Dynamic Analytics of International Port Governance Structure Efficiency: With Comparative Verification Cases of Port Governance in Pearl River Delta

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Abstract. The current multi-lateralization of international trade is facing a critical challenge of dynamic assessing and analyzing port governance structural efficiency, especially in the exploration of effective governance structure and analytics method of inter-nation, hetero-system port regions, such as those along “The Belt and Road” regions. In this context, this paper based on Nobel prize-winning economist Williamson - corporate governance structure theory and founded the dedicated degree of “asset” idea, built suitable for state-owned companies - private hybrid system “assets dedicated degree” of the econometric model, and to a large bay area of Guangdong port governance “transaction costs” of the empirical analysis. This study collects relevant data of key ports in the Asia-pacific region and uses them to scientifically test the measurement model and analysis method we built, empirically determines the main measurement dimensions of "port asset specificity", with the measurement degree reaching over 70%. Finally taking Zhuhai port as the key empirical analysis, this paper puts forward the strategy of Zhuhai port: Firstly, based on the state-owned enterprises - private hybrid system of Shenzhen port, Zhuhai port needs to introduce global strategic partners for in-depth cooperation and innovation. Secondly, Zhuhai port should constantly improve the proportion of container business and give full play to the unique advantages of multi-model transport, reducing "port asset specify". Thirdly, Zhuhai port should complementary interaction with other ports in The Greater Bay Area.

1. Introduction
The Guangdong-Hong Kong-Macao Greater Bay Area strategically radiates China's Pearl River Delta region, which is a significant complement to China's "The Belt and Road" initiative and node of the "21st Century Maritime Silk Road". The objective of The Guangdong-Hong Kong-Macao Greater Bay Area is to create a world-class Bay Area economy with a high degree of benefit from the port-related industrial chain. From the ports functions of The Guangdong-Hong Kong-Macao Greater Bay Area, most ports are container transport and the main transport areas converge. However, the division of labor and functional positioning between them is obscure, homogenization competition and repeated investment are serious. The construction strategy of The Guangdong-Hong Kong-Macao Greater Bay Area should focus on regional integration and share of Bay Area resources. The future of the port Group will form a hierarchical, functional positioning of the organic group (similar to Tokyo Bay Area seven major ports resources complementary model development).
The central challenge in The Guangdong-Hong Kong-Macao Greater Bay Area lies in the remaining controversial issue of effective governance structures and methods under the "multi-country system". However, the controversial focus of the dispute so far is whether the theory and method of governance of the economies of western developed countries is applicable and how it can be applied to the mixed economies involved in the "The Belt and road" initiative. Under this background, based on the Nobel laureate Williamson-corporate governance structure theory and the concept of "asset specificity", this research project constructs a measurement model suitable for the "asset specificity" of the state-owned enterprise-private mixed system\(^1\), and an empirical analysis of the "port governance transaction cost" of The Guangdong-Hong Kong-Macao Greater Bay Area, which is conducive to promoting the implementation of the “The Belt and road” initiative and “The Guangdong-Hong Kong-Macao Greater Bay Area”.

1.1 Overseas Research Status

The concept of the degree of asset specificity was first recognized by some economists when they studied human capital. Alfred Marshall (1842-1924) recognized the growth of human capital in the study of employment. Gary S.becker clearly articulated human capital in his expedition to the labor market incentive framework. However, Jacob Marschak pointed out that researchers, teachers, and managers had the same irreplaceable uniqueness as factories and port, refuting that the economics easily accepted and used alternative assumptions. Bonnie, for his part, proved the importance of proprietary knowledge and working relationships.\(^2\) Nobel laureate in economics Oliver Williamson (1932.9.27 to now) in 2002, when he made the study of transaction cost theory (from choice to contract-as the enterprise theory of governance structure), the asset specialty was used to explain the origin of transaction cost, while the contract was studied by transaction cost, and the corresponding governance structure was found from all kinds of contracts, for examining the various economic systems, and then compares them in terms of efficiency.\(^3\) Asset specificity refers to the property of an asset that is difficult to be transferred to another use after being locked up for a specific purpose. Namely, the value will be reduced if converted to other uses, even becoming worthless assets. Williamson divides asset specialization into five types: (1) Site specificity, which refers to a series of sites that are closely linked to each other in order to save inventory and transport costs; (2) The specificity of material resources, such as special molds necessary for the production of a part; (3) The specificity of human capital (4) Special assets, Mainly refers to the investment in accordance with the customer's urgent requirements, (5) Brand asset specificity, including the organization or product brand and the goodwill of the enterprise.\(^4\)

Since 1932, when American scholars Bailey and Minns put forward the concept of corporate governance structure, many scholars have studied the theory of corporate governance from different points of view, which are representative of the theory of super-property rights, the theory of separation of two rights, the theory of principal-agent and the theory of stakeholders, which constitute the main theoretical basis of corporate governance structure.\(^5\) The port governance concept had been applied since the 1980s. Against a backdrop of decentralization in government management, devolution in central decentralization, deregulation, and privatization, the western academic circles have carried on the beneficial discussion to the port management mode and the effective analysis tool to each country port reform practice. The World Bank has divided the port governance model into four categories: firstly, the public service port model that the government is leading port Operation's vast number of functions. Secondly, the tool port model, where the public sector owns land, infrastructure, machinery and equipment, while the private sector enters the field of cargo handling through the form of concession; Thirdly, the landlord port model, where the government's public sector owns land and infrastructure and leases port terminals to private operators in the form of Concession. Port machinery, and equipment as well as port operations are in the hands of the private sector; Fourthly, the private port models, that is, private sectors own, control and operate ports, but the public sector still performs some port functions, such as: pilotage and dredge etc.\(^6\) Among them, the landlord port model is the most respected by the World Bank, which is currently the most mainstream port governance model in
the United State and Europe countries. Through the study of relevant literature, it is easily to find: although the concept of "port governance" is generally accepted and used, in fact there is a certain degree of abuse of the word "governance". The essence of various academic literature on port governance is the new public Management (NPM) with very strong efficiency as the theoretical support. These paper concentrated on the redefinition of the relationship between government and market in the port field, the privatization, marketization, and decentralization of port public services. But it is rare for the literature to study the special degree and governance of port assets under the analytical framework of governance theory.

1.2 The present situation of domestic research
On the current literature of China's port governance structure is only a simple phased division of the course of China's port reform, and supplemented by a description of the obvious characteristics of each stage. That is the lack of a certain theoretical framework of the port governance institutions of the continuous study, most of which are theoretical analysis, and empirical researches in this regard are also very few.

The representative viewpoints of theoretical analysis and research are as follows: Qiang Zhang, XueFeng Wang (2016) in their study, which examines the process of port administration system reform since China's reform and opening up through diachronic State and retrospective examination, and in the perspective of governance theory to governance subject, governance structure and governance operation mechanism and governance rule of law etc. , analyzes the port administrative management system in China, and puts forward some suggestions on the future reform direction of China's port administrative system.[7] Feng Yun (2016) established the corporate governance structure mechanism of decentralization and balance of power in the article.[8] Qin Tao, Shuo Wang (2016) proposed to actively introduce multi-form strategic partners, improve the construction of deep-water channel, create "interconnection" and convenient port customs clearance environment, expand the international ocean route of docking national strategy and positively apply for the implementation strategy of the “The Belt and road” initiative for Zhuhai port, such as national fund support, in the paper.[9]

The representative viewpoint of empirical research: Bao Jiang, Li Jian (2015) 〈Research on Chinese port administration system from the perspective of governance theory〉. They selected the relevant data of China's port listed companies, empirical analysis of the impact of governance structure on port performance, to explore the realistic choice orientation and operating effect of China's port enterprise management model. The empirical results show that the port management model closer to the landlord port will be more effective in terms of the port's operating capacity and comprehensive performance. The management mode of deviating from the landlord port is more effective in terms of the port's growth capacity. However, there is not any significant relationship between the profitability, debt-paying ability and asset growth ability of the port and the governance structure.[10]

None of the above studies have combined "asset specialization" with "Port governance structure", so this study introduces "asset specialization" into the study of "Port governance structure", establishes a measurement model of port asset specificity, and studies the relationship between asset specificity and governance structure under the premise of guaranteeing the lowest transaction cost. Focus on Zhuhai Port as the object of key empirical analysis.

2. Results

2.1 Creation of a measurement model for the special degree of assets of Port Enterprises
Nobel laureate Williamson's transaction cost economics uses asset specificity to explain the origin of transaction costs, then from transaction costs to study contracts, from various types of contracts to find the corresponding governance structure, thus examining various economic systems, when compared with them in terms of efficiency. One of the most significant contributions is the presentation of the following heuristic model (asset specificity-governance cost function model) (Fig. 1 Asset specificity-
governance cost function model). The transverse axis K represents the asset specificity, and the longitudinal axis represents the corporate governance cost. M (k), X (k) and H (k) stand for a market governance structure, a hybrid governance structure, and a hierarchical governance structure (vertically integrated structure) respectively. The higher the asset specificity of a company, the governance structure of H (k) (hierarchical or vertical integration) becomes more suitable, thus guaranteeing the lowest transaction costs at this time. The hierarchical governance structure refers to only one or a few governance subjects, characterized by a highly centralized monopoly. The lower the asset specificity of a company, the M (k) (market system) governance structure becomes more suitable, thus guaranteeing the lowest transaction costs at this time. The market governance structure refers to having multiple governance subjects, with fierce market-oriented competition as the characteristics. When a company's asset-specific degree is centered, it is suitable for the governance structure of X (k) (hybrid system), thus guaranteeing the lowest transaction cost at this time. The mixed governance structure is located between the market governance structure and the hierarchical governance structure, which are characterized by both a highly centralized monopoly and market competition. From the overall governance cost, H (k) Section system governance structure of the highest governance costs, M (k) Market governance structure of the lowest governance costs, X (k) hybrid governance structure governance costs centered.

On the basis of theory and data analysis (see the “Appendix” for specific data), we make a measurement model of port enterprise asset specificity.

\[ (M/n) = u + a_1x_1 + a_21x_21 + a_22x_22 + a_23x_23 + a_3x_3 + a_4x_4 \]

Where “n” represents the number of port governance bodies, “M” is the value of 200, and the function of this coefficient is to adjust the order of magnitude of the model. X1 represents the container dry cargo throughput (ten thousand tons). Since the dimension of container throughput is inconsistent with other variables, dummy variables x21, x22 and x23 are introduced in particular container throughput (x21 = 1 represents more than 20 million TEUa ), x22 = 1 represents 5-20million TEU, x23 = 1 represents 1-5 million TEU ), x3 stands for the oil and gas and their products throughput, x4 stands for coal and products throughout. Collected related data in 2016 from 34 key cities port in the Asia-Pacific region and The Guangdong-Hong Kong-Macao Greater Bay Area (appendix 1) a preliminary analysis found variable x4 no significant influence on k, therefore, the final model specific as follows(see the Table 1 Model Summary, Table 2 ANOVA a, Table 3 The coefficient b)

Fig. 1 Asset specificity-governance cost function model

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a Teu=twenty-foot equivalent unit
Table 1. Model Summary

| model | R   | R square | Adjusted R Squared | Standard deviation error |
|-------|-----|----------|--------------------|-------------------------|
| 1     | 0.731\textsuperscript{a} | 0.534     | 0.448              | 57.558                  |

\textsuperscript{a} Predicted value: (constant), the throughput of oil, gas and products \(x_3\), container throughput \(x_{22}\), container throughput \(x_{23}\), container throughput \(x_{21}\), container dry cargo class \(x_1\)

Table 2 ANOVA \textsuperscript{a}

| Model   | quadratic sum | d f   | Mean square | F     | significance |
|---------|---------------|-------|-------------|-------|--------------|
| regression | 102539.881 | 5     | 20507.976   | 6.190 | 0.001\textsuperscript{b} |
| residual error | 89449.527 | 27    | 3312.945    |       |              |
| gross   | 191989.408   | 32    |             |       |              |

\textsuperscript{a} Response variable: asset specificity \(k\)

\textsuperscript{b} Predicted value: (constant), the throughput of oil, gas and products \(x_3\), container throughput \(x_{22}\), container throughput \(x_{23}\), container throughput \(x_{21}\), container dry cargo class \(x_1\).

Table 3 The coefficient \textsuperscript{a}

| model | Non-standardized coefficient | Normalized coefficient |
|-------|------------------------------|------------------------|
|       | B                            | standard error         | Beta       | T       | significance |
| (constant) | 144.794                     | 17.119                 | 8.458      | 0.000  |
| container dry cargo class \(x_1\) container throughput \(x_{21}\) | -0.004                     | 0.001                 | -0.700    | -3.160 | 0.004 |
| container throughput \(x_{22}\) | -40.618                     | 51.483                 | -0.153    | -0.789 | 0.437 |
| container throughput \(x_{23}\) | -33.207                     | 40.146                 | -0.178    | -0.827 | 0.415 |
| container throughput \(x_{21}\) container throughput \(x_{22}\) container throughput \(x_{23}\) throughput of oil, gas and products \(x_3\) | -33.158                     | 26.867                 | -0.200    | -1.234 | 0.228 |

\textsuperscript{a} Response variable: asset specificity \(k\)

In conclusion, the obtained model is

\[ k = 144.794 - 0.004x_1 + 0.008x_3 \]

2.2 Analytical model

From the port enterprise asset specificity measurement model, we can learn that \(u = 144.794\), \(a_1 = 0.004\), \(a_3 = 0.008\), and dry cargo container class influence coefficient is significantly negative. That is to say, the increase of dry cargo container class leads to reduce assets dedicated degree. The oil and gas and their products throughput influence coefficient is significantly positive, demonstrating transportation of the oil and gas and their products throughput will lead to increase assets dedicated degree. In addition, although the impact of container throughput (dummy variable) is not significant, the three negative coefficients reveal that the larger the container throughput is, the greater the absolute value of the corresponding impact coefficient is, and the more manifest the reduction of asset specificity is.

In addition, from the above model based on the analysis also reveals the explanation of the model degree is not high, and instructions and other factors that affect assets dedicated degree are not considered in the model, which is also a direction for future analysis.
3. Findings

3.1 Validation of Williamson's effectiveness of "asset specialization-governance cost function model" in port enterprises

Based on the Nobel laureate Williamson-corporate governance structure theory and the concept of "asset specificity", this study constructs a measurement model suitable for the "asset specificity" of Mixed SOES-private enterprise system, empirically determines the main measurement dimensions of "port asset specificity", with the measurement degree reaching over 70%. What is more, this study also collects the relevant data of key ports in the Asia Pacific region to provide an empirical analysis of "port governance transaction cost" of The Guangdong-Hong Kong-Macao Greater Bay Area. It is also used to scientifically test the econometric model and analysis method we have built, so as to verify that Williamson's "asset-specific degree-governance cost" function model is effective in port enterprises, which is also the biggest innovation and contribution of this research.

3.2 Compare Zhuhai Port, Shenzhen Port and Hong Kong Port: Three port enterprises belong to different governance structures

From the above research, it can be found that three port assets special degree values vary greatly, belonging to different governance structure patterns.

Zhuhai Port Asset specificity is the highest, and belongs to H (k) (section system) governance structure, and the hierarchical governance structure has only one or a few governance subjects, characterized by a high degree of centralized monopoly, which corresponds to the highest governance costs, the lowest efficiency.

Hong Kong port assets are the lowest asset specificity, belonging to M (k) (market system) governance structure, and its market governance structure has a number of governance subjects, with fierce market-oriented competition as the characteristics, whose governance structure corresponds to the lowest governance costs, the most efficient.

Shenzhen Port asset special degree is centered, belonging to X (k) (mixed system) governance structure, and the mixed governance structure is in the market governance structure and hierarchical governance structure, both highly centralized monopoly and market competition as the characteristics, that is, state-owned enterprises-private mixed system. This kind of governance structure has both advantages, with management cost lower, and efficiency is higher, in line with China's unique national conditions, which is the reasons of the success of Shenzhen port beyond Hong Kong port, ranking 4th for two consecutive years in the global Port. Shenzhen Port has likewise become a leader in the port of The Guangdong-Hong Kong-Macao Greater Bay Area.

3.3 Analysis of the degree of asset specificity and governance structure of Zhuhai port.

Zhuhai Port is the only natural deep-water port in the west of the Pearl River Delta. The anchorage is the only one nautical mile from the international Great Western Waterway, which is the main port of entry and exit from South China. Zhuhai Port is adjacent to Hong Kong and border Macau. Therefore, it is the significant bridgehead of deepening cooperation between Guangdong, Hong Kong, and Macao. What is more, it has the most significant estuary of the Pearl River system with unparalleled advantages of river and ocean intermodal transportation. In 2017, the world's top 110 container port throughput ranking, Zhuhai port ranked the 73rd with 2.27 million standard box column, that is up 13 places from 2016. At the same time, Zhuhai port container throughput ranked second in the world with a 37.3% increase in container throughput growth, in the country's main coastal ports ranked first again, and container throughput ranked 16th in the national port, port cargo throughput ranked 28 in national ports, up 4 from 2016.

3.3.1 The 13th five-year strategic development plan of Zhuhai port

Guided by the Zhuhai overall strategy of "Blue Zhuhai, science rise ", Zhuhai port group strategically plan to build Zhuhai becoming an international port city as the goal, combining with the national
strategy of "The Belt and road" initiative as well as South China regional economy and Zhuhai ports "new normal" of the development of the industry, logistics industry. From the reality of city and port group, Zhuhai port group further forges into the market main body and the significant engine of the municipal party committee and municipal government "Invigorating the city through the Port" strategy; to become a significant carrier to enhance the control, influence and driving force of state-owned economy in Zhuhai. It has become a key state-owned enterprise to improve Zhuhai's urban competitiveness and urban functions. Zhuhai port group will fully implement the significant instructions of Zhuhai municipal party committee and municipal government to "aim as the fourth-generation port and spare no effort to build the third-generation port", and realize the aim of coordinated development, sustainable development and leap-forward development of the three major businesses of Zhuhai port group through scientific planning, accurate positioning and reasonable layout.

3.3.2 Zhuhai Port Strategic development planning and the relationship between asset specificity
In order to achieve the "Thirteen-Five" strategic plan, Zhuhai port should seize "The Belt and Road" initiative and "The Guangdong-Hong Kong-Macao Greater Bay Area " development opportunities, enhances the port competitiveness, reduces the overall cost of governance, and expands the radiation range of the goal, the need to further reduce the asset specialization, at the same time, in order to ensure the lowest transaction cost, Zhuhai port organizational structure needs to learn from Shenzhen port, from H (k) (hierarchical system) governance structure to X (k) (mixed system) governance structure, that is, state-owned enterprise-private mixed system.

3.3.3 Problems existing in the development of Zhuhai Port
(1) Competition among ports in The Guangdong-Hong Kong-Macao Greater Bay Area is becoming increasingly fierce. According to the latest top ten ports globally throughput ranking in the first half of the 2018, there are 3 ports on the list within The Guangdong-Hong Kong-Macao Greater Bay Area. We can acknowledge that Shenzhen port was in the 4th place as same as 2017, and Guangzhou Port had jumped to the 5th largest port in the world (2017 ranked 7th). Also, the Kwai Chung Container Terminal fell to the 7th (2017 ranked 5th), The Guangdong-Hong Kong-Macao Greater Bay Area Port competition is becoming more and more heated. With an increasingly intensive competition, Zhuhai Port needs to misplacement develop, to achieve regional cooperation and complementarity.

(2) Compared with the world-class ports such as Shenzhen and Hong Kong, Zhuhai port has the highest management cost and the lowest efficiency. This study collected the relevant data of key ports in the Asia Pacific region, taking Zhuhai port as the key empirical analysis, and compared as well as analyzed the asset specificity of Zhuhai, Shenzhen port and other ports. We found that Zhuhai port has the highest degree of asset specificity, belonging to the governance structure of the hierarchical governance structure section system (only one or few governance subjects, characterized by a highly centralized monopoly), and its governance structure corresponds to the highest governance costs and the least efficiency. Shenzhen port belongs to the mixed system of governance structure (both highly centralized monopoly and market competition as the characteristics, that is, state-owned enterprise-private mixed system, which has a lower cost of governance and higher efficiency.

(3) The multimodal transport of Zhuhai port needs to be strengthened, particularly with container throughput. From the measurement model of the asset specificity of port enterprises, it can be concluded that the influence coefficient of container dry goods is significantly negative, that is, the increase of container dry goods can lead to the reduction of asset specificity. However, the influence coefficient of throughput of oil, gas, and products is significantly positive, indicating that the transportation of oil, gas and products will lead to the increase of asset specificity. In addition, although the impact of container throughput (dummy variable) is not significant, however, the three negative coefficients reflect that the larger the container throughput is, the greater the absolute value of the corresponding influence coefficient is, and the more obvious the reduction of asset specificity is. Through the research, the group found that the increase of multimodal transport and container dry
goods can lead to the reduction of asset specificity, reduce the cost of management and improve the efficiency of the port, although the current growth rate of container throughput in Zhuhai is the second in the world, but there is still a large growth space.

3.3.4 Countermeasures and Suggestions

(1) Learning from Shenzhen port's Mixed SOES – private enterprise system, Zhuhai port needs to introduce global strategic partners for in-depth cooperation and innovation.

Firstly, introduce private economy with goods source, experience, capital, and scale to jointly develop and operate Zhuhai port terminal. By making use of partners' resources in terms of capital, market, business model and management experience, Zhuhai port should combine with its own berth shoreline resources, port logistics facilities resources and local geographical advantages, strengthen all-round and in-depth cooperation and communication and discussion in various aspects such as capital integration and business model development. What’s more, it’s expected to leverage and vitalize existing assets with external resources, realize the maximum value of equity, relieve the existing financial pressure, train excellent management personnel, and improve the development ability of Zhuhai port itself.

Secondly, on the basis of maintaining a good cooperative relationship with the existing joint venture partners, it can expand cooperation with world-renowned terminal operators, shipping companies and bulk cargo owners and promote the economic development of port and shipping headquarters.

Thirdly, the mode of leading development is innovated, and the modes of controlling resources, controlling operation and landlord port are respectively adopted to realize different levels of management of Zhuhai port group.

(2) Zhuhai port continues to improve the proportion of container business. It is suggested to expand liner routes and continue to build container transit hub ports in the south China outer triangle.

Firstly, Foreign trade liner lines in Europe and America are expanded and foreign trade liner companies are introduced with high-level strategic cooperation mode, which the profitability of container business can substantially improve. Comprehensive using of fiscal subsidies and preferential tax policies, Zhuhai port should together with the municipal government to carry out the promotion of foreign trade shipping companies, and vigorously attract the world's top shipping companies to set up a transit base in Gaolan. It can be considered to effectively attract the control box source through stock rights etc. and the large shipping companies with distribution demand in the western region of Zhuhai. Promoting the increase of frequency and cargo volume of Japan, Southeast Asia, etc., and opening the line of European line, American line, thereby it’s able to improve the overall proportion of foreign trade container, increase the profitability of port container business.

Secondly, The close cooperation with domestic trade liner companies continues to develop, which enriched the domestic trade transit route network, within the trade to promote foreign trade. The port should promote the in-depth cooperation with COSCO, Zhonggu Shipping, Sinowell, and Antong56, enrich domestic trade transit routes, and promote the geometric multiple growths of domestic trade container throughput. Through the operation of domestic trade containers, it trained the operation experience of handling a large number of containers at the port and the smooth flow of relevant cargo gathering channels to attract foreign trade shipping companies to operate in Gaolan port.

Thirdly, The port should strive for the government's high-intensity stable support policies, effectively form the inland and transshipment economic hinterland with it as the hub. The construction and development of Zhuhai port cannot be separated from the strong support of the municipal government. Appropriate full-time personnel will be employed to coordinate the customs, national inspection, maritime affairs, pilotage and other government departments to improve the customs clearance efficiency of Zhuhai port, create a good customs clearance environment, and ensure the convenience and safety of ships entering and leaving the port, so as to create a good cargo transit environment for Zhuhai port and attract cargo concentration.

Fourthly, deepen the "West River strategy", give full play to the interaction between West River
barge network, port and Zhuhai port to promote the role. On the basis of maintaining the existing West River barge express line, the port will increase the number of flights and improve the service. There are several points that the port should notice: Zhuhai port will continue to West River river basin layout, seize West River logistics resources; give full play to the important role of Yunfu new port and Wuzhou Dalikou port as two logistics nodes, make it a West River logistics transfer center; Transfer the West River barge express line and Yunfu and Wuzhou docks to gather cargo in Gaolan port area to promote the overall development of Zhuhai port.

(3) Zhuhai port complements and interacts with other ports in the Greater Bay Area.

We advise to discuss cooperation with the various ports such as: Shenzhen port, Zhuhai port can explores Guangzhou port, Hong Kong port to the possibility of cooperation in the port investment construction ship maintenance station. At the same time, the advantage of the rich natural gas resources can provide the ship transport and supply of clean fuel, which discusses the possibility of ship stations in Zhuhai port construction, thus forming the radiation of it, to enhance the competitive power further developing to the world-class port, such as: Singapore port.

4. Conclusion
In order to achieve "much starker choices-and graver consequences-in" strategic planning, to catch the "area" and "The Guangdong-Hong Kong-Macao Greater Bay Area" development opportunity, Zhuhai port promotes the competitiveness of the port, the whole management to reduce costs, expands the scope of radiation, to reduce the assets dedicated degree. At the same time in order to guarantee the lowest transaction costs, organizational structure to the port of Zhuhai, Shenzhen varies from H (k) (dissecting) governance structure into X (k) (unregular) governance structure, namely state-owned enterprises - private hybrid system.

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