

EVALUATION OF THE INTERACTION BETWEEN THE STATE SEAPORT GOVERNANCE MODEL AND PORT PERFORMANCE INDICATORS

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ABSTRACT

The Eastern Baltic Sea region is dominated by state owned and municipal seaports. Therefore while evaluating the seaport's performance and the impact of the port's activities to the national economy, the port managers must carry out a holistic assessment of the activities of the seaport. Modern economic theories suggest that in order to evaluate any economic phenomena, the country's economic system, its macroeconomic indicators, also social progress and quality of life indicators must be taken into consideration. Given these facts the aim of the paper is to present the methodological approach of the interaction between the state seaport governance model and port performance indicators.

KEY WORDS

seaport governance, seaport economics, theory of complexity, economic performance and social progress.

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Introduction

The concentration of state enterprises in a region highly depends on the economic, political, social, and historical development of the country and the level of sustainable development in the region. Typically state enterprises require large-scale investments into their infrastructure and they aim to attract investments from private subjects. State enterprises are strategically important for the overall national development. Therefore efficient operations of state enterprises play a significant role in promoting development and growth of the national economy, and accordingly require

implementing the most efficient model of governance.

Given the state-seaport relation, current common concepts of port operations and their factors include features of Keynesian economic theory. Moreover, features of monetarism and institutionalism may be observed in the performance of seaports. The contrast between the assessment of seaport performance based on classical public administration and economic theories and the performance of the global maritime sector in modern market conditions raises the scientific problem of the

research: How to comprehensively evaluate the seaport's performance impact to the country's economy, taking into consideration the interaction of the port's and the port city's, private businesses', the state's strategic interests and the interests of modern society? The effective governance of a state-owned seaport is based on the creation of public and private capital synergy in the context of the complexity theory for the creation of strong economic and social added value.

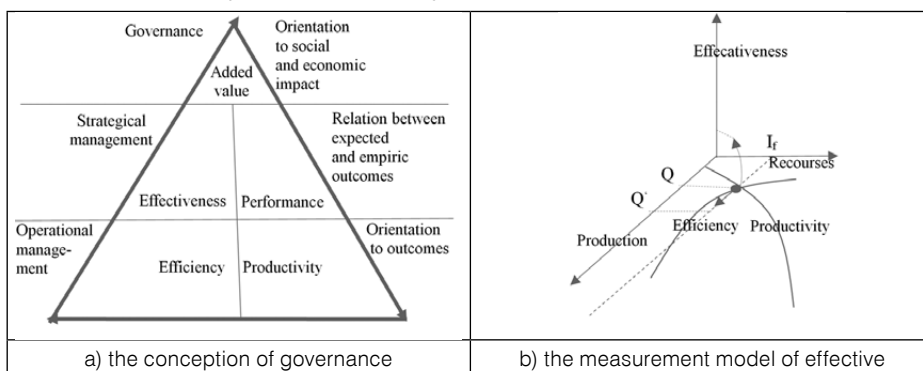
The object of the research is the interaction between the state seaport governance model and port performance indicators. The aim of the research is to describe the methodological approach of the interaction between the state seaport governance model and port performance indicators, based on the modern conceptions of seaport governance and performance. The objectives of research are the following: 1) to analyse the conception of effective governance at state-owned enterprises; 2) to overview the complexity of the model of effective seaport governance; 3) to analyse the classical paradigms of economics which form seaport performance; 4) to assess the need for the seaport performance impact assessment model, which integrates macro- and micro-economic, also social and quality of life assessment criteria. The methods of the research include the following: systematic review, meta-analysis, analysis of scientific literature, logography, statistical analysis, interpretation, generalization.

1. Key elements of effective governance at state-owned enterprises

Effective management consists of the following three managerial levels: operational management, strategic management and governance (Ayub, Hegstad 1986; Rayney, Steinbauer 1999). Each of latter management levels has different functional objectives and their consistent implementation creates the expected outcomes of effective management.

The activities of state-owned companies are primarily based on their specific operational indicators, which create added value to the whole national economy. Therefore it is necessary to implement the most efficient management model in the said enterprises. The organizational structure of enterprises depends on the level of efficiency of the applied governance model, particularly the added value created in the highest level of management – the governance level. In order to achieve the highest possible added value different management situations have to be modelled for the best solution to be found. Together with applying the most efficient management model and reaching overall maximal results at the highest management level of governance, the efficiency, productivity, effectiveness and performance at the operational and strategical management levels must also be taken into consideration (Figure 1a). From the standpoint of the conception of effective governance, also its main components and their linkages, it is evident that the theory of effective state-owned enterprise management presupposes a methodology that manifests itself in a three-dimensional functional model (Figure 1b).

Figure 1. Model of effective governance of state-owned enterprises



Source: Own elaboration based on: Ayub, Hegstad 1986; Chandan 2012; Davis 2006; Estrin et al. 2016.

According to the latter theory, the first component of effective governance is high productivity (Rayney, Steinbauer 1999). However, productivity does not *ipso facto* yield efficiency. Accordingly, the model of effective governance must also consider and employ the second crucial element of efficiency. Thus it may be assumed that the two-dimensional model, which is constructed and applied in order to determine and assess the level of the efficiency of the usage of fixed amounts of resources and achieving strategical management objectives, is aimed at finding the optimal solution (Jessop 2004). The implementation of such strategical decisions is based on the current performance indicators and aimed at assessing the overall productivity.

It must be noted that effective management is a particular point of balance between the enterprise's productivity and efficiency including the maximal outcomes of performance and effectiveness in terms of added value. Thus the key objective of effective governance can be displayed as a function of three variables, which can be applied as methods of optimization and forecasting (Figure 1b). In order to duly address the issue of effective governance of state enterprises at the highest level of management (governance), it is necessary

to additionally assess the correlation between operational processes and the process of creating added value. Subsequently, the key objective of effective management is applying the most suitable management solution and methodology for establishing the highest value of both performance and added value (Notteboom, Winkelmans 2010). The analysis of the theory of the effective governance of state-owned enterprises (Ayub, Hegstad 1986; Rayney, Steinbauer 1999) and the analysis of the interaction of all management levels (Jessop 2004) preconditions the establishment of an integrated set of efficient management features and allows to predict their impact on the creation of added value at the governance level.

It may be stated that in order to identify the key factors of the impact on governance effectiveness the multifactor theoretical modelling can be applied through the nexus between productivity, efficiency, productivity and effectiveness. The latter notion is based on the main determinants of management, e.g. mission clarity, leadership, stakeholders' involvement, operations elements and economic determinants such as financial efficiency, competitiveness, financial and institutional autonomy (Figure 2).

Figure 2. Determinants of state-owned enterprises' effective governance



Source: Own elaboration based on: Ayub, Hegstad 1986; Osbourne, Gaebler 1992; Rainey, Steinbauer 1999; Everet 2002; Jessop 2004; Hillman 2009.

Prior research (e.g. Ayub, Hegstad 1986; Rainey, Steinbauer 1999) suggests that the indicators of financial efficiency and performance are the possible means for evaluation, analysis and decision-making, however they are only sufficient to assess the effectiveness of governance. According to the theory of public administration, especially related to the decentralization of state-owned enterprises, it is necessary to compare the indicators of financial efficiency and performance with the social and economic impact of the state-owned enterprises operating in the competitive market and region.

2. The complex approach of the effective governance

The decentralization processes which occur due to the implementation of financial and institutional autonomy were implemented during the development of the new public management paradigm. Latest public management reforms were implemented in the area of infrastructure, transport and telecommunication management following the increase of the financial and institutional autonomy of state-owned enterprises. Such reforms were influenced by the shift of bureaucratic governance into corporate governance and following an increase of competitiveness in the market (de Langen, van der Lugt 2017).

The new public governance paradigm emphasizes the importance of productivity, performance and overall efficiency. The paradigm also places a significant importance on quantitative (i.e. measurable) sets of results. The latter paradigm also transforms the public governance conception by shifting the focus from the aim to eliminate the negative outcomes to analysing the situation and preventing negative outcomes beforehand. The new public governance paradigm only operates in the two-dimensional efficiency and productivity model. For this reason the new public governance paradigm was not widely applied and eventually was replaced by new methodological approaches (Dickinson 2016). The analysis of reforms of state-owned seaports governance suggests that new public management reforms did not enhance the strategic importance of the status of seaports in the national economies, as seaports did not become the central objects in developing transport policies. The majority of the strategic decisions regarding regional development and the development of the maritime sector considered the principles of centralization and autonomy and they were only implemented in the financial sector. This is the main discrepancy of the theory of effective management and the new public management paradigm that were criticized by academics.

The aim of the reform under the theory of new public management neglects the public interest of ensuring economic and social added value, the maritime sector connectivity with the hinterland transport system, the implementation of the concept of green logistics (Brooks et al. 2017). Furthermore, another significant drawback of the reform is that the regulatory and commercial functions of seaports' authorities are not separated (de Langen, van der Lugt 2017). Thus institutional optimisation must be carried out by decentralizing the seaport authorities by separating the commercial development of the activities of the seaport and investment planning. It can be declared the need of horizontal functional decentralization and noted that seaports must be developed with regards to those state-owned enterprises which will be responsible for the development of a specific seaports' infrastructure.

The criticism of the reforms under the paradigm of new public management implemented in the area of seaports governance suggests that the latter paradigm neglects the issue of creating added value in the sustainable development process, which may be measured by evaluating the social and economic seaport activity's impact on the national economy and society. Furthermore, it may be stated that the application of decentralization during the governance reform was unduly as it was only focused on the vertical level and did not ensure the functional severability of strategic-decision making by keeping a sufficiently high level of centralization. Combining and linking quantitative outcomes, i.e. performance indicators, strengthens competitiveness inside and outside of the organization. However, the implementation of the principles of quantitative outcomes under the new public governance paradigm resulted in yet another challenge as

the majority of the procedures became formal and oriented at evaluating only the performance level. Such governance systems were applied in a manner that resulted in a high level of determinacy and thus these limitations influenced the transformation of the new public management paradigm into the new governance paradigm in public administration.

The due application of the new governance paradigm includes a complex and multilevel perspective to the governance processes of multiple objects. From this standpoint the nexus between the integration of the new governance paradigm and complexity theory into management strategy can be identified (Butler, Allen 2008). The authors claim that the public sector and its management form a complex process which involves a wide variety of interdependent factors and their interactions. Such a complex variety of factors and their interactions setting up the overall governance model are characterized by exceptional management mechanisms such as trust and consensus. This suggests that the new governance model is focused on the inter-organizational governance model (Koliba 2013).

The findings on effective governance (e.g. Teismann, Klijn 2008; Koliba 2013; Dickinson 2016) suggest that an organization is a complex hierarchy, which includes a strict allocation of responsibilities and activities. Therefore its effective governance is characterized by the level of the productivity of the entity. However it must be noted, that modern organizations also entail systems and structural formations with an expression of human behaviour and perception where not only agents, but also their statuses and interactions with the environment exist.

The element of human behaviour is related to the decision-making processes.

Decision making aims at not only finding one optimal solution, but also at discovering the collection of possible decisions in the context of different internal and external dynamics (Teisman, Klijn 2006). The process of decision-making in the maritime sector can be analysed through the applied leadership perspective. Following the new governance paradigm, the application of the principles of the complexity theory in the decision-making processes leads to the continuous development and temporary justifies the constant disruptions occurring in intense periods of change (Notteboom, Termeer 2013). Such disturbances are identified as the premise for a new period of existence and development of the organization and the subsequent transformation into its new form (Teisman, Klijn 2006). Accordingly, government regulations and its provided funding become an important mechanism of market coordination. The application of the complexity theory increases the competitiveness of the state enterprise, also preconditions successful implementation of the principles of taxation, legislation, distribution of responsibilities and autonomy of the organization. Implementation of the mentioned governance regulations can be influenced by strong negative externality of the disturbance, when the agents pursue their aim of self-regulation and self-organization initiation of relevant processes.

The application of deterministic methodology and applied methodology under the complexity theory in analysing the effective governance of entities operating in the maritime sector can be questioned (Notteboom, Termeer 2013). The mentioned authors base their reluctance to apply the latter methodologies, firstly, on the long-term development of the interaction between the seaport and city. The authors decline the application of the regarded method-

ologies arguing the continuous development of the models of seaport governance based on the high level diversity explained by lock-in features of seaports and their path-dependence. Also it is stated that seaports are complex systems and their functions and efficiency are determined not only by their geographical location, but also by the interests of active agents within the seaports and their interactions on different territorial dimensions.

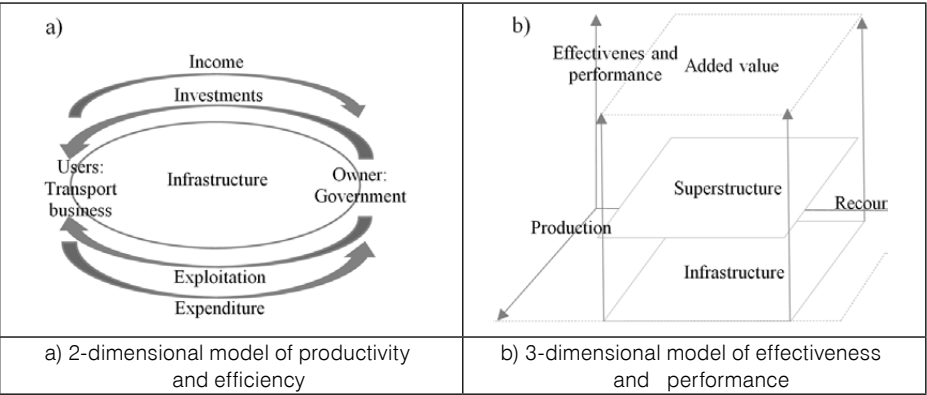
It is assumed that the deterministic methodology under the theory of effective governance at state-owned enterprises is clearly expressed in the new public management paradigm from the viewpoint of decentralization, autonomy and the creation of added value. The interaction between the levels of effectiveness of governance and added value can be measured not only by analysing the indicators of efficiency and performance but also by analysing the social and economic impact on the national economy. It is furthermore necessary to analyse the governance system of a seaport as a complex system with active agents and their interactions which are expressed in self-organization, self-regulation, and the transformation of the entity as the outcome of negative externalities and positive feedback loops inside the system.

Based on the theoretical preconditions, the complexity of the governance of seaports can be demonstrated in three-dimensional model. The complexity of the state seaport governance model is based on the concept of structure of landlord model seaport, meaning that the state is the owner of the seaport infrastructure (port quays, water, land transport infrastructure, etc.), whereas private subjects own of the seaport superstructure (cargo handling terminals, warehouses, etc.) and are the users of seaport infrastructure. The application

of the two-dimensional model addresses the question of the efficiency of the exploitation of the infrastructure (Figure 3a). The development of the maritime infrastructure is necessary for the successful integration of maritime transport into the world logistic chain, as the development of the infrastructure is crucial for ensuring a stable flow of international cargo (Dickinson 2016). An economic approach to the issue suggests that the infrastructure of the seaport belongs to the seaport’s governance mechanism. Therefore in cases where seaport infrastructure is governed and owned by the state, its correlation with the other

actors of the transport sector can be analysed from the infrastructure development and exploitation viewpoint in the terms of its productivity and efficiency (Figure 3a). Furthermore, globalization of the market creates new conditions which are necessary to analyse in order to determine the possible infrastructure management models. It is also necessary to involve private actors in the process of the development of the infrastructure taking into consideration their commitment to ensure a certain amount of cargo in order to predict the amount of return on investments (Notteboom, Termeer 2013).

Figure 3. Complexity of the seaport governance model



Source: Own elaboration.

As it is evident (Figure 3b), the superstructure is a more complex system, as it is owned by private actors that operate in the state-owned infrastructure. The cooperation between the state and private actors as owners is the key element of increasing of overall effectiveness of the seaport. Therefore seaport governance has to be aimed at increasing the synergy of public and private capital (Nguyen 2015). Moreover, the complexity theory suggests that private actors establish a close linkage to other entities operating in the seaport thus

reaffirming the complexity of seaport governance. Accordingly, in order to achieve efficient development of the infrastructure of the whole seaport it is necessary to develop close operational and competitive links between all the actors of the maritime transport market.

At the superstructure level private business entities carry out different types of operational activities. Such private actors may be involved in associations or any other interest groups aiming to ensure their interests in the development or regarded

legislation processes. It may be stated, that all private business entities operate with an aim to gain profit and satisfy other needs of the company. Thus all of the private business actors operating in the seaport are interconnected at some level in order to ensure the connectivity of the whole maritime and hinterland transportation system (Koliba 2013). This nexus between the infrastructure and superstructure of the seaport confirms that seaport governance is a complex mechanism and therefore preconditions the evaluation of it by assessing the indicators of effectiveness and performance. Following this notion, ensuring the effectiveness of seaport governance can be based on the self-organisation and self-regulation concepts (Butler, Allen 2008).

The effective governance of seaports should be aimed at not only developing and regulating its infrastructure, but also at becoming the key negative externality for ensuring effective interaction of positive feedback in the uncertain global environment. Determining the effectiveness of seaport governance may indicate the level of complexity and linkages between the actors operating in the seaport and whole maritime transport sector. Moreover, the effectiveness of state-owned seaports may be evaluated and compared to other governance models by assessing the added value of activity and national socio-economic indicators.

3. Classical economics paradigms of seaport performance

The seaport industry is a part of the global transport system and logistics chain, it also has a significant impact on the economy of the regarded city, country and region by increasing the gross domestic product,

employment rates, the development of other economic activities, attracting investment, promoting international cooperation, etc.

The problematics of the impact of seaport performance to the country's and region's economy is analysed in the view of the content and axioms of two main theoretical paradigms: methodological individualism and methodological holism. The globalization of port performance is expressed in a complex network of regional, transnational and global relations, and it responds to the novel paradigm of knowledge production and the concept of collaborative, networked performance (Held et al. 2002; Bauman 2002). The generalized concept of the process of globalization is based on the philosophy of postmodernism. The criticism of the postmodern philosophy's idea of an integral worldview preconditioned the predominance of the neo-liberalism and free-market doctrines. The latter is expressed in high mobility of labour and capital. Harvey (2005) refers to the mentioned features as "the time-space compression" or defines the features in terms of science of synergy as "in-spaced time" and "in-timed space". All of this is applied to describe the processes of globalization, the consequence of which is the "shrinkage" of the world, covering all parameters of human life and activities. Alongside with universality, the meaning of location, i.e. *locus*, is also highlighted in the context of globalization, stating that when the financial and information flows of the regarded activities reach a global level, a reverse process of localization begins subsequently framing the operational space.

The transformation of the economy of Lithuania meets the common economic laws and tendencies of the transitional period and in spite of period-specific national

characteristics, the unevenness of the country's economic progress is in line with the theoretical laws of uneven development. The dominant economic doctrines are guided by the principle of methodological individualism (at the micro-level), but the methodological holistic paradigm (at the macro-level) is more adequate in describing the economic reality.

Economic theories provide a large variety of methodological approaches in defining and assessing performance. This responds to the tendency of the development of economic thought, related to the key differences between current economic schools (normative and positive) and eco-

nomical theory (postmodernist, free market, neoclassical, endogenous growth, etc.). It also promotes the need for forming a new research methodology, corresponding to modern economic development and operating environment, in order to reach a greater production and exchange efficiency, and social welfare maximization. Theories, which combine both – the theory of forming the efficiency of seaport performance and the position of seaport performance in the economic system theory – are significant to the analysis of the impact of the seaport's performance to the country's economy (Table 1).

Table 1. Classical economic paradigms of assessing of seaport performance

Paradigm	Theory groups and main representatives
Economic growth	Keynesian and neo-Keynesian Economic Growth Theory (J.M. Keynes, E.D. Domar, R.F. Harodd)
	Neoclassical Growth Theory (R.M. Solow)
	Endogenous or the New Economic Growth Theory (R. Lucas, R. J. Borros, P. Romer)
Regional economy	Regional Development Theory (W. Isard, T. Teiner, J. Paelinc, P. Nijkamp)
	Interregional Communication Theory (A. Smith, D. Ricardo)
	Regional Market and Territorial Price Theory (O. Cournot, P. Samuelson)
	Regional Specialization and Interregional Trade Theory (A. Smith, D. Ricardo)
	Innovation Diffusion Theory (T. Hagerstand)
Spatial	Growth Pole Theory (F. Perroux, J.R. Boudville, H.R. Lasuen, P. Pothier)
Local economy	Use of Territory Theory (J.H. von Thunen, W. Alonso)
	Production Sites and Production of Raw Materials Distribution Vector Theory (A. Weber, D. M. Smith, W. Isard, L. Moses)
	Central Space Theory (W. Christaller, A. Losch)
	Territorial Competition Theory (H. Hotelling)
	General Territorial Balance Theory (W. Isard, A. Losch)
	Network Location Theory (S.L. Hakimi, H. Guelicher, C. Werner, P. Haggett, K. Kinsky)
	Localization and External Economy (A. Marshall, E.A.G. Robinson)
	Market Volatility and Potential Interaction Model (G.K. Zipf, E. L. Ullman, C. D. Harris)
	Cyclical, Causation and Processes Theory (R.M. Hurd, R. Haig, Ch. Colby, P. Krugman)
	Long-Term Cycle Theory (D. Kondratieff, J. Schumpeter, G. Mensch, C. Freeman)
	Macro-Prospects Theory (W. Sombart, J.M. Keynes, Ch. M. Tiebout, A. Pred)
	Economic Geography and Producer Services Theory, the New Service Economy (W. Christaller, C. Clark, D. Bell, V. Fuchs)

Source: Own elaboration based on: Krugman 1980, 1991; Leontief 1986; Ansoff, McDonnell 1998; Armstrong, Taylor 2000; Schaffer 2000; Miskinis, Augustauskas 2011.

It is noteworthy that following economic growth theories in addition to the obvious and apparent economic growth limitations

(lack of resources, environmental requirements, social costs, etc.) together with the increase of production volume, the coun-

try's public policy and the value of its effectiveness may be distinguished. Methods of analyzing regional economic paradigm theories and mathematical models make it possible to illustrate the region's economic space structure, to determine the region's main objects and the links between them, also to distinguish the most significant regional economic statistics groups and by combining various statistical indicators to assess the regional type, inter-regional relations and model the territorial structure of regional economy (Amstrong, Taylor 2000).

By applying the novel theories of regional economics, the identification of region and country (quasi-country) preconditions the application of macro-economic theories (neo-classical, neo-Keynesian) and micro-economic theories, in order to assess the internal regional disparities in cases of quasi-corporations or markets in the region (Schaffer 2000). The following theories are significant for revealing the interdisciplinary nature of the evaluation of the impact of seaport performance to the regional economy: the Economies of Scale Theory and the Economic Geography Theory (Krugman 1980, 1991). The factor of the location of the seaport (the geographical factor) is crucial for assessing the environment of the seaport, for determining and defining the position of the seaport in the local and global logistics chain. The geographical location is a factor of the seaport's integration into the logistics system and may be deemed as an opportunity to create added value (Rodrigue et al. 2009).

The global nature of both the seaport and the maritime sector, also the state-governed seaport performance management and the impact of the seaport's performance to the country's and international economy preconditions the assessment

of seaport performance in terms of micro-economics taking into consideration the economic cycle change. This method of assessment is based on the Keynesian market economy theory. The Keynes' model of the economy, also the related neo-Keynesian, neo-classical synthesis and post-Keynesian economic theories, out of all the modern market economy theories affecting port economics, proved to be the most significant of all in the crisis and post-crisis period (Rakauskiene 2006). The proponents of the neo-Keynesian theory stress the need of supranational economic regulation, particularly in times when integrated blocks such as the United Nations, the International Monetary Fund, the World Trade Organization, the International Maritime Organization, etc. are formed.

4. Seaport conceptions and quality of life vs. liberal monetary models

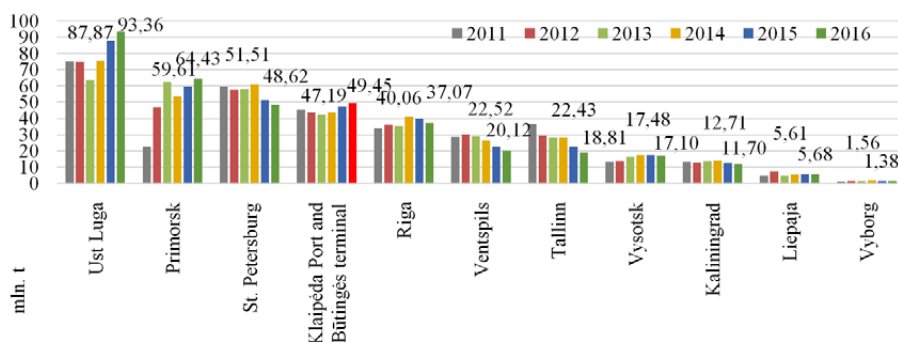
The main seaport performance conception classifications applied in the practice of economic activity are the following port characteristics: the size of the port and the role of the port in the national or regional economy, the nature and form of the management and ownership of the port. The modern Eastern Baltic Sea region seaport conception is based on the management of the property of the seaport. This conception is mostly applied in describing and classifying seaport, but also this is one of the most discussed conceptions for assessing the seaport's efficiency and productivity. The aforementioned indicators are determined by the size (capacity) of incoming ships, the structures of international shipping companies, differences of management, performance and commercial practice, the increase of seaport versatility and the associated increase of

competition (Talley 2012). *These factors are the main reason why the country or local municipality seeks to have the greatest possible influence in seaport strategy planning.* The assessment of the economic impact of seaport performance is considered to be one of the most significant means recognized in the global seaport practice not only to assess the economic benefits

of the seaport, but also to distinguish the areas to which the seaport performance has the most effect on.

Cargo flow in the Eastern Coast of the Baltic Sea region is characterized by a downward trend: the total cargo turnover in 2015 decreased by 0.1% compared with 2014, in 2016 decreased by 0.2% compared with 2015 (Figure 4).

Figure 4. Eastern coast Baltic seaports cargo turnover 2011-2016, million tons*



Source: Annual Klaipėda State Seaport Authority Cargo Handling Reports 2011-2016 (*Numbers of 2015-2016).

Lithuanian ports have the highest cargo-handling turnover among the Baltic States, but the turnover of Russian ports is highest in the Eastern Coast of the Baltic Sea region (Figure 4). It can be predicted that the cargo flows were redistributed in the region, i.e. from ports of Baltic States the cargo flows were likely transferred to Russian ports. Negative correlation of cargo flow is between Ust Luga and Ventspils ports, Tallinn and St. Petersburg, Primorsk, Vysotsk, Butinges Terminal (correlation coefficient $k = -0.5$).

The Russian embargo on the EU production, EU sanctions against Russia raised concern about a decline in containerized and ro-ro cargo flow (Fig. 4). The trend of these goods turnover describes the purchasing power of the population, because these cargoes consist of the goods of wide consumption. The total container

flow is fluctuated in the region: in 2015 it decreased by 25% compared with 2014, in 2016 increasing by 4% comparing with the 2015. The regional leader – the port of St. Petersburg has 58% share of the container market of region. The port of Klaipėda port, with 14% of a market share, is leading in Baltic States, but it cannot properly compete with the Russian ports. This situation leads to claims of stevedoring companies: infrastructure of the container terminals was developed too slowly in the past, it needs time to accelerate. It can be a precedent of lack of cooperation between port authority and private companies.

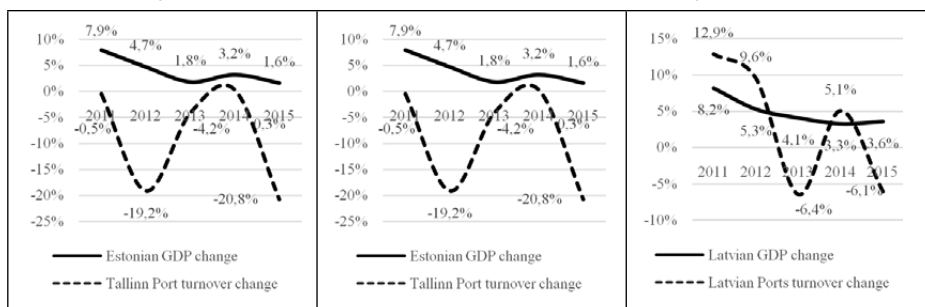
In the regional ro-ro cargo market, the port of Klaipėda (Lithuania) competes with the port of Tallinn (Estonia). The ro-ro cargo flow in Klaipėda port increased by 3% in 2015 compared with 2014 and by 4% in 2016, in Tallinn – by 8% in 2015 compared

with 2014 and by 5% in 2016. Biggest decline was recorded in Russian ports Ust Luga (by 35%) and Kaliningrad (by 41%). This situation proves the good conditions of Lithuania and Estonia land and maritime transport infrastructure. On the other hands, Kovacs and Spens (2006) stated that the Baltic rail networks were in hopeless condition and that the Baltic States, with their particular infrastructural heritage, would be forced to accept an emphasis in favour of road transport, even if this was not desired in the EU. The current state of the road network is significantly improved. This creates possibilities to increasing of

freight traffic on roads in the Baltics. For successful intermodal transportation, all linkages between maritime, rail and road transportation have to be facilitated by a functioning transport infrastructure.

Having in mind the economic significance of seaports, which act as strategic objects of the country, performance to the country's economy, the significance of seaport performance economic impact is assessed ambiguously while analyzing the connection between the Baltic Sea east coast region seaports (Estonia, Latvia, Lithuania) and the country's GDP (Figure 5).

Figure 5. Estonian, Latvian and Lithuanian GDP and ports turnover change fluctuation



Source: Eurostat 2017a; Annual Klaipėda State Seaport Authority Cargo Handling Reports 2011-2016.

The economic growth of the Estonian economy in 2015 is the worst since the crisis in 2008-2009 and the slowest growth among the Baltic States, whereas the most rapid economic growth was reached in Latvia. This situation may be influenced by the decrease of the seaport's productivity and sea freight flow, and the logistics system. The changes of the GDP of Lithuania and maritime freight handling have a linear dependence (the correlation coefficient $k=0,7$). The changes in seaport freight handling of Estonia and Latvia have a minor influence to the GDP change ($k=0,3$; $k=0,4$). The fall of the economies of other Baltic states is linked to the negative im-

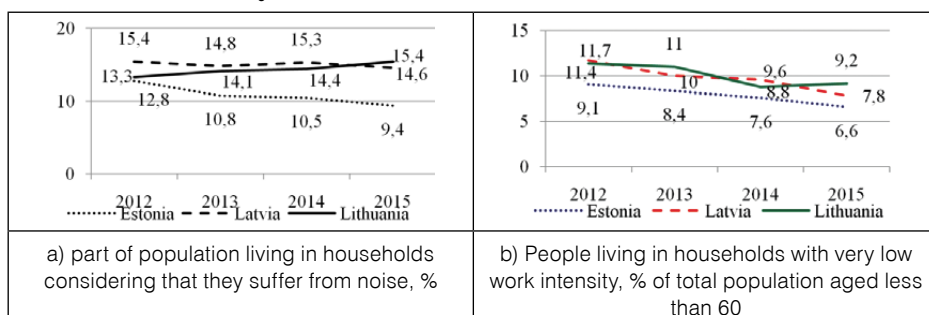
pact of adverse external environment (due to the Russian embargo). The Lithuanian transport sector managed to regain the lost export flows by redirecting them to Asia, Scandinavia and Western Europe. Estonian companies did not manage to effectively transform the cargo flows, and in 2015 total export in Estonia shrank, whereas the total export rates of Lithuania grew.

The Klaipėda State Seaport Authority ordered to carry out a scientific study called "The Klaipėda State Seaport influence to the city and state" (2007-2013). The research led to the conclusion that comparing to similar structures the seaport is one of the largest employers in both the region

of Klaipeda and whole Lithuania, as 4,5% of the total Lithuanian working population works in the port. Comparing the facts that (1) the income per worker in companies that are directly related to the port is 2 times higher than the total income per employee in Lithuanian companies, and (2) the wages of port employees' are on average 2-2,5 times higher than employees of other sectors, it can be predicted that socio-economic impact of seaport activities are significant.

On the other hand, the social indicators of Baltic States are different and it is difficult to establish a direct link between states strategic sector, seaport, development, and socio- economic development and quality of life (Fig. 6). Despite the growth of seaport results of Lithuania, the social indicators, related with industry – suffer from noise (Figure 6a), low work intensity (Figure 6b) – have unsatisfactory rates and an upward trend.

Figure 6. Estonian, Latvian and Lithuanian social indicators



Source: Eurostat 2017b, 2017c.

The analysis of modern functions of seaport and performance suggests that the seaport is a centre of international trading, a communication partner and a transport system connection; it also is the place of high commercial infrastructure and industry concentration. This implies the assumption that the seaport is the local (port) and remote (consignor and recipient) location economic growth multiplier.

Contrary to the classical economic theories, which promote economic growth, the monetarism economics theory, even though aiming for economic growth, declares financial and economic stability and equilibrium. On one hand, macro-economic goals are considered as the priority, thus the monetary and fiscal policies are the most significant political levers. On the other hand, the actions of monetary

policy also strengthened social inequality and the impact to reduce social inequality is insignificant and short-term (Rakauskienė 2006; Stiglitz 2013; Bernanke 2015). Targeted macro-economic stability is an erroneous goal that does not reflect the actual situation. The assessment of macro-economic and employment indicators set by J.M. Keynes is not sufficient to describe the actual economic condition. Drewnowski (1980) refers to this situation as the second crisis of economics theory – the existing economic theories cannot answer the question of what in fact is the economic impact on people's lives.

The new approach of the socio-economic progress assessment paradigm is shaped. The actual economic state is characterized by applying an integrated analysis of various aspects of life welfare indicators: mate-

rial living standards (income, expenses and assets); health; education; personal activities, including employment; citizenship; social connections and relationships; environment (present and future conditions); the physical and social security, ecology. It is recognized, that the statistical quality of life indicators are important for foreseeing the future policies of countries, aimed and assessing the progress of the society and the functioning of economic markets. The assessment approach is altered from production to welfare, sustainable environment while assessing the state of the economy (Drewnowski 1980; Stiglitz et al. 2010; Rakauskienė, Servetkienė 2011).

The issues of globalization of economic processes and evident tendency of activity humanization become relevant to the performance of seaports – the port authorities become open to the public, they actively participate in the social life of the city. Moreover, the significance of private business' and port companies' activities is increasing, and the seaport activities become subject to more strict environmental standards. These may be considered the rudiments of the European welfare market economy. It subsequently promotes research on the connection between culture and economics, which justifies the assumption that the decline of cultural, moral values slows economic growth. In order to accurately reflect the actual economic state it is crucial to follow the concept of systemic life quality, which defines the quality of life of the population as an integrated concept fully describing the health of ecological, economic, material and moral spiritual condition of the society, that may be measured at the macro-level (national and international level), micro-level (individual human point of view) and mezzo-level (maritime sector level).

Conclusions

The analysis of the conception of effective governance of state-owned enterprises shows that the effectiveness is based on the level of performance, efficiency, and governance effectiveness of state-owned enterprises. The latter effectiveness can be measured by the set of performance, social and economic added value indicators. The main findings of the research are based on the identification of the main determinants of effective governance, *i.e.* mission clarity, leadership, stakeholder's relations, operational effectiveness, financial efficiency, competitiveness, financial and institutional autonomy. The aforementioned determinants form a complex methodology can be applied in order to evaluate the level of effectiveness of seaports governance.

The linkage and relevance of the public management paradigm and complexity theory describe the complex model of effective seaports governance as a process that requires complex and multi-dimensional decision-making. The seaport conception is based on public and private capital synergy, which is expressed in the network of interactions between private and public entities acting in accordance with the combined aims of both making profit and ensuring public interest goals. The latter characteristics determine the complex system of seaport governance with the self-regulation and self-organization functions as the key features of the ability for whole system to adapt and transform accordingly.

The research identified and addressed the significant features of effective governance of state-owned enterprises. These features include governance methodology's and tools' orientation to be applied as an external and internal disturbance factor for the initiation of self-regulation and

evolution processes in the system with the aim of cooperation, self-organization and development to another more effective modes which could be measured from the viewpoint of added value creation. The effectiveness of the governance of state seaports can be measured by assessing the social and economic indicators, which characterize the impact of the activities of the seaport on the national social and economic status.

The analysis of the results of the research on seaport performance suggests that fundamental, paradigm-level studies are not characteristic to seaport performance analysis. The assessment of the impact of the seaport's performance on the country's economy is associated with the ever-growing rate of competition of the seaports in the Eastern Baltic Sea coastal region, the changes in the region's and global shipping market. The economic cyclical fluctuation, geopolitical factors, the country's transport policy, the selected port conception and the port companies' strategies have a significant influence on the operational efficiency of seaports. The seaport's performance has an impact on the country's transport sector's efficiency and partially defines the country's economic status.

Seaport performance is associated with the growth and cyclicity of the national economy, also with the regional and global economic processes and the quality of life of the society. Thus in order to achieve sustainable development of the Eastern Baltic Sea coastal region, the seaport performance impact on the economy must be assessed in an integrated manner, taking into consideration the macro-economic, micro-economic and quality of life indicators in the international (global) and national level. More realistic results that reflect the actual economic state are likely to

be reached, and it will subsequently create preconditions to form the port and the country's economic development trend, the promotion of investment to the public sector, as it will also promote raising economic efficiency, strengthening the balance between the public and private sectors, and creating conditions for economic progress and development.

References

- Ayub, M.A., Hegstad, S.O. (1986), Public industrial enterprises: Determinants of performance, in: World Bank industry and finances, series 17, Washington: World Bank.
- Amstrong, H., Taylor, J. (2000), Regional economics and policy, Oxford: Blackwell Publisher.
- Annual Klaipeda state seaport authority cargo handling reports (2011-2016), Klaipeda: Klaipeda State Seaport Authority.
- Ansoff, H.I., McDonnell, E.J. (1998), The new corporate strategy, New York: John Wiley & Sons.
- Bauman, Z. (2002), Globalizacija, Vilnius: Strofa.
- Bernanke, B.S. (2015), The courage to act: A memoir of a crisis and its aftermath, New York: W.W. Norton & Company.
- Brooks, M.R., Cullinane, K.P.B., Pallis, A.A. (2017), Revisiting port governance and port reform: A multi-country examination, *Research in Transportation Business and Management*, 22: 1-10.
- Butler, M.J., Allen, P.M. (2008), Understanding policy implementation processes as self-organizing systems, *Public Management Review*, 10 (3): 421-440.
- Chandan, S. (2012), Determinants of PPP in infrastructure in developing economies, *Transforming Government: People, Process and Policy*, 6(2): 149-166.
- Davis, L.H. (2006), Green tape: A theory of effective organizational rules, *Journal of Public Administration Research and Theory*, 19(2): 361-384.

- de Langen, P. W., van der Lugt, L. M. (2017), Institutional reforms of authorities in the Netherlands: the establishment of port development companies, *Research in Transportation Business and Management*, 22: 108-113.
- Dickinson, H. (2016), From new public management to new public governance, in: J. Butcher, D. Gilchrist (Eds.), *The three sector solution: Delivering public policy in collaboration with not-for-profits and business* (pp. 41-61), Canberra: ANU Press.
- Drewnowski, J. (1980), Social indicators. Quality of life and economics theory, *Philosophica*, 25 (1): 15-32.
- Estrin, S., Meyer, K.E., Nielsen, B.B., Nielsen S. (2016), Home country institutions and the internationalization of state – owned enterprises: A cross country analysis, *Journal of World Business*, 51(2): 294-307.
- Eurostat (2017a), GDP and main aggregates, available at: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=naida_10_gdp&lang=en (accessed 20 May 2017).
- Eurostat (2017b), Proportion of population living in households considering that they suffer from noise, available at: <https://data.europa.eu/euodp/en/data/dataset/KbPRhMO5PLU6YEmxeNZolq> (accessed 20 May 2017).
- Eurostat (2017c), People living in households with very low work intensity, available at: <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&plugin=1&language=en&pcode=tipslc40> (accessed 20 May 2017).
- Everet, S. (2002), Corporatisation legislation: The key to effective management, *IAME Panama 2002 Conference Proceedings*: 1-13.
- Harvey, D. (2005), *A brief history of neoliberalism*, Oxford: Oxford University Press.
- Hillman, A.L. (2009), *Public finance and public policy: responsibilities and limitations of government*, Cambridge: Cambridge University Press.
- Held, D., McGrew, A., Goldblatt, D., Perratton, J. (2002), *Globaliniai pokyčiai: Politika, ekonomika ir kultūra*, Vilnius: Margi raštai.
- Jessop, B. (2004), Multi-level governance and multi-level metagovernance: Changes in the European Union as integral moments in transformation and reorientation of contemporary statehood, in: I. Bache, M. Flinders (Eds.), *Multi-level governance* (pp. 49-74), Oxford: Oxford University Press.
- Koliba, C. (2013), Governance network performance: A complex adaptive system approach, in: B. Agranoff, M. Mandell, R. Keast (Eds.), *Network theory in the public sector: Building new theoretical frameworks* (pp. 84-102), New York: Routledge Press.
- Kovacs, G., Spens, K., M. (2006), Bottlenecks in intermodal transportation – the case of the Baltic region, *Proceedings of the Second International Intelligent Logistics Systems Conference 2006*: 15.1-15.14.
- Krugman, P. (1991), Increasing returns and economic geography, *Journal of Political Economy*, 99: 483-499.
- Krugman, P. (1980), Scale economies, product differentiation, and the pattern of trade, *American Economic Review*, 70: 950-959.
- Leontief, W.W. (1986), *Input-output economics*, Oxford: Oxford University Press.
- Miskinis, A., Augustauskas, M. (2011), *Ekonomikos augimas: teoriniai požiūriai ir šiuolaikinė praktika*, in: B. Melnikas (Ed.), *Ekonomikos modernizavimas: efektyvumo paieškos ir šiuolaikiniai prioritetai* (pp. 156-179), Vilnius: Vilnius University Press.
- Nguyen, X. (2015), On the efficiency of private and state-owned enterprises in mixed markets, *Economic Modelling*, 50: 130-137.
- Notteboom, E.T., Termeer, C.J.A.M. (2013), Strategies of complexity leadership in governance systems, *International Review of Public Administration*, 18 (1): 1-16.

- Notteboom, E.T., Winkelmanns, W. (2010), Structural changes in logistics: How will port authorities face to challenge?, *Maritime Policy and Management*, 28(1): 71-89.
- Osbourne, D., Gaebler, T. (1992), *Reinventing government: How the entrepreneurial spirit is transformin the public sector*, Reading: Addison Wesley Publishing.
- Rainey, H.G., Steinbauer, P. (1999), Galloping elephants: Developing elements of a theory of effective government organizations, *Journal of Public Administration Research Theory*, 9(1): 1-32.
- Rakauskiene, O.G. (2006), *Valstybės ekonominė politika*, Vilnius: Mykolas Romeris universitetas.
- Rakauskiene, O.G., Servetkiene, V. (2011), *Lietuvos gyventojų gyvenimo kokybė: dvidešimt metų rinkos ekonomikoje*, Vilnius: Mykolas Romeris universitetas.
- Rodrigue, J.P., Comtois, C., Slack, B. (2009), *The geography of transport systems*, New York: Routledge.
- Schaffer, W. A. (2000), *Regional impact models*, West Virginia: West Virginia University Regional Research Institute.
- Stiglitz, J.E., Sen, A., Fitoussi, J.P. (2010), *Report by the Commission on the Measurement of Economic Performance and Social Progress*, available at: (accessed 17 March 2016).
- Talley, W.K. (2012), Ports in theory, in: W.K. Talley (Ed.), *The blackwell companion to maritime economics* (pp. 473-490), Oxford: Blackwell Publishing Ltd.
- Teisman, G.R., Klijn, E.H. (2008), Complexity theory and public management: An introduction, *Public Management Review*, 10(3): 287-297.
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