Prospects for Public-Private Partnerships in Seaport of Khabarovsk Territory

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Abstract. Since theoretical approaches to the development of seaports have been actively explored over the past 30 years, the role of the port region is attracting increasing attention, especially in the spatial economy. This article, using the example of the sea port Vanino (Khabarovsk Territory), examines the regionalization of the seaport in the context of public-private partnership. To this end, an analysis of the theory of the development of the seaport in the port region was carried out. The basic models of public-private partnerships to ensure sustainable development of the port region are considered. The results of the study for the Vanino seaport show that PPP makes the stakeholder environment more difficult to manage, due to the growing importance of stakeholders. The implementation of coal projects under PPP in the next 10 years will not have a significant impact on the port region. As the economic effects for the port region will gradually decrease, accordingly, the negative consequences will increase. Therefore, the current “port-owner” model is inefficient. The “port-instrument” model may be the most acceptable for the sea port of Vanino, when the port administration is the owner of the infrastructure and performs the whole range of tasks necessary for the functioning of the port system, and the private sector is engaged in cargo operations.

1. Introduction
Over the past few decades, the world has seen an increase in the number of mega-projects implemented as part of public-private partnerships (PPPs). It is known that only for the period from 2000-2016 around 68.8 billion dollars of private investments were allocated in the world for the implementation of more than 290 seaport infrastructure development projects. Maritime governments use a variety of PPP models to ensure sustainable development of seaport infrastructure. Such a partnership is aimed not only at increasing the efficiency of the seaport, but also at creating additional effects that can stimulate the development of the regional economy. However, as practice shows, PPP makes it difficult to manage the environment of stakeholders. Therefore, a clear distribution of the areas of responsibility of stakeholders between the state and private business is an important element of successful public-private partnership [1].

The relevance of regional research in the seaport sector of the Khabarovsk Territory is determined, first of all, by the port reform, which involves the involvement of private investment in this sector of the economy. Since 2015, several investment projects of PPP have been actively implemented at once in the Vanino seaport. This means that the development of seaports in the Khabarovsk Territory is carried out in accordance with world trends in the field of maritime transport infrastructure and logistics, which began in the sea world powers back in the 80s of the twentieth century. However, the
implementation of these investment projects faces many difficulties, including those related to the distribution of areas of responsibility between the state and private business. Therefore, it is important to evaluate ongoing projects in the seaport of Vanino and offer some recommendations, taking into account the global experience of PPPs.

2. Infrastructure and public-private partnerships

Numerous studies of scientists in the field of seaport development focus on its role in the regional economy, the nature of which is dictated by the development of the transport infrastructure of the world market. In general, increased interest in infrastructure issues appeared in the early 1940s. This was due to the fact that after the First World War, the cost of creating infrastructure quickly increased due to an increase in the scale of production, its territorial distribution and the need for these reasons to make large investments. In the same period, scientists from the field of infrastructure dealt with W. Isard [2], P. Rosenstein-Rodan [3], R. Johimsen [4] and others. In turn, a special interest in seaports in the regional aspect appeared in the late 1970s. As a result of the “container revolution”, when it became clear that the issues of mutual influence and interconnections between the seaport and the port-region require rethinking.

Research in this direction was reflected in the numerous works of foreign scientists – M. Bast, D. Bird, A. Verbek, A. Woodburn, V. Jacobs, B. Johanson, M. Dooms, V. Cliff, T.E. Nottebub, J.-P. Rodrigue, A. Fremont, E. Heisendok, E. Horchio and many others. Researchers seek to combine maritime trade with regional and national policies by summarizing the effects of seaports on their spatial location and by analyzing the seaport's performance as a determinant of trade costs. Many works have been devoted to this direction [5, 6]. The problems of assessing such aspects of the operation of seaports as the development of a seaport as a logistics center [7, 8], and prospects for the development of container shipping [9, 10] have been studied at a fairly good level.

At the same time, the bottleneck remains the problem of assessing the interaction of the seaport with the port-region (which is located in close proximity to the seaport and covers various territorial entities (the economic zone around the port, municipal region, urban district, etc. [11]. In any case, there is no generally accepted method for such measurements [12]. The reason for this state of affairs is not the weakness of conceptual constructions, but the very nature of the relationship [13]. In general, the processes describing the relationship between the region and the seaport are reflected in such basic models as “Anyport” [14], “Port regionalization” [15], and “Port-city” [16]. It is believed that ensuring the efficient functioning of the seaport, on the one hand, increases its competitiveness, and on the other hand, has a positive impact on the port-region. Accordingly, two-way communication between the seaport and the port-region is a mutual interest for both parties. As a result of its activities, the seaport provides access to cheaper global commodity and commodity markets, as well as creates economic benefits and stimulates the growth of welfare of the population [17].

A key condition for the development of the seaport is to ensure “peak” requirements for transhipment of goods and respect for the proportions between land and sea modes of transport. This condition is especially important in connection with the intensive development of technologies, as a result of which sea ports from a provider of traditional cargo transhipment services turned into diversified complexes combining logistics services, production, tourism, trade and financial activities, which requires large investment. However, not all investments in port infrastructure can be justified. Some trends are negatively affecting the seaport sector, in particular for seaports specializing in coal transhipment. The paradox is that investments in port infrastructure can lead to increased traffic congestion, higher prices for seaport services, the formation of high transport taxes, increased environmental pressures, and reduced economic effects of the seaport for the port-region as a result of lowering trade barriers, which ultimately, it can undermine the competitiveness of the seaport [18, 19]. In this regard, increasing the efficiency of the seaport and creating favorable conditions for the participation of the private sector in the transshipment of coal cargo, in particular on the basis of PPP, is of paramount importance.
Recently, PPP has become a vital tool in creating, managing and operating the seaport infrastructure. PPP aims to create synergistic effects by combining the skills and resources of both public and private parties with common strategic goals, shared risks and shared financial responsibilities [20]. Important components of a successful PPP are: carefully crafted agreements that provide for a clear distribution of roles, roles and risks and flexibility, a clear strategy and regulatory system, as well as an institutional mechanism to properly regulate this process. There are four main port management models: state port, tool port, owner port, and private port. Their individual aspects may vary depending on various functions of the public and private sectors [21]. Each model has its own characteristics regarding ownership of infrastructure and equipment, terminal operations and the provision of seaport services for ships, such as pilotage, towing and mooring.

The PPP institutional system for attracting the private sector transfers the functions of state management of life support facilities to private hands. Investments in regional development should be based on technological reserves formed by projects and programs of the full innovation cycle, in particular, provided for in the national project “Science” (2018), integrated with the project “Digital Economy of the Russian Federation” (2017). A comprehensive plan for modernization and expansion of the main infrastructure (October 1, 2018 – December 31, 2024) formalizes the mechanism for the implementation of national projects – PPP in the formation of project financing. In the Russian Federation, especially in the Far East of Russia with large-scale projects, the following threats prevent PPPs [23]: a system of corruption and bribery; difficult to interpret and often changing legislation; complicated procedure of export-import operations; complicated procedure for VAT and import duty refund; difference from the international financial reporting standard; complicated procedure for making insurance; frequent changes in the accounting report system; rising interest rates.

Thus, the mechanism for the implementation of specific programs and national projects forms the equipment of online services that ensure security, transparency, and multimodality of freight traffic. The creation of a unified digital transport environment was manifested in the form of interaction between the state and business in the formation of national project financing (PPP), which corresponds to the leading trends in world economic development.

3. Estimates of public-private partnerships in the seaport

3.1. Analysis of the current situation

The key role in ensuring foreign trade relations of the Khabarovsk Territory is played by the seaport of Vanino. From 2005 to 2014 the development strategy of the Vanino seaport was aimed at modernizing the “Vanino – Sovetsko-Gavanskoy transport and industrial hub” with the aim of creating a large seaport for export transshipment in the Russian Far East. It was assumed that its construction will make it possible to turn the depressed region into a point of economic growth, which is important not only for the Khabarovsk Territory, but also for the Russian Far East. As part of this area, the port infrastructure was modernized and a coal terminal with a total value of 28 billion rubles was built. During this period, the port-owner model is used in the port, when the entire complex of tasks necessary for the functioning of the port system is performed by the port owner.

As a result of the new strategy, the share of the Vanino seaport since 2005 in the total cargo turnover of the Russian Far East increased from 13.1 % to 16.8 % in 2015. This means that the Vanino seaport has a certain potential and is a real competitor to the nearest seaports Primorsky Territory. At the same time, the positive dynamics of the Vanino seaport, together with guaranteed long-term contracts, ensured only the stable and successful development of the seaport itself. While the consequences for the port-regions are different. For a long time, the Vanino seaport was a city-forming enterprise, providing and supporting economic activity in the port-region. Several large enterprises functioned in its environs, which contributed to the formation of productive activities and provided employment [24]. However, the intensive development of infrastructure projects for the transshipment of coal cargo led to the fact that some of the existing enterprises were liquidated. In addition, the
population in the port-region decreased the number of unemployed increased, and the housing stock decreased, table 1.

Table 1. The main indicators of the Vanino area.

| Indicator                                | 2005     | 2017     |
|------------------------------------------|----------|----------|
| Population, thousand people              | 41581    | 34657    |
| Number of unemployed, people             | 1187     | 1438     |
| Housing stock, thousand square meters m total area | 763,8    | 729,4    |

Source: Calculated according to the statistical collection. Population of the Khabarovsk Territory by municipalities

The unfavorable situation on the labor market, the tense environmental situation, as well as the shortcomings in the development of social infrastructure stimulated the migration outflow of the population from the port-region, which created a negative background in attracting new labor resources for the development of the Vanino seaport [25]. In turn, the changes for the seaport of Vanino were expressed as follows: 1. Coal cargo created a shortage of port capacities and complicated the delivery of goods by rail; 2. There was a problem of delivery of coastal cargo; 3. The coal specialization of the port increased its dependence on changes in the global market environment for fuel and energy resources. However, in recent years, the global coal market is going through hard times. A number of countries have developed a new “green policy” [26]. Therefore, it is possible that in the face of a decline in Asia-Pacific countries' demand for imported coal, the Vanino seaport may face a drop in profitability and fiercer competition for new freight flows.

3.2. Evaluation results

Since 2015, the development strategy of the Vanino seaport has been associated with the implementation of a major project in the Russian Far East – the Free Port of Vladivostok. As part of this project, ten investment projects in the form of PPP are planned to be implemented in the seaport with a total investment of 82.5 billion rubles. In general, the total increase in the capacity of the Vanino seaport will amount to 33.5 million tons with a total investment of 69.6 billion rubles, and an increase in employment of 1.2 thousand people.

It is still difficult to say how successfully the projects to develop the seaport of Vanino are being implemented, since a relatively short period of time has passed and there are no specific estimates. But, nevertheless, the reaction to these changes can be traced using the relationship between the dynamics of the population and changes in port cargo turnover. In the case of the Vanino seaport, this dependence demonstrates a decrease in the population and an increase in cargo turnover, which justifies the need for the port-region to search for promising cargoes. At the same time, most of the projects “tied” to the development plans of the Vanino seaport have a raw material focus. In addition, most planned cargo flows do not geographically belong to the port-region. This means that this situation can block attempts to introduce innovative technologies and diversify the cargo base of the Vanino seaport. In this regard, it is important to understand what the economic effects are in the medium term for the port-region from the ongoing projects of the Vanino seaport, taking into account PPP projects. The estimates obtained showed the following results. The volume of cargo transshipment at Vanino seaport in 2030 will be 73 million tons, of which the share of PPP project cargo will be approximately 54% (Table 2).
Table 2. Estimated economic effects of Vanino seaport.

| Indicator                                         | 2017    | 2030    |
|--------------------------------------------------|---------|---------|
| Cargo transshipment volume, million tons         | 29      | 73      |
| PPP, %                                           | –       | 54      |
| Profit tax, million rubles                       | 151.9   | 284.8   |
| PPP, %                                           | –       | 23      |
| The number of people employed in the seaport, thousand people | 2.0     | 3.3     |
| Volume of port revenue from transshipment of cargo, RUB mln | 4465.8  | 9653.7  |
| PPP, %                                           | –       | 33      |

Source: calculated by the author

The economic effects for the port-region, formed by the seaport of Vanino, will be little noticeable. The volume of income tax in 2030 will be approximately 284.8 million rubles, of which the tax payments of PPP projects – 23 %. At the same time, an important condition for the implementation of projects should be the delimitation of the areas of responsibility of stakeholders between the state and private business [1].

4. Recommendations and suggestions
In general, the results obtained allow us to conclude that the implementation of coal projects under PPP in the next 10 years will not have a significant impact on the port-region. As the economic effects for port-regions will gradually decrease, accordingly, the negative consequences will increase. In addition, the coal specialization of the Vanino seaport will increase the negative impact on the port-region: an increase in the number of risks associated with the supply of coastal cargo, environmental degradation of adjacent territories, an increase in the outflow of the population, and an increase in dependence on global demand for fuel and energy cargo from the Asia-Pacific region. All of these phenomena are negative effects for the port-region. The timing of the construction of infrastructure projects is not in sync with the completion of PPP project for the Vanino seaport, which fall on the same forecast period. This can lead to “investment fatigue”, and the completion dates for projects will be extended for several years. To some extent the new development strategy of Vanino port changes style of development of port – there is an active involvement of private business in economic activity of port. However collision of interests can lead to the fact that afterwards the seaport Vanino can act as a source of the social conflict of local population. Therefore, the current “port-owner” model is inefficient. As the most acceptable for Vanino port the model “port tool” when the administration of port is the owner of infrastructure can act and carries out all complex of the tasks necessary for functioning port systems, and the private sector is engaged in cargo operations.

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