Port Competition in North Adriatic

Konkurencija među lukama Sjevernog Jadrana

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Summary

Changes in world trade over approximately the last decade have included the significant expansion of container traffic flows into Europe. The largest ports of Europe are well known – Rotterdam, Hamburg, Antwerp, etc. - but there are also a large number of thriving medium and small sized ports, and not without impact are those of the northern Adriatic (NA), which we will analyse in this paper, examining the container flows and market characteristics, market shares in general and throughput in regard to these ports.

KEY WORDS
container
throughput
North Adriatic ports

Sažetak

Svjetska trgovina se mijenja u zadnjem desetljeću, a tijekovi kontejnerskog prometa orjentirani su prema različitim dijelovima europskog kontinenta. Europski kontejnerski lučki sustav nije homogeni set luka. On se temelji na sedam velikih luka (Rotterdam, Hamburg, Antwerpen...) i na mnogo srednjih i malih luka. U ovu kategoriju spadaju također i luke Sjevernog Jadrana (NA), a u ovom radu analizirali smo tijek prometa kontejnera i teret koji je prošao ovim lukama. U radu iznosimo stanje u lukama Sjevernog Jadrana koje se odnosi na kontejnere, dionice na tržištu, ali i značajke kontejnerskog tržišta.

KLJUČNE RIJEČI
kontejner
obrtaj tereta
luke Sjevernog Jadrana

INTRODUCTION / *Uvod*

The phenomena of containerization has led to a significant increase in global container transport, amounting to 8-10% on a yearly basis, reaching (according to the RMT [2]) almost 602 million TEU in 2012. In Europe the growth has been very strong over the last twenty years, though the growth stopped in 2008 when the global financial and economic recession started to fully affect ports and the maritime industry. The ports of the multi-port gateway region of the northern Adriatic (NA) did not follow the average increase of container transport over the last 20 years (they had an increase of 7% on a yearly basis), yet the decline in container transport in NA ports in 2008 to 2009 was minimal. The most rapid growth of container throughput was recorded at the Port of Koper, at an average of 14% per year, and where 600,441 TEU was reached in 2013.

As described in NAPA Container Market Study [3], "The ports of Koper, Trieste, Venice, Rijeka (NAPA – North Adriatic Ports Association) and Ravenna are located in the northern part of the Adriatic Sea, which penetrates deep into the middle of the European continent, providing the cheapest maritime route from the Far East, via Suez, to Europe. More than 100 million tons of water-borne cargo is handled by the NAPA seaports every year. Due to the tremendous variety of logistics services and the extensive traffic network, NAPA forms a perfect multimodal gateway to the key European markets". Thus goods carried to the NAPA ports are in an excellent geographic position, on Pan-European transport corridor V and near X, providing easy access to areas in eastern and central Europe, to where a great deal of industry has recently been moved over the last decade. The ports in the northern Adriatic thus present an alternative to the northern European ports. Perhaps the most phenomenal change in these Adriatic ports has been the rapid increase in container traffic, which has been almost exponential [12].

The northern Adriatic ports of Koper, Rijeka, Trieste, Venice and Ravenna are located in close proximity to each other. Due to their geographical characteristics they hold a special position in the European ports system, operating in a relatively closed system in which the market and customers are limited and therefore the ports are forced to co-operate while at the same time competing with each other. In addition, they are located in three different countries, with different transport policies and development plans.

In this paper we will briefly outline the past twenty-years

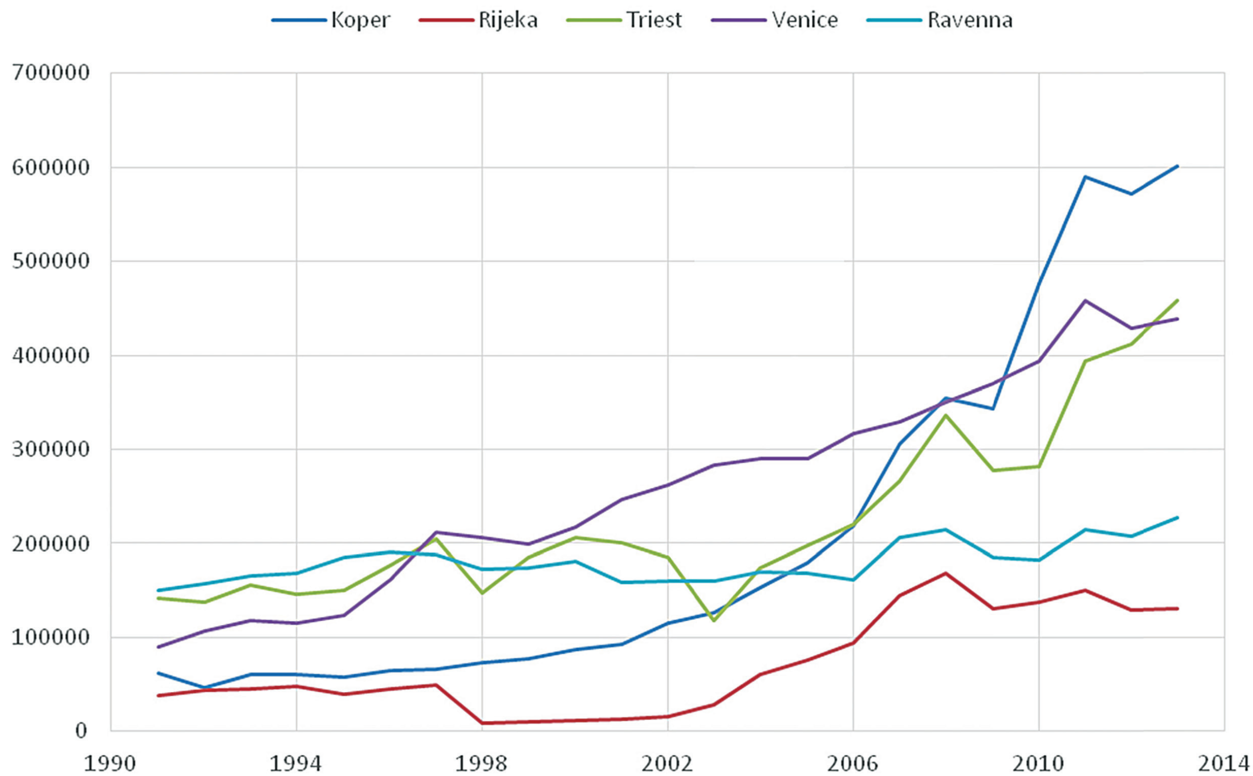

Figure 1. Containers throughput in 1000 TEU in period 1990-2013 at North Adriatic Ports
Slika 1. Kontejnerski obrtaj u 1000 TEU u razdoblju od 1990-2013 u lukama Sjevernog Jadrana

of development of container traffic in the northern Adriatic ports and then illuminate some of the opportunities and threats in regard to their further development. We used data on container throughput, which are available on the websites of the respective ports. The interaction between these ports offers us a very interesting research topic.

THROUGHPUT IN THE NORTH ADRIATIC PORTS / *Obrtaj tereta u lukama Sjevernog Jadrana*

The data show (Figure 1) that in the last twenty years, the total container traffic in the northern Adriatic ports has almost exponentially increased, on average 7% per year; but different ports increased their traffic at different rates. During this period, the fastest growth in container traffic was at the Port of Koper, on average by 14% per year; in the Port of Venice the growth was constant; and the least growth was recorded in the Port of Ravenna. The minimum throughput was and is still today in the Port of Rijeka, which has needed many years to regain some of the traffic lost due to the state of war in Croatia; recently in Rijeka throughput has begun a slow rise.

During 2008 and 2009 – the worst years of the recent global economic and financial crisis throughput in Venice steadily increased, by 5% per year, while in all the other four ports it fell by an average of 15%. The largest drop in total traffic was recorded in Trieste, where it decreased by more than 58,000 TEU (17.5%), though in percentage the Port of Rijeka suffered the most - 22.5% (38,000 TEUs less).

Although the total container traffic in the northern Adriatic ports increased in the last few years it still represents a negligible proportion of the total throughput of the northern European ports. The data in Table 1 list container traffic in northern Adriatic ports and in the ports of Rotterdam, Hamburg and Antwerp. We can see that throughput in the NA ports increased slightly as it presented 5.2 percent in 2010 and 6.1 percent of the total throughput of these ports in 2013. But to put this in proportion: the throughput of all northern Adriatic ports amounted to just 16.3 percent of the throughput of Rotterdam alone in 2013.

Despite efforts of the northern Adriatic ports to invest in recognition and promotion of common maritime routes the cooperation between them remains mainly a matter of accepted principle. With new investments in the various ports and major activities in joint promotion, the proportion of containers passing through the port is still rather small. Despite longer transport routes, the cargo destined to central and eastern Europe still be sent to the western European ports of Rotterdam, Hamburg, and Antwerp.

Table 1. Container throughput in some European ports (in million TEUs)
Tablica 1. Kontejnerski obrtaj u nekim europskim lukama (u milijunima TEUs)

	2010.	2011.	2012.	2013.
Rotterdam	11.1	11.9	11.9	11.6
Hamburg	8.5	9.0	8.9	9.3
Antwerpen	7.9	8.7	8.6	8.6
NA ports	1.5	1.8	1.7	1.9
Total	29.0	31.4	31.1	31.4

Source: based on traffic data of respective port authorities

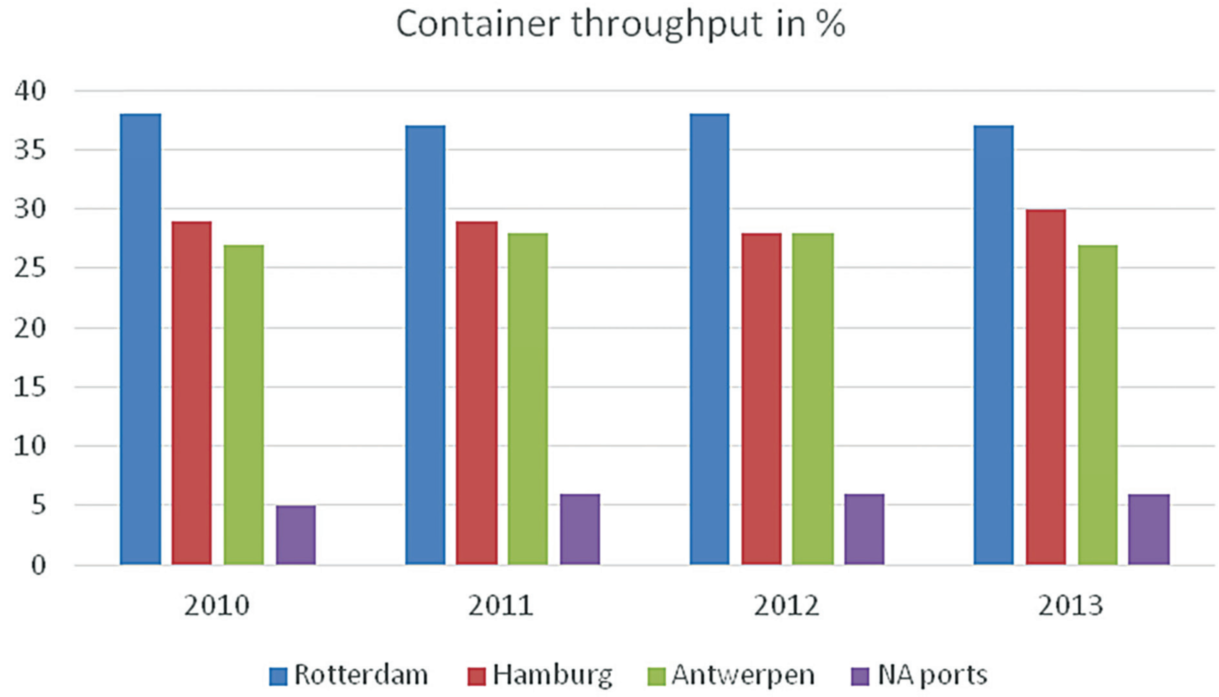

Figure 2. Comparison between containers throughput in NA port and some EU ports (in %)
Slika 2. Usporedba između prometa kontejnera u lukama Sjevernog Jadrana i u nekim EU lukama (u postocima)

MARKET SHARES AMONG THE NORTH ADRIATIC PORTS / *Tržišne dionice među lukama Sjevernog Jadrana*

Using market share [1] we can show what fraction of the total container throughput at northern Adriatic ports has gone through a single port. Figure 2 shows that in 1991 the Italian ports have 80 percent of the market share, while currently it is around 60 percent. We can almost see a mirror image showing that the decline in market share of Italian ports coincides with the increase in market share of the Port of Koper. By 2012 there was some resurgence at Italian ports, particularly at the Port of Trieste.

A quick glance at Figure 3 shows that another 'mirror' exists - between Trieste and Venezia, the rises and falls in throughput in Venezia an uncanny match for the falls and rises of Trieste.

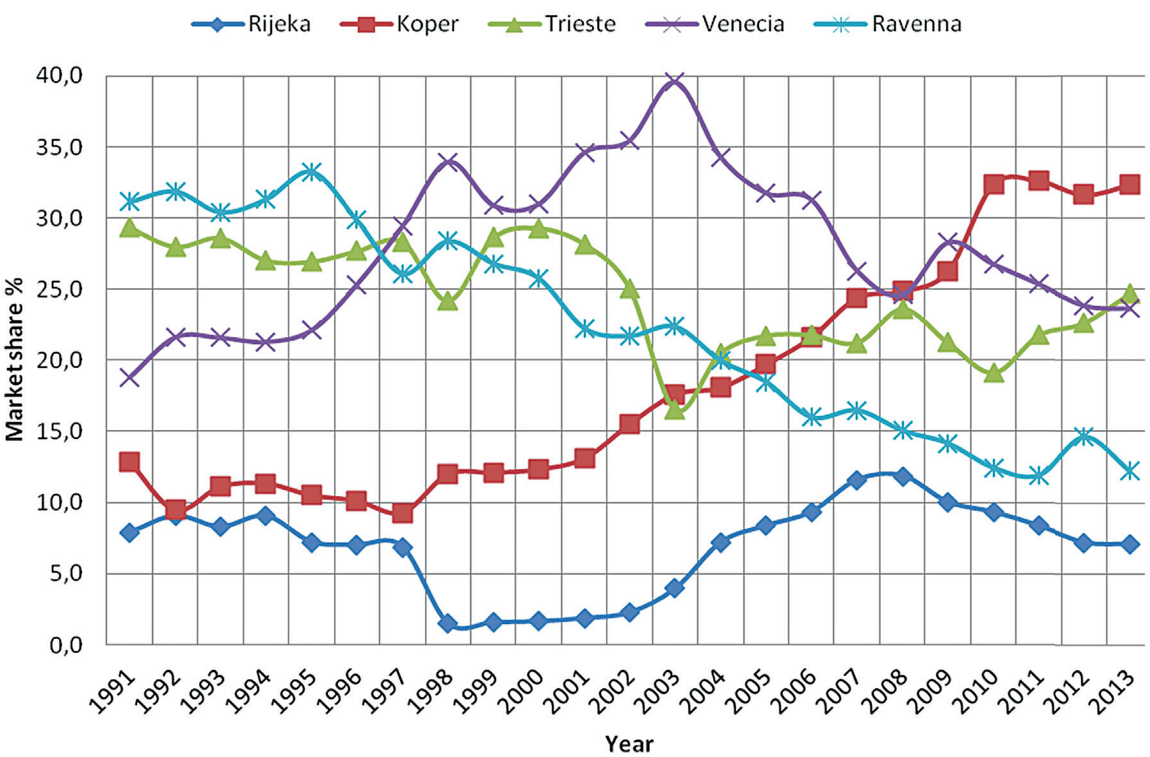

Figure 3. Market share among the NA ports
Slika 3. Tržišne dionice među lukama Sjevernog Jadrana

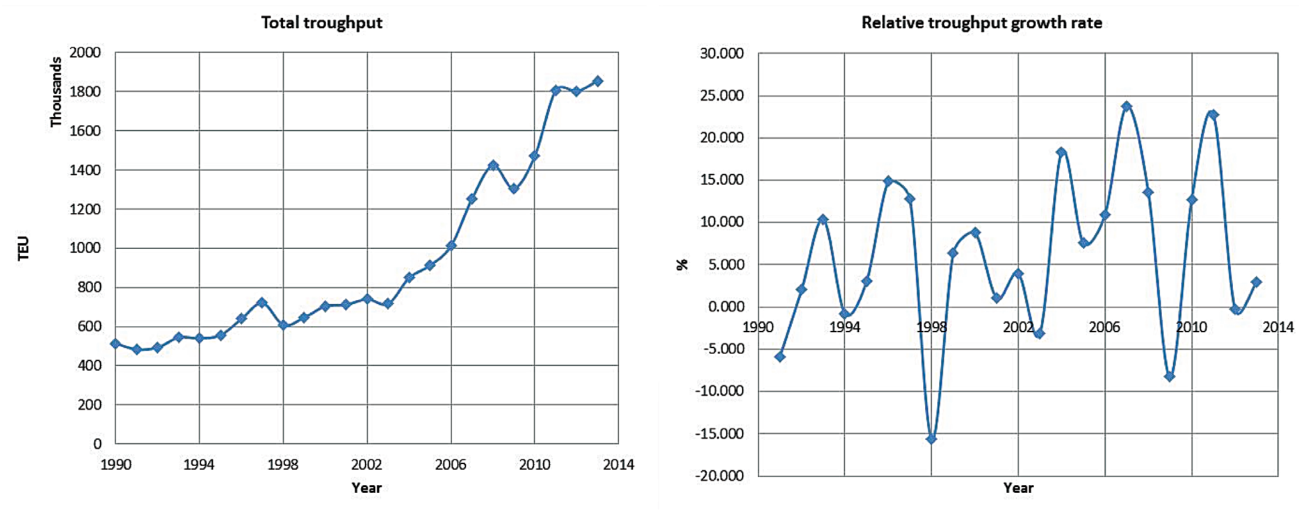

Figure 4. Evaluation of the characteristics in NA ports (1)
Slika 4. Procjena značajki u lukama Sjevernog Jadrana

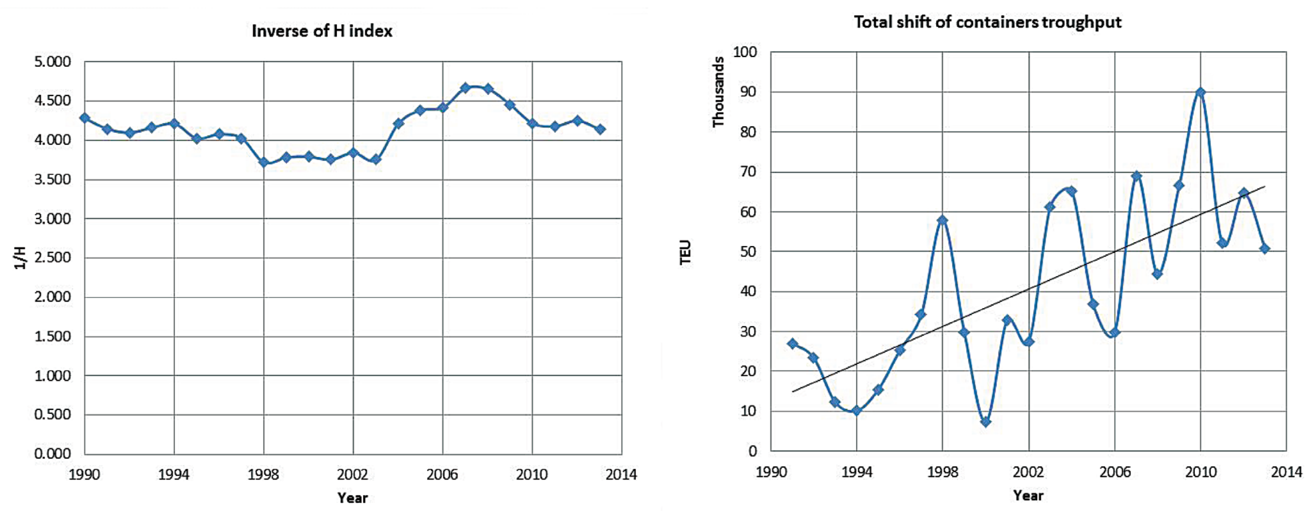

Figure 5. Evaluation of the characteristics in NA ports (2)
Slika 5. Procjena značajki u lukama Sjevernog Jadrana (2)

EVALUATION OF THE CONTAINER MARKET IN THE NORTH ADRIATIC PORTS / *Procjena kontejnerskog tržišta u lukama Sjevernog Jadrana*

The evaluation of the characteristics of all NA ports is shown by the graphs in Figures 4 and 5. As displayed, the total container throughput grows steadily with but minor hiccups until the period of economic crisis in 2008, after which the growth decreases. If we look at the second graph on this figure, however, which presents relative throughput rate we can see a more erratic, fluctuating status. The growth rate was actually negative, thought, only in 1991, 1998, 2003, 2009 - in all other years the growth rate was positive. The highest growth rates were recent: in 2007 and 2011, at approximately 25%.

The graphs in Figure 5 represent the inverse of the H-H index [1] of total container shift dynamics. From the first graph in Figure 5 we see that virtually throughout the period from 1990 to 2013 there were only 4 major ports taking in container traffic. The exceptions were 2007 and 2008, when almost all the ports in the NA system contributed to the container market. The second graph represents the total shift of containers, showing growth over the analysed years; in the last eight years oscillating around the value 50 thousand TEU. This last graph illustrates all the competition dynamics of the NA system, where obviously the annual shift of containers is far from zero; i.e., from an equilibrium state. In fact, as can be seen from the graph, competition in the container market among ports increased on average over the last twenty years.

CONCLUSION / *Zaključak*

Port competition is very often analysed and results depend on the criteria taken into consideration. In this article we analysed the container throughput in the northern Adriatic ports. A providential geographic location, especially for containers from the Far East headed for the markets of central and south-eastern Europe, is the biggest advantage over such northern European ports as Rotterdam, Hamburg and Antwerp. According to the NAPA Container Market Study [3] "the market potential for the NA ports in the container market in 2030 appears to be ambitious in terms of the absolute growth it implies at +348% traffic growth from 2010 compared to 73% growth in the market as a whole and in terms of market share growing from the current 4.3% to 11.3% in 2030." Every port in the NA port region is trying to increase throughput but not all should be expected to be successful in this endeavor.

Cooperation along with competition in this multi-port gateway region occurs and is necessary as these ports share a common hinterland and its infrastructure. All of the NA ports explicitly desire an increase in container throughput and market share.

Our analysis also tells us that although the total container traffic in the NA ports has increased in recent years it still represents a negligible proportion of total throughput of European ports. The data indicate that container traffic in northern Adriatic ports among the European Common throughput shows a slight increase – in 2008 it was 1.6 percent and rose to almost 2 percent in 2011. To further put this in proportion, the throughput of all northern Adriatic ports represented just 15.2 percent of the throughput of Rotterdam alone in 2011, increasing to 16.3 percent by 2013.

REFERENCES / *Literatura*

[[1] Farris, P., (2009) Key Marketing Metrics : the 50+ Metrics Every Manager Needs to Know, New ed. Financial Times Prentice Hall, Harlow, England ; New York.

[2] UNCTAD, (2013), Review of Maritime Transport

[3] NAPA Container Market Study, MDS, Transmodal limited, (2011) (http://www.its-napa.eu)

[4] Bichou, K., Gray R., (2005), A Critical Review of Conventional Terminology for Classifying Seaports, Transportation Research Part A: Policy and Practice 39 (1)

[5] Yap W.Y., Lam J.S.L., Notteboom T., (2006), Developments in Container Port Competition in East Asia, Transport Reviews, Vol.26, No.2

[6] Yeo G., Roe M.,Dinwoodie J., (2008), Evaluating the Competitiveness of Container Ports in Korea an China, Transport Research Part A 42

[7] Ducruet, C. and Notteboom, T., (2012), The Worldwide Maritime Network of Container Shipping: Spatial Structure and Regional Dynamics, Global Networks, 12(3)

[8] Notteboom, T., (2010). "Concentration and the Formation of Multi-port Gateway Regions in the European Container Port System: An update". Journal of Transport Geography, vol. 18

[9] Branderburger A., Nalebuff B., Co-opetition, (1996), Doubleday, New York

[10] Martin, S., (2002), Advanced Industrial Economics, Blackwell Publishers Ltd, Oxford, UK

[11] Notteboom T., (1997), Concentration and Load Centre Development in the European Container Port System, Journal of Transport Geography 5 99-115

[12] Twrdy, E., Batista, M., (2013) A Dynamical Model of Container Throughput of the North Adiatic Multiport Gateway Region. Pomorstvo, ISSN 1332-0718, vol. 27, no. 2, pp. 361-367.

[13] Twrdy, E., Trupac, I., Kolenc, J. (2012), Container Boom in the Port of Koper. Promet, ISSN 0353-5320, vol. 24, no. 2, str. 169-175.

[14] Krile, S., (2013) Planiranje plovidbe s više luka ukrcaja i iskrcaja, Naše more, ISSN: 0469-6255 vol. 60, no 1-2, pp. 21-24, Dubrovnik