare a breakdown of costs specific to different services as well as finding an allocation method for indirect, fixed, and general costs. Differently priced services would need accurately allocated costs to calculate separate profits and profitability rates for various port services. While structuring a price list for different port services, the Container Port management will use a reasonable method to allocate these indirect costs to specific port services along with directly related costs.

After calculating the specified cost for a port service, the Container Port management will be able to add a profit to the calculated cost and determine the price of the port services differently.

Container Port service costs have three characteristics:

- direct costs,
- general port costs, and

- distributed costs.

As can be seen from the below table, these cost categories consist of sub-items that will be explained in a later section.

Table-1: Cost Items related to Container Handling Services
Container Port Services Cost Items
A. Direct Costs
1. Personnel Costs
2. Electricity used by Container Handling Services (this cost item has direct and indirect components)
3. Direct Services (cleaning, security, terminal operations, etc.) (this cost item has direct and indirect components)
4. Fuel Costs
5. Maintenance Costs (the Container Port has a service ticketing system that tracks all maintenance jobs and allocates them to port service centres)
6. Materials Cost (the Container Port has a tracking system that tracks all the materials used for port service centres and allocates them to respective service centres)
7. Customs, Duty and Tax Costs (these costs are borne by the container handling operations so the incurred costs are allocated to container handling service centre)
B. General Port Costs
8. Depreciation
9. Insurance costs
10. Amortized concession payment costs
11. Related finance costs
C. Distributed Costs
12. General Management costs

4.4 Direct Costs

Direct costs can be linked directly to container handling port operations such as employees working for container handling services, electricity costs incurred while performing the services, and other direct costs of the container handling services. Although some of these costs are fixed during the period in which they are incurred, or variable with respect to the number of services or changes proportional to a cost driver, these direct costs are allocated to container handling services.

4.5 General Port Costs

General port costs are amortized concession costs, related finance costs, insurance costs, and depreciation costs borne out of the amortization of equipment, tools, and investments realized for the overall Port infrastructure. These costs incur independently from those of port

operation. No change occurs in these costs due to an increase or decrease in operations. If these general port costs are allocated according to the revenue shares of different port services, this means that these general costs' allocation base will be the yearly changing revenues.

Container Port services do not consume these costs' benefits proportional to their revenue shares in total revenues. For example, in one year, container handling port service revenues might be 45% of the overall port revenues, while in the other year, the revenue share might be 55%. If the general port service costs are allocated proportional to port service revenues, although these costs are not consumed according to revenue shares, this allocation would not be a financially wise method. The proper method would be to allocate these general costs to port services with a fixed percentage.

The equity payment made for the concession rights of the Container Port belongs to the port's overall cost structure. The finance cost stems from the bank credit used for the payment to the Privatization Authority to have the concession rights of the port. The allocation base of these port costs to container handling services would be the total container handling service area of the port in square meters. These types of costs show the characteristics of rent cost for the port area. Using this analogy, we can say that Container Port is operated, and the shareholders earn revenue during which they make one lump sum payment at the beginning of the lease and then monthly rent payments, that is, bank loan interest payments.

We assume that the container handling service area comprises 50% of the total port area. The allocated depreciation costs to container handling port services are those costs related to overall port investments annually. Their amortized annual depreciation costs do not change yearly. This nature of a port's depreciation costs, which are not related directly to container handling services, makes it easier to use a fixed allocation rate that does not change from year to year.

As a result, the allocation base for general port costs which will be distributed to container handling service costs is determined as 50%, which is the share of container handling service area in the total Port area.

4.6 Distributed Costs

Distributed costs, unlike general port costs, change indirectly according to port operations. For example, Container Port incurs general management costs, and this cost item can be allocated to different port operations proportional to their respective revenue shares in total port revenues. In this respect, the allocation base is determined as the container handling port services' yearly changing revenue share in total port operations revenue.

4.7 Net Present Value Method by Using Consumer Price Index

To arrive at a more realistic view of revenues and costs during 2014-2018, all financial figures are calculated by discounting their values with respect to January 2014. This method is used

primarily to evaluate the financial values by removing the effect of the inflation rate. . As Container Port is a service provider and not a manufacturing company, it does not have costs such as for raw material or production. Then, the proper index to use would be the Consumer Price Index ("CPI") instead of the Manufacturing Price Index.

Table-2: CPI Index (2014 January=100) (numbers are rounded

	January	February	March	April	May	June	July	August	September	October	November	December	Average
2014	100	100	102	103	103	104	104	104	104	106	107	106	104
2015	107	108	109	111	112	111	111	112	113	114	115	115	112
2016	118	117	117	118	119	120	121	121	121	123	123	125	120
2017	128	129	131	132	133	133	133	134	134	137	139	140	134
2018	142	143	144	147	149	153	154	157	167	172	169	169	155

Because of the inflation rate, the value of money earned in the future should be discounted to a reference point. This reference point is chosen as January 2014, when the investigation started to evaluate the revenues, costs, and profitability of Container Port. Just to give an example, let us say TRY1,000,000 is earned in January 2016. The net present value of the January 2016 revenue would be:

$$\text{TRY } 1{,}000{,}000 \times \frac{100}{118} = \text{TRY } 1{,}000{,}000 \times 0.85 = \text{TRY } 850{,}000$$

The 2016 January Revenue would be discounted by 15%, according to the 2014 January price index.

A more practical way to use the CPI index is setting the January 2014 value to 1 and adjusting the other values accordingly. So, for example, December 2014's index number 106 will be calculated as 100/106 =0.94. Container Port's revenue and costs for each month will be multiplied with respective coefficients in Table-3 and net present values will be calculated.

Table-3: Coefficient of CPI Index (2014 January=100) (numbers are rounded)

	January	February	March	April	May	June	July	August	September	October	November	December	Annual Average
2014	1.00	1.00	0.98	0.97	0.97	0.96	0.96	0.96	0.96	0.94	0.94	0.94	0.97
2015	0.93	0.93	0.92	0.90	0.90	0.90	0.90	0.90	0.89	0.87	0.87	0.87	0.90
2016	0.85	0.85	0.85	0.84	0.84	0.84	0.83	0.83	0.83	0.82	0.81	0.80	0.83
2017	0.78	0.77	0.77	0.76	0.75	0.75	0.75	0.75	0.74	0.73	0.72	0.71	0.75
2018	0.71	0.70	0.69	0.68	0.67	0.65	0.65	0.64	0.60	0.58	0.59	0.59	0.65

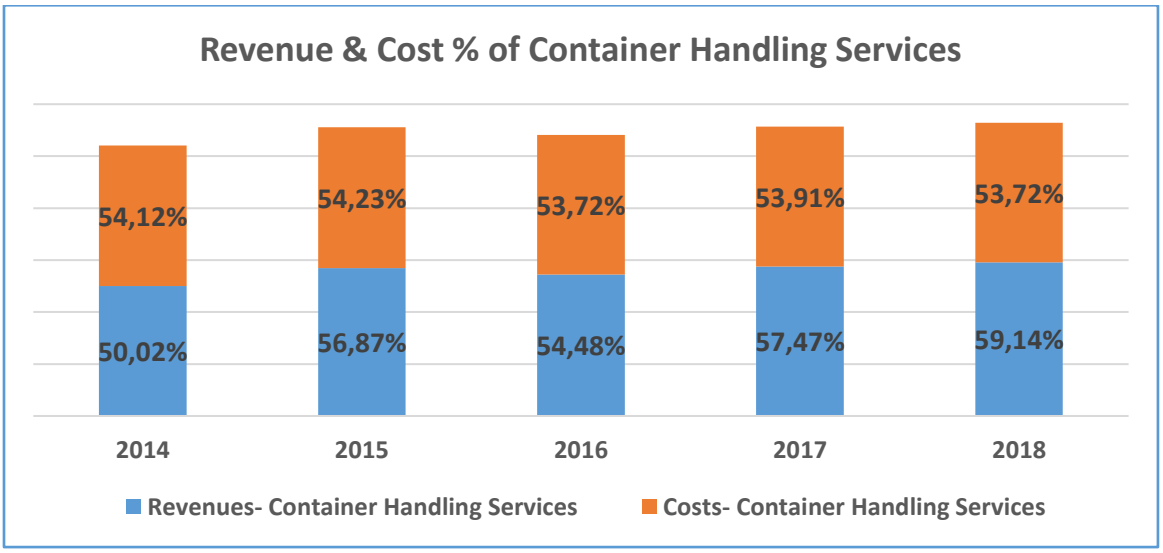
The revenue and cost table for container handling services of the Container Port calculated according to the Net Present Value (**"NPV"**) method are as follows:

Table-4: Cost and Revenue Table for Container Handling Services 2014-2018 calculated according to NPV method (Figures are in TRY)

COST ITEMS-Container Handling Services	2014	2015	2016	2017	2018
Personnel Cost	5,792,089	5,962,797	6,072,778	5,652,559	5,169,476
Electricity	247,129	247,478	249,566	261,278	264,103
Direct Services (sub contractors, security, cleaning services,	7,281,721	8,352,883	8,508,155	9,457,119	10,808,391
General Management	724,298	968,837	951,688	1,032,654	1,108,211
Depreciation	2,413,370	3,138,314	3,743,493	4,117,759	4,200,200
Insurance	675,744	650,079	665,510	617,664	581,566
Amortized concession payment costs	9,531,204	8,853,035	8,213,502	7,392,000	6,379,995
Finance Costs	4,585,404	7,621,620	8,734,818	10,855,909	14,539,152
Fuel Costs	468,194	591,796	669,669	627,397	746,343
COST ITEMS-Container Handling Services	**2014**	**2015**	**2016**	**2017**	**2018**
Maintenance Costs	164,109	197,265	191,334	187,171	210,01
Materials Cost	386,139	403,498	499,132	539,052	613,875
Customs, Duty and Tax Costs	289,604	331,765	341,074	366,855	355,401
Total Costs	32,559,005	37,319,367	38,840,719	41,107,416	44,976,725
Total Container Handling Revenues	24,326,772	37,121,772	44,339,598	54,024,992	68,550,487
Profit	-8,232,232	-197,595	5,498,878	12,917,576	23,573,762
Profitability (%)	-25.28%	-0.53%	14.16%	31.42%	52.41%

4.8 Revenue and Cost Percentage of Container Handling Services

One of the indicators of excessive pricing would be the relative increase of the container handling service revenue share according to its share of cost in total Port figures. If excessive pricing is implemented by increasing the container handling service prices, this would show itself in an increased share of container handling service revenues in total Container Port revenues and a decrease in the corresponding cost shares, thus compensating for possible losses of other Container Port services. For example, if the Port service revenue is TRY 4,000,000 and the Container Handling Service revenue TRY 2,000,000, then the share of the Container Handling service revenues is 50%. Suppose that during this period, Port service costs are TRY 3,000,000 and Container Handling service costs are TRY 450,000. This would mean container handling service costs are 15% of overall port costs. A revenue center providing 50% of the undertaking's revenues while incurring only 15% of the total costs would cast doubt on the pricing policy of the Container Port, suggesting container prices could be increased to subsidize the losses in other port operations. Contrary to this made-up example, in real terms, the cost-share percentage of container handling services were almost on par with its respective revenue share percentage for each year during 2014-2018. As excessive pricing should be part of a greater strategy that aims to increase overall port revenues and profits, the below graphic shows that current container handling services pricing does not constitute an abuse in terms of increasing the profitability of the overall Container Port services.



Graphic-2: Cost and Revenue Share of Container Handling Services during 2014-2018

4.9 Comparison of Port and Container Handling Services Profitability

Another indicator of excessive pricing would be obtaining higher profitability rates from container handling services compared to the profitability of the overall Container Port services. The summary income statement consists of revenues from the services and related costs from which the profit calculations are derived. Above normal prices would show in the realized profits. As you can see from Table 5, the profitability of container handling services is higher than the profitability of overall port services. The container handling unit prices thus should be analyzed further to evaluate whether excessive pricing is implemented.

Table-5: Port Summary Income Statement- Net Present Value (TRY)

	2014	2015	2016	2017	2018	2014-2018
Net Sales	49,116,912	65,949,429	82,140,561	94,828,236	116,820,472	408,855,609
Cost of Sales	28,738,413	32,427,751	34,839,444	36,221,301	38,338,129	170,565,038
Gross Sales Profit	20,378,499	33,521,678	47,301,117	58,606,934	78,482,344	238,290,571
Gross Sales Profit (%)	41.49%	50.83%	57.59%	61.80%	67.18%	58.28%
Operational Costs	31,418,863	36,392,488	37,457,116	40,029,604	45,385,848	190,683,920
Operational Profit	-11,040,365	-2,870,810	9,844,001	18,577,330	33,096,495	47,606,651
Operational Profit (%)	-22.48%	-4.35%	11.98%	19.59%	28.33%	11.64%
Profitability (%)	**-18.35%**	**-4.17%**	**13.62%**	**24.36%**	**39.53%**	**13.18%**

Table-6: Container Handling Summary Income Statement- Net Present Value (TRY)

	2014	2015	2016	2017	2018	2014-2018
Net Sales	24,326,772	37,121,772	44,339,598	54,024,992	68,550,487	228,363,622
Cost of Sales	16,752,751	18,894,031	19,934,129	20,842,334	22,012,399	98,435,643
Gross Sales Profit	7,574,021	18,227,741	24,405,469	33,182,658	46,538,088	129,927,978
Gross Sales Profit (%)	31.13%	49.10%	55.04%	61.42%	67.89%	56.90%
Operational Costs	15,806,254	18,425,336	18,906,591	20,265,082	22,964,326	96,367,588
Operational Profit	-8,232,232	-197,595	5,498,878	12,917,576	23,573,762	33,560,390
Operational Profit (%)	-33.84%	-0.53%	12.40%	23.91%	34.39%	14.70%
Profitability (%)	**-25.28%**	**-0.53%**	**14.16%**	**31.42%**	**52.41%**	**17.23%**

* Gross Sales Profit = Net Sales – Cost of Sales
* Gross Sales Profit (%) = Gross Sales Profit/Net Sales
* Operational Profit = Gross Sales Profit- Operational Costs
* Operational Profit (%) = Operational Profit/Net Sales
* Profitability (%) = Operational Profit/ (Cost of Sales + Operational Costs)

4.10 Unit Price/Profit Analysis

Unit Revenue is calculated by dividing the revenue from container handling services by the number of TEU containers handled in Container Port. As the container revenue is implicit in the full price charged to the port service users, the unit revenue will be equal to the unit price. As can be seen from Table 7, while unit cost decreased, unit price increased during 2014-2018. In terms of total profit, container handling services incurred loss in 2015 and 2016 and then made profits. Because the increase in unit price is greater than the increase in unit costs, the unit profit is also increasing. Although this table resulted in an increased and positive unit profit for container handling services, further analysis should be made to ascertain whether this profit rate is above or below the targeted (or expected) profit rate of Container Port that would guarantee covering the costs and returning a profit to the shareholders above the risk-free return from an alternative investment. The expected profit rate will be explained in later sections.

Table-7: Container Handling Unit Price/Cost/Profit- Net Present Value (TRY)

Container Handling (TRY)	2014	2015	2016	2017	2018	2014-2018
Total Revenue	24,326,772	37,121,772	44,339,598	54,024,992	68,550,487	228,363,622
Total Cost	32,559,005	37,319,367	38,840,719	41,107,416	44,976,725	194,803,232
Total Profit	-8,232,232	-197,595	5,498,878	12,917,576	23,573,762	33,560,390
Total Nr. of Containers	28	36	41	44	49	198
Unit Price	**868.81**	**1,031.16**	**1,081.45**	**1,227.84**	**1,398.99**	**1,153.35**
Unit Cost	1,162.82	1,036.65	947.33	934.26	917.89	983.85
Unit Profit	-294.01	-5.49	134.12	293.58	481.10	169.50
Unit Profitability (%)	-25.28%	-0.53%	14.16%	31.42%	52.41%	17.23%

4.11 Alternative Revenue with Interest Earned

The Container Port management paid USD 200 million for the privatization of the Port on 2 January 2010. A substantial amount of the total payment, USD 100 million was paid by using equity capital. The rest of the privatization amount was paid by funds financed with bank loans. The resulting interest payments to the banks are listed in the income statement as a cost item. Not stated in income statements was the opportunity cost of investing the equity capital to an alternative investment other than paying for obtaining the concession rights of the Container Port. The return from a risk-free investment such as the interest payment of a bank deposit should be considered while calculating the expected rate of return.

Calculated Profit-Risk Free Profit = Adjusted Profit.

From the shareholders' point of view, the adjusted profit should be at least equal or higher than the expected profit whereby the expected profit will be analyzed to show whether it is excessive.

To calculate the opportunity cost, the following steps are performed:

- The future accumulated payment of the equity paid that would earn interest in 36 years[31] by depositing the money into a USD account is determined,
- The annual portion of this hypothetical accumulated interest payment is estimated,
- Comparison of container handling revenues and profitability with hypothetical interest payment allocated to container handling services is carried out.

If the new private company did not pay the portion of the privatization amount from its own capital and instead put this amount into a bank deposit account with interest for 36 years, it would have been paid a compounded sum of the initial payment. The compounded sum's annual portion will be compared to the actual profit earned by container handling services and factored in unit container handling service profitability. Like in the *Ege Ports*[32] decision, the comparison could have involved the annual value of the initial payment or annual rent payment allocated to container handling services. The annual rent payment would be equal to (USD 100,000,000/36) x 50%= =USD 1,388,889 As the annual revenue of the Container Port is much higher than the annual rent payment after 2016, the comparison contains the effect of alternative interest revenue over profitability.

[31] We assume that operating right of the Container Port is transferred to the new management for 36 years. Accordingly, the interest payment term is 36 years.

[32] The Competition Board's 25 March 2004 dated and 04-22/233-49 numbered. *Ege Ports* preliminary investigation decision.

4.12 Alternative Interest Revenue Computation Method

The compounded amount can be calculated by the formula $A_n = P \times (1+i)^n$

The variables used in the formula are explained below:

A_n = Total Accrued Amount
P = Principal Amount
i = Annual Interest Rate
n = Time Period for the interest to be compounded (36 years)

The capital paid for the portion of the privatization amount is in USD, so for the bank deposit with interest scenario, the interest rate is assumed to be the USD rate. Thus, the annual USD interest rates during 2010-2018 are determined. The interest rate for 2019 and beyond is assumed to be the 2018 rate. The rates during 2010-2018 are taken from the statistics of the Turkish Central Bank.

Table-8: Weighted Average Interest Rate for USD Deposits

Equity Payment for obtaining the concession rights of the Port	$100,000,000	
Payment Date	2/01/2010	
US Deposit interest rate at the date of payment -2010	2.88%	
Annual US Dollar Deposit Interest Rate-Years	Annual Rate	Weight
2010	2.88%	1
2011	2.54%	1
2012	3.35%	1
2013	2.87%	1
2014	2.56%	1
2015	2.08%	1
2016	2.12%	1
2017	2.59%	1
2018-2045	3.14%	28.00*
Estimated Average Annual USD Deposit Interest Rate 2018-2045 (weighted average)	**3.03%**	The sum of the annual interest rate x weight is divided by 36 and **3.03% is calculated.

*28 = (36-8) This is to find the weight of interest rate during 2018-2045 that will be used to find average interest rate for a 36-year period.
**3.03% = (Annual interest rate x Weight for 2010-2045 as shown in Table-8)/36

Suppose that USD 100 million is deposited to a bank account with a 3.03% interest rate per annum for 36 years. In 36 years, the principal amount of USD 100 million becomes USD 292,399,476 with the compounded interest. After deducting USD 100 million from the total accumulated amount, USD 192,399,476 is calculated as the interest revenue in 36 years.

The following explanation shows the calculation steps.

$$A_n = P \times (1+i)^n$$
$$\$292,399,476 = \$100,000,000 \times (1+3.03\%)^{36}$$
$$\$192,399,476 = \$292,399,476 - \$100,000,000$$

The interest revenue of USD 192,399,476 is the compounded amount earned in 36 years. The net present value of the interest revenue will be calculated as follows;

$$\$192,399,476 = P \times (1+2.93\%)^{36}$$
$$P = \$65,800,212 \text{ (net present value of } \$192,399,476)$$

As the present value is earned in 36 years, the annual value of the net present amount:

$P/36 = \$1,827,784$

4.13 Allocating Interest Rate Revenue to Container Handling Services

The alternative interest revenue is earned for all Container Port services and should be allocated to container handling services according to a defined parameter. The container handling service area constitutes 50% of the total Container Port area. Consequently, the allocation base can be chosen as 50%, from which the interest revenue will be allocated to container handling services. In the EC's *Helsingborg Port* decision[33] the EC determined that square meter area calculation can be used for cost allocation basis.

As a result, 50% of the annual interest revenue of USD 1,827,784 becomes USD 913,892. This revenue would be allocated to container handling services. We would assume that the annual allocated interest revenue will earn 3.03% interest at the end of the year. The compounded values at the end of each year then will be put to deposit accounts with a 3.03% interest rate till the first working date of 2019. USD values are converted to TRY with respect to the annual average rate. A summary of these calculations is shown in Table-9. The container handling services' profits should be more than the interest revenues, so that the shareholders could earn more than a risk-free investment.

As shown in the table, we assume that USD interest is earned after deposited for one year in the bank and at the start of the next year's first working date, its TRY equivalent is calculated by multiplying the then currency exchange rate with the principal plus interest earned in one year. Suppose that at the beginning of 2010, a principal amount of USD 913,892 is deposited for one year with a 3.03% interest rate. At the end of one year, this amount will be equal to $941,540.

[33] EC, decision no. COMP/A.36.568/D3 Annex 3.1, 23 July 2004, p. 71, para 41. writes that:
"*In its Submission of 4 July 2000, Scandlines has allocated 32.7% of the leasehold paid by HHAB to the City of Helsingborg to the ferry-operations.* ***This ratio is based on the fact that, according to Scandlines, the ferry-operations occupy 105,300 m2 out of 174,000 m2 in the North and Ocean harbors, for which HHAB pays a total rent of MSEK 20. MSEK 12.1 should then be allocated to the ferry-operations, which represents 32.7% of the total rent paid by HHAB to the City of Helsingborg.***

USD 941,540= USD913,892 x (1+3.03%) To convert this USD amount to TRY, we have to multiply 2011's first working date's currency rate, 1.5476, with 941,540, which equals TRY 1,457,127.

Table-9: Annual Interest Revenue during 2010-2018

Year	Annualized Net Present Value of Interest Revenue-50% Container Handling Services	TRY equivalent of USD Amount	First Working Date's Currency Rate: 1 USD equivalent of 1 TRY
2011	$941,540	1,457,127	1.5476
2012	$970,024	1,820,541	1.8768
2013	$999,370	1,769,684	1.7708
2014	$1,029,603	2,236,093	2.1718
2015	$1,060,752	2,487,357	2.3449
2016	$1,092,842	3,215,361	2.9422
2017	$1,125,904	3,978,720	3,5338
2018	$1,159,966	4,367,503	3.7652
2019	$1,195,058	6,371,571	5.3316

All the figures in TRY should be discounted with CPI index values to calculate the net present values of yearly interest revenues. The values in the above annual interest revenue table are discounted according to CPI coefficient values in Table-3. The result is shown in Table 10.

Table-10: Net Present Value of Alternative Interest Revenue

Annualized Net Present Value of Interest Revenue-50% Container Handling Services	NPV-TRY
Beginning of 2015	*2,401,165
Beginning of 2016	2,883,089
Beginning of 2017	3,309,847
Beginning of 2018	3,269,877
Beginning of 2019	4,117,210
Total	**15,981,189**

*2,401,165 = 0.9653 x 2,487,357

The effect of the alternative interest revenue can be shown below:

During 2014-2018, the number of containers handled is 198,000. The alternative interest revenue for one unit equals TRY 80.71. (15,981,189/198,000) That means profit to be earned by container handling services should be on top of TRY 80.71 initial required profit. The effect of alternative interest revenue on profits is shown in Table 11. As can be seen, the alternative interest revenue is subtracted from the total profit and revised profit is calculated. Revised Unit Profit and Revised Unit Profitability are then calculated with respect to the adjusted

profit. After the effect of alternative interest revenue is considered, the profitability percentage is decreased to 9.02% from 17.23% during 2014-2018.

Table-11: Revised Unit Profit with Alternative Interest Revenue- Net Present Value

Container Handling (TRY)	2014	2015	2016	2017	2018	2014-2018
Total Revenue	24,326,772	37,121,772	44,339,598	54,024,992	68,550,487	228,363,622
Total Cost	32,559,005	37,319,367	38,840,719	41,107,416	44,976,725	194,803,232
Total Profit	-8,232,232	-197,595	5,498,878	12,917,576	23,573,762	33,560,390
Total Nr. of Containers	28	36	41	44	49	198
Unit Revenue	868.81	1,031.16	1,081.45	1,227.84	1,398.99	1,153.35
Unit Cost	1,162.82	1,036.65	947.33	934.26	917.89	983.85
Unit Profit	-294.01	-5.49	134.12	293.58	481.1	169.5
Unit Profitability (%)	**-25.28%**	**-0.53%**	**14.16%**	**31.42%**	**52.41%**	**17.23%**
Alternative Interest Revenue	2.401.165	2.883.089	3.309.847	3.269.877	4.117.210	15.981.189
Revised Profit	-10.633.398	-3.080.684	2.189.032	9.647.700	19.456.552	17.579.201
Revised Unit Profit	-379.76	-85.57	53.39	219.27	397.07	88.78
Revised Unit Profitability (%)	**-32.66%**	**-8.25%**	**5.64%**	**23.47%**	**43.26%**	**9.02%**

*Unit Revenue = Total Profit/Nr. of Containers

*Unit Profit = Unit Revenue-Unit Cost

*Unit Profitability (%) =Unit Profit/Unit Cost

One can see that Revised Unit Profitability is above the USD interest rate but below the TRY interest rate[34] during 2014-2018. The profitability rate in 2018 is 43.26% and well above the TRY interest rate. Thus, this alternative interest revenue method shows that the container handling services pricing did not cause excessive profits for the last five years cumulatively but began to be profitable in the last two years. As the 2018 profitability percentage is high, further analysis will be made to assess whether excessive pricing caused high profitability rates in the last two years.

4.14 The Effect of Future Investments on Profitability Figures

While calculating its costs and pricing the port services according to its cost structure, Container Port should consider the cost effectiveness of necessary future investments. Expansion, modification, and upkeep of port require constant investments.

Let us assume that the total investment for the next five years beginning from 2019 is TRY 20,000,000. Although most of this investment amount will be spent on the container handling port area, we will use the 50% allocation base for services to calculate the cost that will be charged to container handling services. Half of the investment value (=TRY 10 Million) will be annualized investment cost for the overall Port. 20% of TRY10 million is TRY 2 million for the annual allocated investment cost of container handling port services for the next five years. If

[34] The average TRY deposit rate for a period of one year or more is 10.86% during 2014-2018, if we assume that the deposits are made at the first month of the year during 2015-2018.

the 2018 container units that were handled do not increase, thus 49,000 container units will be handled annually, the unit investment cost per year per container will be TRY 40.82.

Table-12: Future Investment's Effect on Unit Profit

Container Handling (TRY)	
Planned Investment Amount for Container Handling Services for the next 5 years	10,000,000
Yearly Portion of Planned Investment Amount	2,000,000
Nr. of estimated containers in 2019	49,000
Cost of Investment per container	40.82
Unit Profit	481.10
Unit Profit after the cost of investment is deducted	**440.28**
Unit Profitability (%)	**47.97%**
Revised Unit Profit after alternative interest revenue is allocated	397.07
Cost of Investment per container	40.82
Unit Profit after adjustments	356.26
Revised Unit Profitability (%)	**38.81%**

The effect of this TRY 40.82 cost caused by new investments is summarized in Table 12. As can be seen, without taking alternative interest revenue into account, the increase in unit cost caused unit profit decrease to TRY 440.28 as opposed to TRY 481.10. The Adjusted Unit Profitability becomes 47.97% instead of 52.41%. After the alternative interest revenue is factored in, the revised unit profitability becomes 38.81%.

As explained above, Container Port must make new investments to upgrade the port facilities. The realized separate Container Port services revenues should be profitable enough that they could enable the Container Port management to set aside provisions for future investments for those separate port services.

Even if an undertaking's current financial reports show a positive profit, because of future investment necessities, the reported profits should be adjusted for the future increased costs and thus decreasing the profitability.

4.15 Positive Effect of USD's Appreciation Against TRY in Profitability

The positive effect of the USD's appreciation against the TRY is evident in the profitability figures. The Container Port uses USD as the base currency and converts the TRY equivalent of USD tariffs and charges the Port users and reports its financials in TRY. So, any appreciation of USD will be reflected as an increase in revenues even though the sales volume remains the same. Apart from investment costs, all operating costs are in TRY. Thus, the net increase in TRY revenues will be an increase in profits as most of the costs are in TRY. For example, on 2 January 2014, 1 USD equaled 2.1718 TRY, but the rate increased to 5.3316 by 2 February 2019.

The appreciation of USD against TRY at the end of 2018 was 145.49% with respect to 2014. (5.3316/2.1718)-1 =145.49%

Assume that USD 1 million is recorded as revenue in 2018. In TRY terms, the revenue will be 145.49% higher than the same amount of USD revenue in 2014. Conversely, the cost items incurred in TRY will be much less when converted to USD.

The unprecedented appreciation of USD against TRY is a major deterioration in macroeconomic financial indicators. The effect on a privatized port would be increased TRY cost of bank loan payments used for paying the full amount of privatization fee. The revenues which are pegged to USD will increase at the expense of the loss of some price-sensitive port users. The effect on financial statements would be higher profits compared to periods when the USD exchange rate was stable.

Further analysis is necessary to evaluate the price increases in USD terms.

4.16 Economic Value of the Port

Container Port has several advantages for its container handling service users:

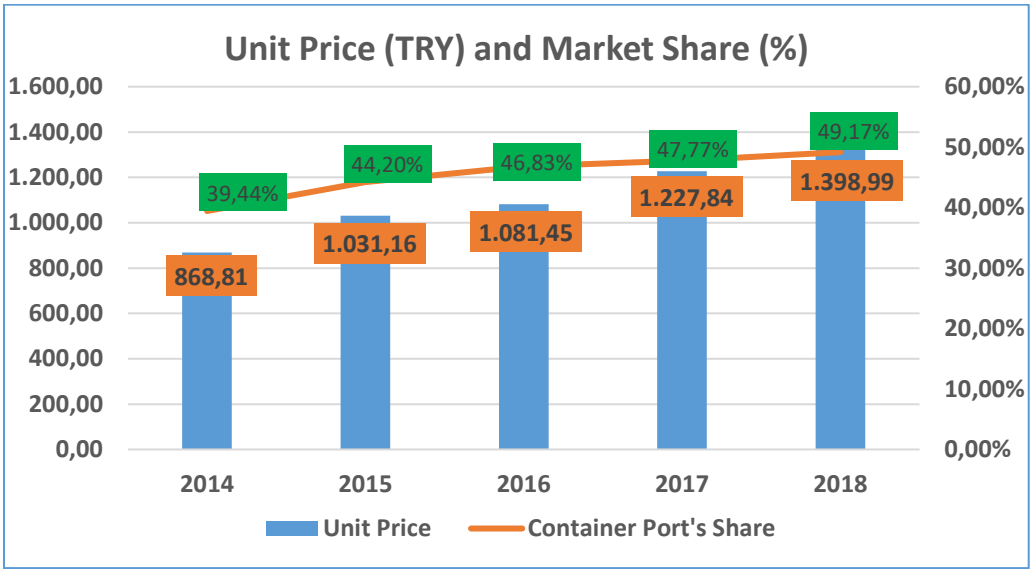
- Convenient geographical location,
- Easy access to railroads and intercity highways for transporting companies,
- High technology container handling equipment,
- Ample amount of container storage space,
- Compared to other ports, less average waiting times for ships and less average container handling time for cargo.

These advantages make Container Port economically valuable for companies that use it to load and unload their cargo to and from the cargo-carrying ships.

Table 13 shows that the total number of containers handled in Container Port is much higher than that of the other five competitor ports. The number of containers handled in Container Port shows a steady increase during 2014-2018. It is evident that although there are other competitor ports in the same geographic region, the port users prefer Container Port. In the container handling market specified in the designated geographic region which the other competitor ports are serving, Container Port's market share is 45.86% during 2014-2018, clearly the market leader. It is also remarkable that even the Container Port's price increases during the time, its market share also increases. The trend can be seen in Graphic-3. This trend is a strong indicator of economic value bestowed upon the Container Port by the Port users.

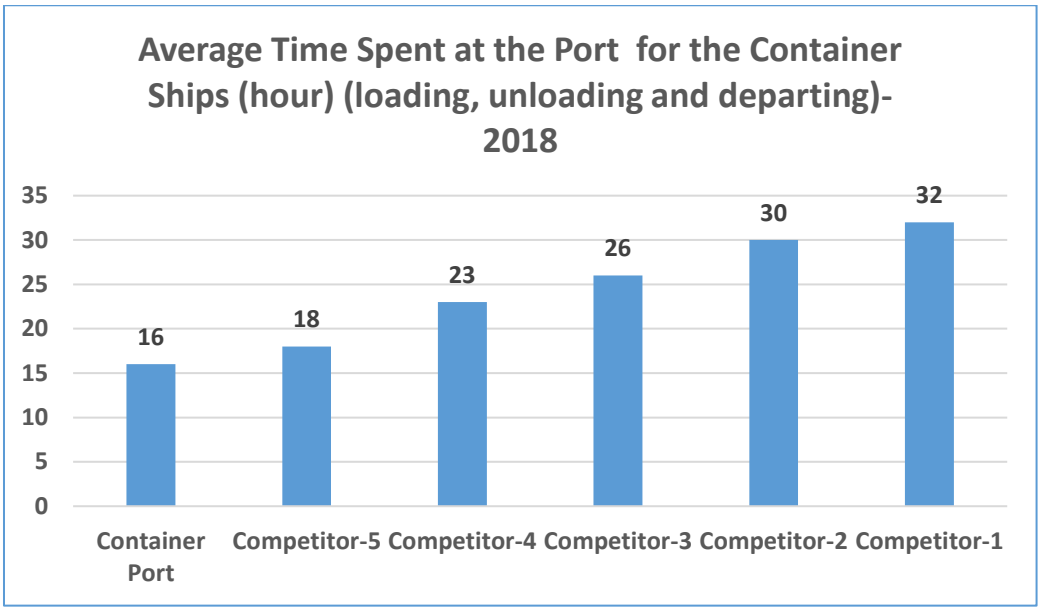
Table-13: Number of Containers Handled in the Competitor Ports

	Nr. of containers					
	2014	**2015**	**2016**	**2017**	**2018**	**2014-2018**
Competitor Port 1	6,000	6,400	6,600	6,900	7,100	33,000
Competitor Port 2	7,000	7,300	7,450	7,700	7,900	37,350
Competitor Port 3	8,000	8,250	8,500	8,800	9,250	42,800
Competitor Port 4	10,000	11,000	11,200	11,400	12,400	56,000
Competitor Port 5	12,000	12,500	12,800	13,300	14,000	64,600
CONTAINER PORT	**28,000**	**36,000**	**41,000**	**44,000**	**49,000**	**198,000**
Total	71,000	81,450	87,550	92,100	99,650	431,750
Total excluding the Port	43,000	45,450	46,550	48,100	50,650	233,750
Port's Share in Total	**39.44%**	**44,20%**	**46.83%**	**47.77%**	**49.17%**	**45.86%**



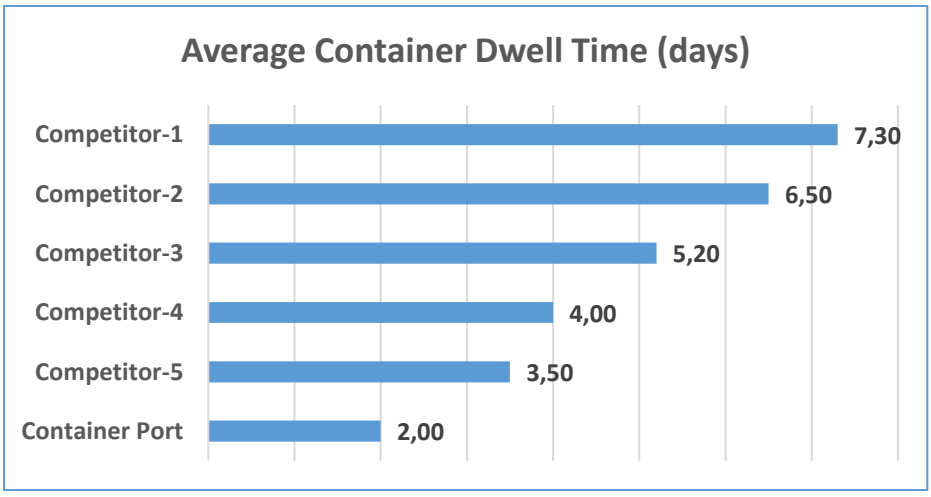
Graphic-3: Unit Price (NPV) and Market Share during 2014-2018

An important aspect of economic value is the operational efficiency of Container Port. As container handling efficiency translates into less waiting time, speed retrieval of containers from the container terminals, Container Port users are direct beneficiaries of the improved container handling services. The below graphic shows container ships' average time spent at Container Port. The ships spend the least amount of time, 16 hours, at Container Port for container handling services to finalize their operations and leave the Port, while the same process takes 32 hours at Competitor-1 Port. Even if Competitor-1's unit container handling prices are less than Container Port, the port probably will prefer to use Container Port's services because of the much quicker turnaround time.



Graphic-4: Average Time Spent at the Container Port in 2018

Another important operational efficiency criterion is average container dwell time. Dwell time is the amount of time a container waits to get picked up at a marine terminal after being unloaded from a vessel.[35] This metric is especially important for importers as less dwell time means more trade. The Port has a clear advantage against its competitors in average dwell time, as depicted in Graphic-5.



Graphic-5: Average Container Dwell Time at the Container Port in 2018

The EC's *Helsingborg Port* decision[36] states that economic values specific to the ports should be taken into consideration. To put it differently, taking into consideration only costs while

[35] Pacific Merchant Shipping Association, available at: http://www.pmsaship.com/pdfs/PMSA%20Press%20Release%20Container%20Dwell%20Time%2011-17-16.pdf

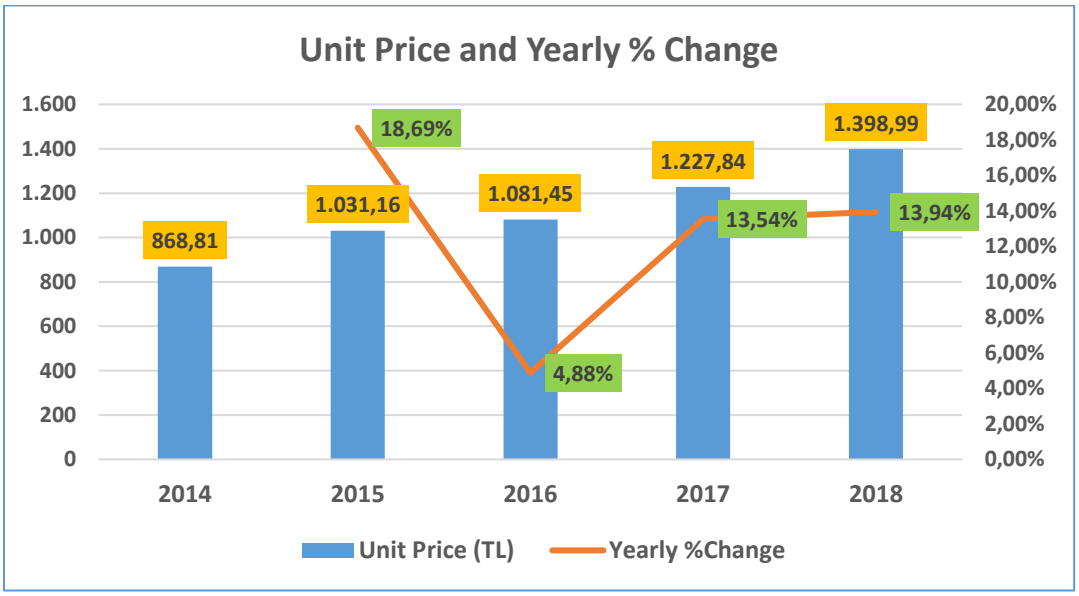
[36] EC's 23.07.2004 dated and COMP/A.36.568/D3 nr. Helsingborg Port decision p. 50, par. 226: "*Moreover, the "cost-plus approach" suggested by Scandlines only considers the conditions of supply of the product/service. The determination of the economic value of the product/service should also take account of other non-cost related factors, especially as regards the demand-side aspects of the product/service concerned.*" EC. Helsingborg Port decision, no. COMP/A.36.568/D3, 23 July 2004 p. 50, par. 227:

examining prices would be to investigate the supply side without considering the demand side. Demand-side evaluations also should be analyzed while investigating excessive pricing claims as the Port's various benefits to the service users and its value justify higher prices compared to other competitor ports. This justification can be evaluated as reasonable and has an economic rationale.

4.17 Price Comparison of the Port with its own Prices

In line with Economic Value Test methodology, first, the Container Port's tariff and unit costs will be evaluated. Subsequently, Container Port's unit prices and unit profits will be compared to its competitors' unit values, operating in the same geographic location with similar services while taking into consideration that Container Port and its competitors have different price and cost structure.

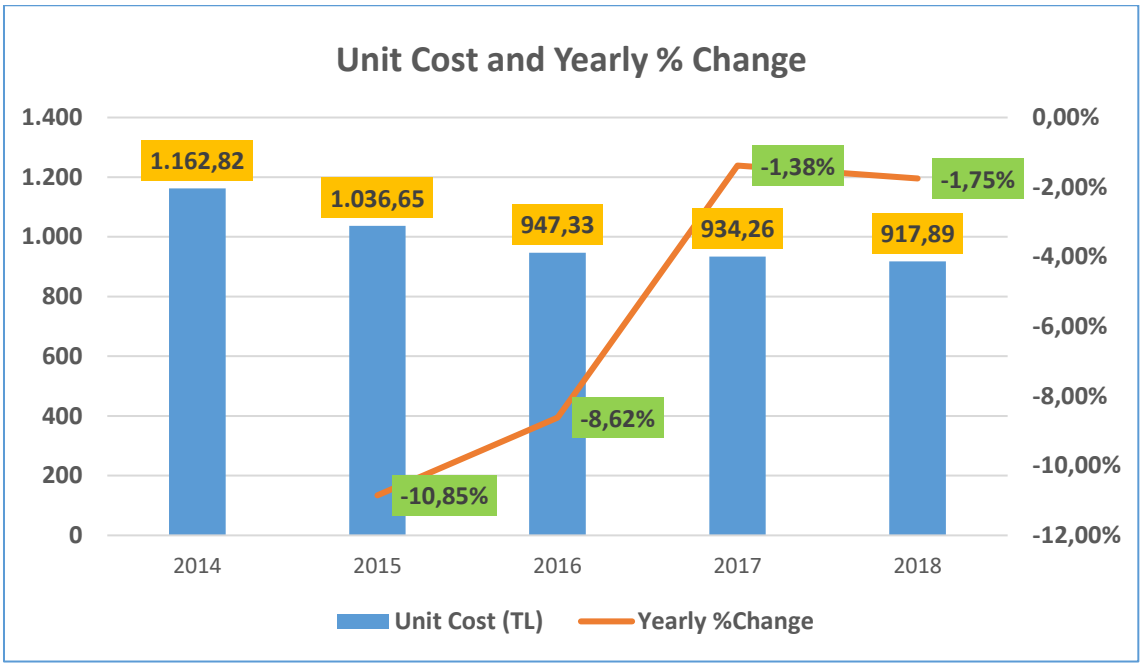
The first evaluation is the change in the Container Port's unit prices during 2014-2018. Graphic-6 shows that the unit price steadily increased during 2014-2018. Except for 2016, the price increase percentage differed between 13.54% and 18.69%.



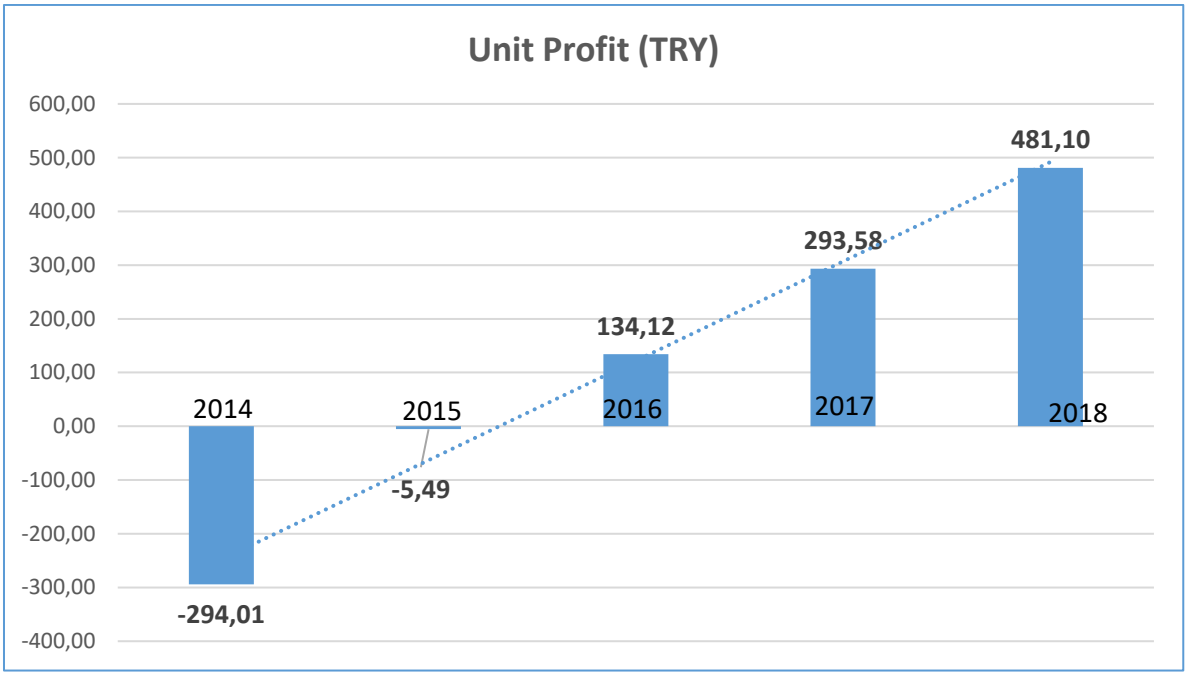
Graphic-6: Unit Price (TRY) and Yearly % Change during 2014- 2018 – NPV Method

Contrary to the trend in unit prices, Container Port's unit costs decreased during 2014-2018. In 2015, the decrease was 10.85% and in 2016, it was 8.62%. As the prices increased and costs decreased, the financial outcome resulted in increased profits as shown in Graphic-8.

"*The demand-side is relevant mainly because customers are notably willing to pay more for something specific attached to the product/service that they consider valuable. This specific feature does not necessarily imply higher production costs for the provider. However, it is valuable for the customer and for the provider, and thereby increases the economic value of the product/service.*"



Graphic-7: Unit Cost (TRY) and Yearly % Change during 2014- 2018 – NPV Method



Graphic-8: Unit Profit (TRY) during 2014- 2018

All financial analysis made to that point has been realized with the net present value method. This method is superior to the present value method in that it considers the discounted values caused by inflation. As the charged prices reflect the current financial burden on Container Port users, examining the current prices using the present value method also provides insight into whether excessive pricing was implemented during 2014-2018, in addition to the net present value method. Thus, another way to look at the prices is to compare their present value converted to the annual USD equivalents. As can be seen from Table-14, the yearly unit price increases change between 13.04% and 32.01%, which might be deemed as high. When

the USD equivalents of the prices are examined, the increase percentages are dramatically reduced compared to the TRY increase percentages. The yearly USD price increases are at most 4.49% compared to 32.01% in present unit price percentage increase. The reason is an unprecedented appreciation of the USD against the TRY during 2014-2018. Coupled with the necessity to pay back the USD loans that were used to make payment as per the concession agreement, the shrinking revenues in USD terms show a difficult financial position for Container Port.

Table-14: Net Present Values of Unit Price in TRY and $ during 2014-2018

	UNIT PRICES				
Container Handling Services	**2014**	**2015**	**2016**	**2017**	**2018**
Container Port (TRY)	900	1,150	1,300	1,640	2,165
Yearly Change % (TRY)		27.78%	13.04%	26.15%	32.01%
Container Port (USD) *	411.36	422.79	430.29	449.60	449.78
Yearly Change % ($)		2.78%	1.77%	4.49%	0.04%

*USD prices are calculated using the annual average currency rate as shown in Table-15.

Table-15: Annual Average USD Exchange Rate during 2014-2018

Year	Annual Average USD Exchange Rate
2014	2.1879
2015	2.7200
2016	3.0212
2017	3.6477
2018	4.8134

4.18 Price Comparison of the Port with its Competitors' Prices

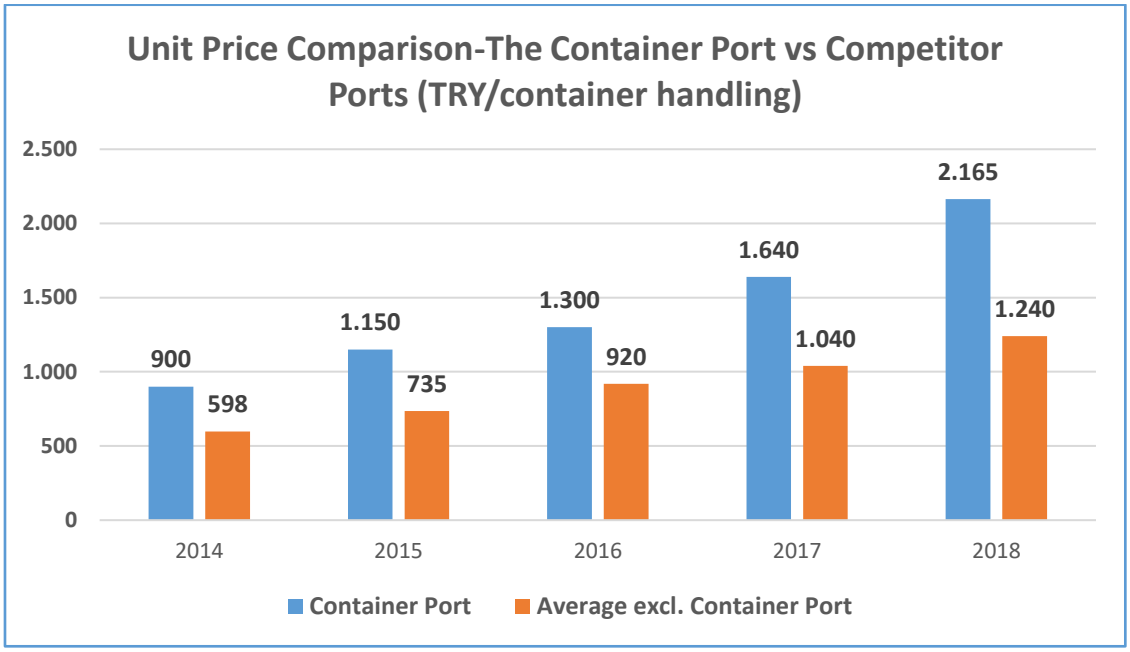
While making price comparison with other ports, it is not easy to conclude without considering the different cost structures, revenues, investments, operations, and size of these ports. For using the results of price comparison to decide about excessive pricing, the compared port should be similar in abovesaid elements. We assume that the competitor ports are somewhat like Container Port. This similarity does not imply that the other ports made similar investments and are as technologically advanced as Container Port. It only means that port users have the option to use these alternatives although other ports do not have the same level of service that Container Port could provide.

The first price comparison will be in present value TRY terms. As can be seen from Table 16, Container Port's prices are higher than all the competitor ports in each year during 2014-2018. The average prices of competitor ports are below the Container Port's prices and this price difference is between 29.23% and 42.73% during 2014-2018. Container Port's unit container handling price is quite high compared to other competitor ports.

Table-16: Unit Price Comparison of Competitor Ports in TRY during 2014-2018

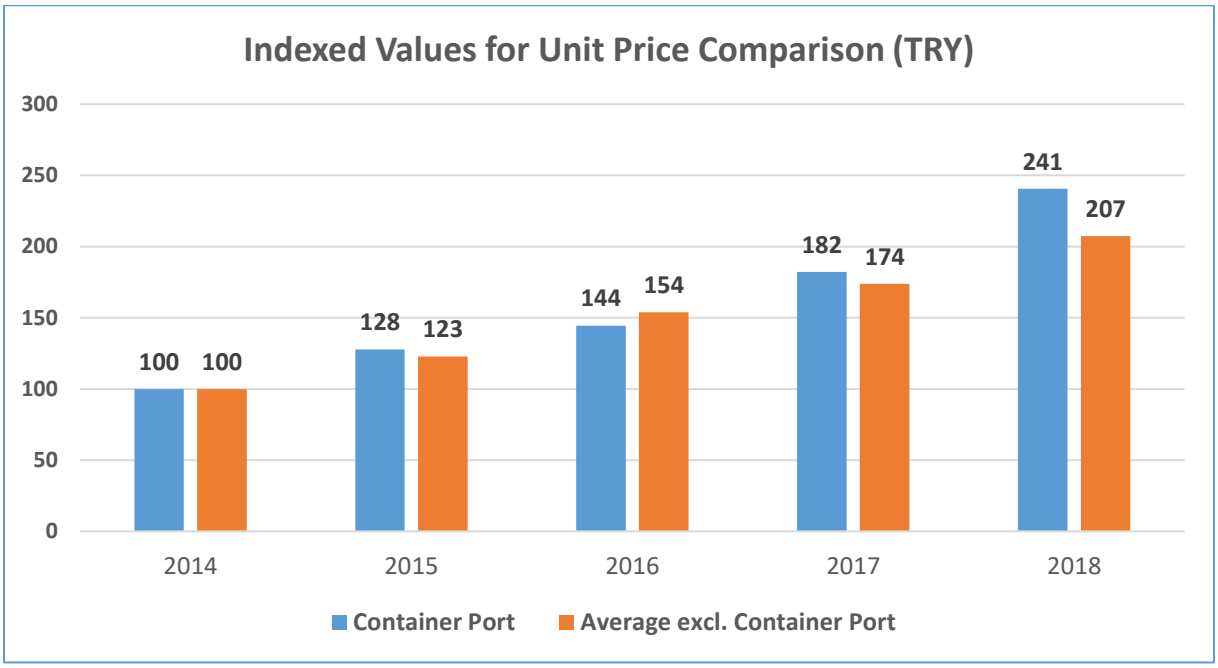
	UNIT PRICES (TRY)				
Container Handling Services	**2014**	**2015**	**2016**	**2017**	**2018**
Competitor Port-1	490	600	750	850	1,000
Competitor Port-2	550	700	850	950	1,150
Competitor Port-3	600	750	900	1,000	1,200
Competitor Port-4	650	800	1,000	1,150	1,350
Competitor Port-5	700	825	1,100	1,250	1,500
Container Port	**900**	**1,150**	**1,300**	**1,640**	**2,165**
Average excluding Container Port	598	735	920	1,040	1,240
Price difference with Container Port and average of the other competitors	33.56%	36.09%	29.23%	36.59%	42.73%

The below graphic shows that, especially during 2017 and 2018, the price difference between Container Port and the average price of competitor ports increased.



Graphic-9: Unit Price Comparison – Container Port vs Competitor ports during 2014- 2018

One way to look at the comparative price increases is by keeping 2014 prices constant and calculating each year's price increases with respect to 2014 prices. This analysis is depicted in Graphic-10. The Port's prices were 141% higher compared to its 2014 prices, while other ports' average prices were 107% higher compared to its 2014 prices. The price increase difference between Container Port and other competitor ports' average unit prices was 34 percentage points in 2018.



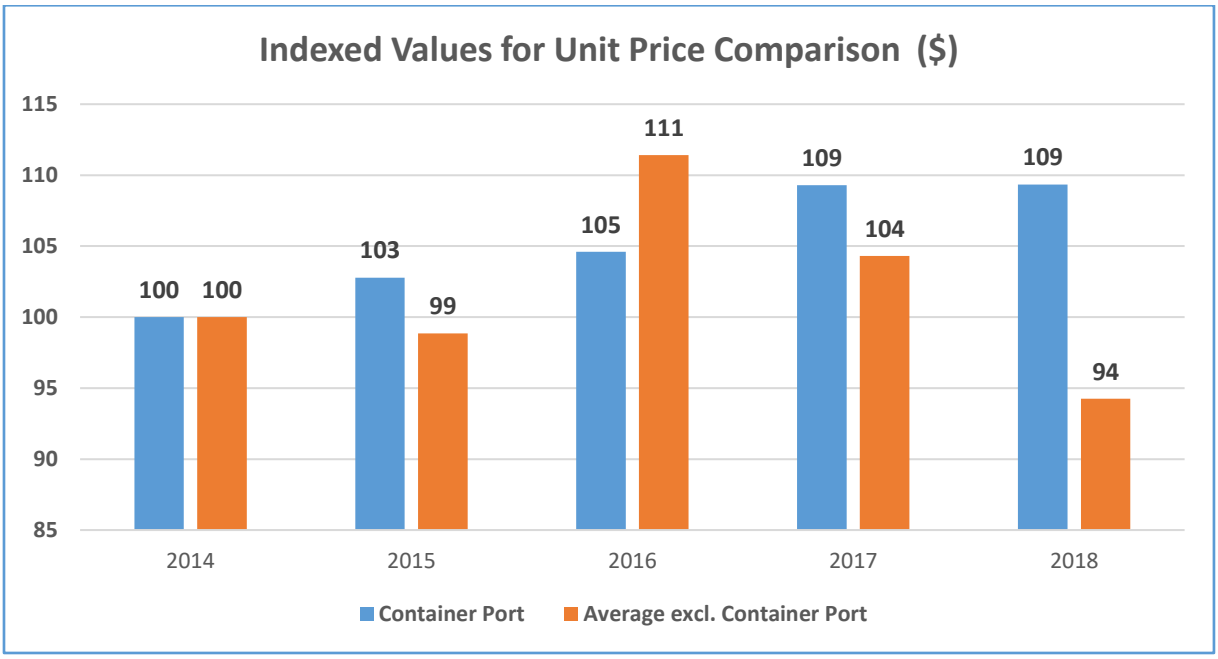
Graphic-10: Indexed Values for Unit Price Comparison in TRY during 2014- 2018

When the TRY net present value unit prices are converted to USD prices using the annual average exchange rates in Table-15, the price difference percentage does not change but the comparative price increases would change as the TRY prices are disproportionately decreased thanks to the USD's appreciation against the TRY.

Table-17: Unit Price Comparison of Competitor Ports in USD during 2014-2018

	UNIT PRICES (USD)				
Container Handling Services	**2014**	**2015**	**2016**	**2017**	**2018**
Competitor Port-1	224	221	248	233	208
Competitor Port-2	251	257	281	260	239
Competitor Port-3	274	276	298	274	249
Competitor Port-4	297	294	331	315	280
Competitor Port-5	320	303	364	343	312
Container Port	**411**	**423**	**430**	**450**	**450**
Average excluding Container Port	273	270	305	285	258
Price difference with Container Port and average of the other competitors	33.56%	36.09%	29.23%	36.59%	42.73%

When the below Graphic-11 values are examined, we can observe that Container Port's USD prices were 9% higher compared to its 2014 prices, whereas the other ports' average prices were 6% lower compared to its 2014 prices. The USD price increase difference between Container Port and other competitor ports' average unit prices was 15 percentage points in 2018. Compared to the TRY price difference, the USD price difference between Container Port and competitor ports are lower, but still a solid 15 percentage points.



Graphic-11: Indexed Values for Unit Price Comparison in USD during 2014-2018

4.19 Profitability Comparison of Container Port with Its Competitors

Although each port is different in terms of cost structure, provided services other than container handling, type of investments, physical condition, management, and revenue amount, a comparative profitability analysis is required to assess whether excessive pricing shows itself in exorbitant or very high profits above normal levels.

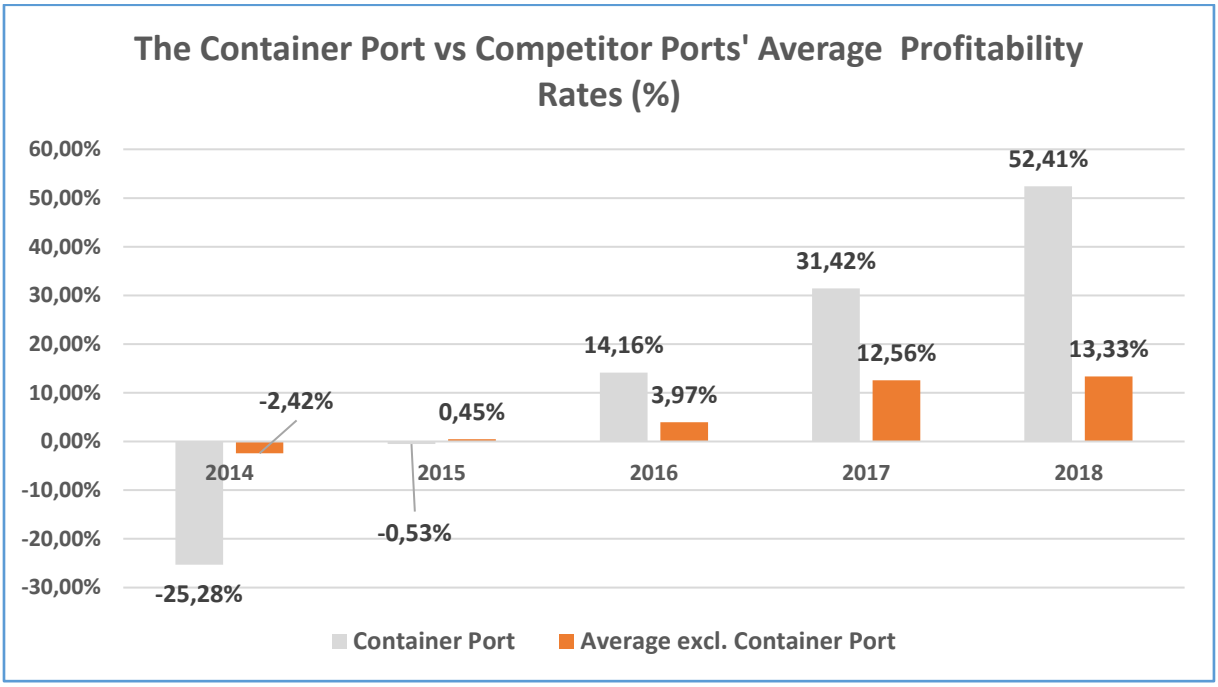
As shown in the table below, Container Port's unit profit (discounted according to CPI index) is more than double the average unit profit of all other competitor ports in 2018. In 2014 and 2015, only two ports were profitable. All of the other ports, including Container Port, incurred losses. In 2017 and 2018, Container Port was the most profitable with respect to others. Even the revised unit profit, 397.07 TRY (adjusted according to the alternative interest revenue) is used for Container Port, the difference with the most profitable competitor port will be 24.38%.[37]

Table-18: Unit Profit Comparison of Competitor Ports in TRY during 2014-2018

	Unit Profit (TRY)- Net Present Values				
Container Handling	**2014**	**2015**	**2016**	**2017**	**2018**
Container Port	-294.01	-5.49	134.12	293.58	481.10
Competitor-5	100.55	135.21	170.13	220.47	300.28
Competitor-4	-50.47	-15.35	110.27	150.82	270.77
Competitor-3	-80.92	-90.61	-100.11	100.07	170.52
Competitor-2	20.78	100.16	160.42	250.08	300.16
Competitor-1	-100.66	-125.62	-130.88	70.69	90.42
Average excluding Container Port	-22.14	0.76	41.97	158.43	226.43

[37] 24.38% = (397.07-300.28)/397.07

Another way to look at the profit comparison is to evaluate the profitability rates of the ports. As shown in Graphic-12, for the last three years, Container Port's profitability rate is 3.57, 2.50 and 3.93 times higher than the competitor ports' average profitability rate, calculated by using the unit profit values. The results show that there is a substantial difference between profitability rates of the similar ports with the investigated Container Port. Further analysis will be made to assess the cost structure of Container Port whether it invested wisely to have an efficient and improving organization.



Graphic-12: Profitability Rate Comparison during 2014-2018

4.20 Profitability of the Container Port with its Competitor Prices

Another analysis can be made with other competitors' prices to see whether another undertaking's price can also earn enough profit for the Container Port. If that is the case, then a strong argument for excessive pricing can be put forward.

We will use Competitor-5's prices as this port has the highest price and profits (except in 2017) among other ports. To compare net present values of Competitor-5's prices with Container Port, the present value of the prices is converted to net present value by using annual average CPI coefficients in Table-3.

Table-19: Unit Price of Competitor Port-5 (NPV)

	2014	2015	2016	2017	2018
Competitor Port-5 Unit Price	700	825	1,100	1,250	1,500
Competitor Port -5 Unit Price Net Present Value	675.74	739.75	915.08	935.85	969.28

The next step is to examine whether Competitor Port-5's prices could earn enough profit for Container Port. As can be seen from Table-20, in this simulated situation, Container Port

charges Competitor Port-5's prices per container while the costs do not change. Even when the alternative interest revenue is not considered, the maximum profitability will be 5.60%, while the profitability is -3.56% when the alternative interest revenue is calculated. This result shows that the real difference between the ports is Container Port's cost structure and charged prices for targeted profitability rate. As stated in the EC's *Helsingborg* decision,[38] while making a comparison with other ports, if the cost structure of the compared ports differs significantly, then it is not possible to draw a conclusion. The next step would be to investigate the cost structure of Container Port, whether the port management operated the port financially wisely, or tried to correct its cost situation with increased prices.

Table-20: Unit Profit and Profitability Values using Competitor Port-5 prices in TRY during 2014-2018

Container Handling (TRY)	2014	2015	2016	2017	2018
Total Revenue	18,920,823	26,630,837	37,518,121	41,177,585	47,494,564
Total Cost	32,559,005	37,319,367	38,840,719	41,107,416	44,976,725
Total Profit	-13,638,182	-10,688,531	-1,322,598	70,17	2,517,839
Total Nr. of Containers	28	36	41	44	49
Unit Price	675.74	739.75	915.08	935.85	969.28
Unit Cost	1,162.82	1,036.65	947.33	934.26	917.89
Unit Profit	-487.08	-296.9	-32.26	1.59	51.38
Unit Profitability (%)	-41.89%	-28.64%	-3.41%	0.17%	5.60%
Alternative Interest Revenue	2,401,165	2,883,089	3,309,847	3,269,877	4,117,210
Revised Profit	-16,039,347	-13,571,620	-4,632,445	-3,199,707	-1,599,371
Revised Unit Profit	-572.83	-376.99	-112.99	-72.72	-32.64
Revised Unit Profitability (%)	-49.26%	-36.37%	-11.93%	-7.78%	-3.56%

Total Revenue = Unit Price x Total Number of Containers

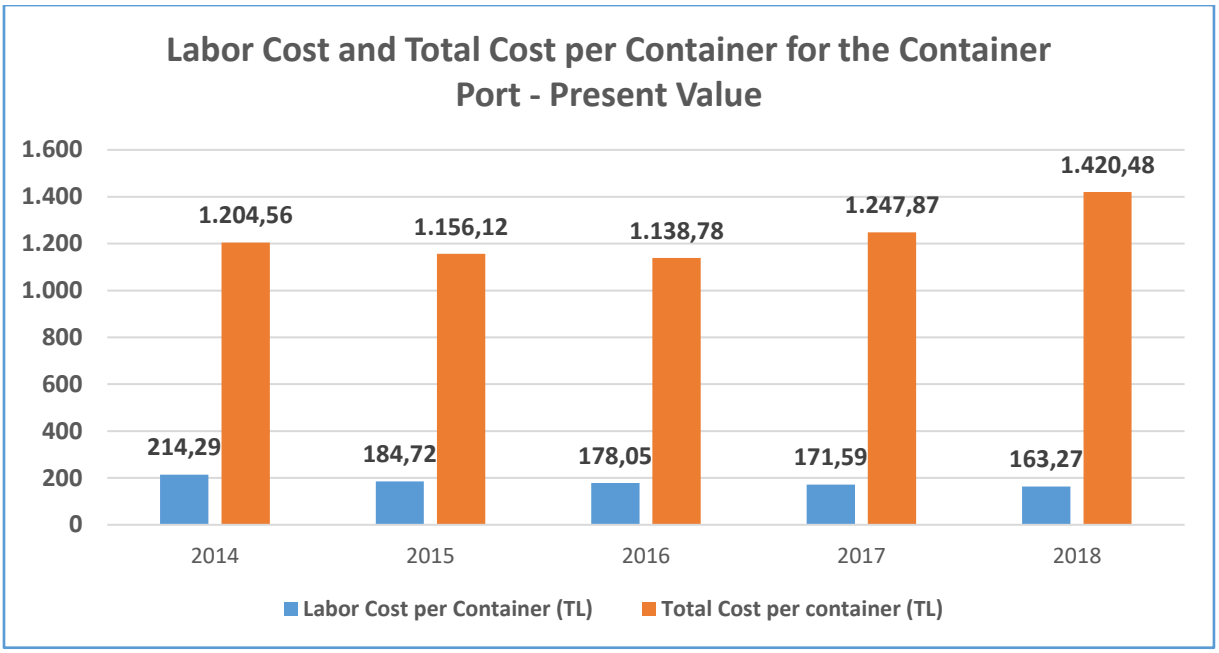
4.20 Financial Evaluation of Container Port

All cost items are analyzed, and it was evident that there is no mismanagement of costs that could show itself in sudden and unforeseen increases. Container Port increased labor efficiency during 2014-2018 and per container labor cost decreased during the period, as shown in Graphic-13. The present value figures are used to evaluate the trend without the alleviating effect of discounted costs. In the last five-year period, new investments to increase the capacity of container handling operations were made and retained earnings set aside for

[38] EC, decision no. COMP/A.36.568/D3, para. 162 and 185, 23 July 2004, states that:
"*In the Article 6 letter, the Commission explained that it is not possible to draw any conclusion from comparisons with other ports, as regards the level of the respective fees, for the following reasons:*
(...)
- Each port differs substantially from the others in terms of its activities, the size of its assets and investments, the level of its revenues and the costs of each activity."

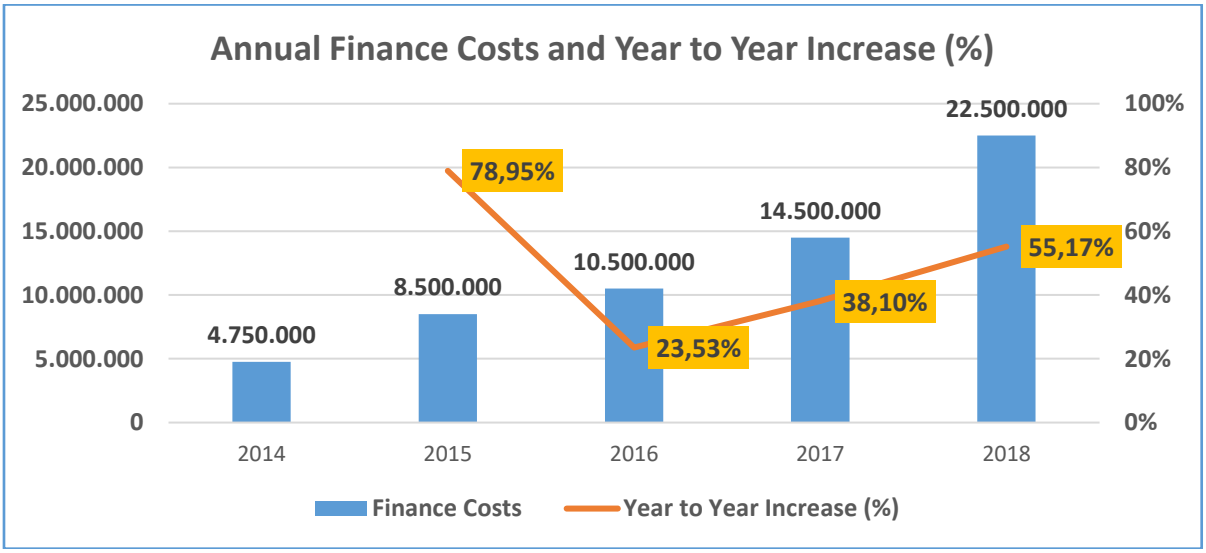
"The Commission drew the preliminary conclusion that in any event, the fees applied in Elsinore would be too low to be applied as such to the port of Helsingborg as a basis for comparison, because the total revenues derived from the port charges in Elsinore (about 45 MSEK, including Scandlines) would not cover the costs borne by HHAB to provide its services to ferry operators (which amount to approximately 50 MSEK, cost of capital excluded)."

future investments. As shown in Graphic-13, the total cost per unit of container increased during 2014-2018.



Graphic-13: Labor Cost and Total Cost per Container

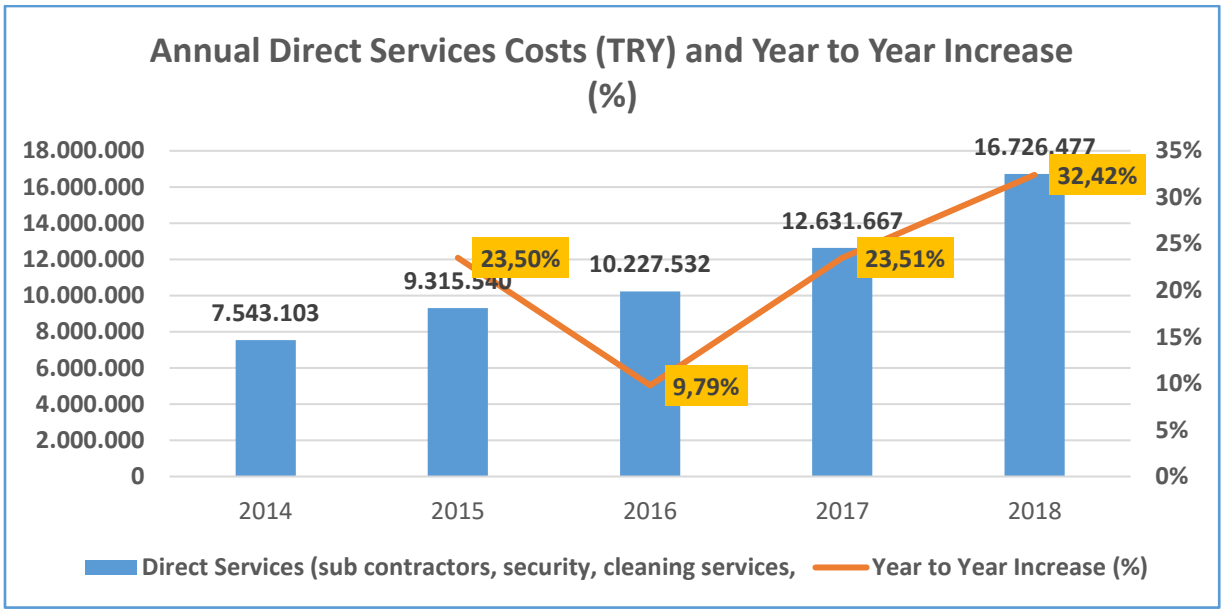
There are two main reasons for this result. One is the significant increase in financial cost because the USD credit payments to the banks are recorded to accounting books in TRY when the USD appreciated against TRY. The financial costs also rose due to the ongoing investments' credit needs. Container Port management preferred to finance the new investments with bank loans instead of retained earnings because the cost of equity is higher than the bank loans.



Graphic-14: Annual Finance Costs and Year to Year Increase (%)- Present Value

The other reason for the total cost per container to rise is the increase in direct services. Container Port decided to use terminal operators for its expanding container handling services and signed an agreement with two servicing companies to provide some of its container

handling services. Going forward, the port's personnel cost will shrink as most of the labor-intensive jobs will be executed by terminal operators. The steep jump in the last two years is the result of lump-sum payments for the first year of each of two signed agreements with terminal operators.



Graphic-15: Annual Direct Services Costs (TRY) and Year to Year Increase (%)

4.21 Conclusion for the Hypothetical Case

All the analyses made point to one conclusion. Although the port made new investments, preferred by port users despite several competitor ports, incurred costs during 2014 and 2015, and earned a modest profit until 2018, the 2018 profit figure might be a concern in terms of excessive pricing. Even if the alternative interest value is considered, the 2018 profit rate is 43.26%. Container Port claimed that price increases are the result of USD's appreciation against TRY and its cost structure is completely different compared to that of the other ports. When Competitor-5's prices are used, Container Port can not earn a reasonable profit. It even incurs a loss if the alternative interest value is considered.

When an undertaking makes investments to comply with the changing market conditions and evaluate the commercial opportunities of new conditions, these investments increase various cost items of the undertaking, especially borrowing costs, and the increase in costs is a natural element of any economic activity. This situation is more evident especially in terms of investment areas that require a large amount and whose operating time is limited. Port management is one of the best examples of this type of financial situation. Because of the nature of any economic activity, the undertaking will attempt to reflect these costs to the users of its services because of the pressure on costs resulting from the undertaking's investments made to the areas where it has potential for development. On the other hand, the price pressure due to the increase in the cost of the investments should be expected to end with the positive effects of the investments on the undertaking's balance sheet. That is exactly the point to examine further in this hypothetical case. If Container Port increased the

prices sufficient to recoup its costs, should it further increase its prices in TRY terms, because its ongoing investments will be incurred in USD? Did the Port overprice the unit container handling service in 2018, although it became profitable in 2017?

Let us first summarize the main outcomes of the analysis. It seems that no artificial revenue increase in container handling services to compensate the probable losses of other port services is observed. The profitability of container handling services is much higher than the overall port's profitability, which could indicate excessive pricing. In the last two years of the investigated period, the unit profit increased to a certain extent that would warrant an excessive pricing study.

When the alternative interest revenue's effect is considered, the unit profitability values decrease but not sufficiently enough to dismiss exorbitant pricing claims. The effects of future investments on profitability further erode the figures, but the profitability is still close to 40%. One of the main reasons for high profitability figures is the appreciation of the USD against the TRY in the period, relatively decreasing the costs according to revenues earned which were pegged to USD.

The economic value of Container Port is evident as the number of containers handled in the port increased despite the rise in prices. In terms of average container dwell time and average time spent at the port it is much more efficient than other competitor ports. As the unit price increased while unit cost decreased in the period, the profitability soared, especially in the last two years. But converted to USD, the price increases were modest.

When Container Port's unit prices are compared to the average unit prices of the competitor ports, it is observed that in TRY terms, its prices were 34 percentage points higher, while in USD terms, prices were 15 percentage points higher. Subsequently, Container Port's profitability was close to four times higher than the competitor ports' average profitability in 2018.

When the analysis used one of the competitors' price with the highest figure in profitability analysis of Container Port, instead of using its own prices, it resulted in a loss for Container Port. Per container, labor cost showed that Container Port used its labor wisely in financial terms while the cost per container soared. Operational costs increased during the period because financial costs rose due to funding needs for new investments and credit payments to the banks, also the terminal operations were handed to two vendors with a new agreement contractually binding Container Port to make initial payments to these companies.

The answer to the excessive pricing question remains open now. Is it worth paying two times higher to Container Port even if it is two times more efficient than its competitors? Should Container Port be allowed to reap the increased profits as a reward for its investments? If Container Port can not function with its competitors' lower prices, should there be a cap for its prices? If Container Port can conduct business with no change in prices, would its users face difficulty while exporting to competitive overseas markets? Did the Privatization

Administration price the port correctly in terms of value and currency? What should be the precautions and measures used when the exchange rate fluctuates in an unprecedented way? Should the Competition Authority intervene to force Container Port to correct its prices or opine that the market will correct itself? What would be the financial principles for a private undertaking to operate an almost natural monopoly like a port?

The answers to these questions are not blowing in the wind but lie in the meticulous analysis of all relevant factors and comparative study of financial figures, for the present and future. It would be absurd to arrive at a definitive conclusion about a hypothetical case. The best we can hope is that it will be an exercise in excessive pricing cases.