MINISTRY OF EDUCATION AND TRAINING
HANOI UNIVERSITY OF MINING AND GEOLOGY

LA QUANG TUNG

ANALYSIS ON ATTRACTING THE INVESTMENT FROM THE PRIVATE SECTOR IN TRANSPORTATION INFRASTRUCTURE IN THE FORM OF PUBLIC PRIVATE PARTNERSHIP IN QUANG NINH PROVINCE

Major: Economic Management
Code: 9310110

SUMMARY OF DISSERTATION

HA NOI - 4/2023

The dissertation is completed at the Faculty of Economics and Business Administration, Hanoi University of Mining and Geology

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INTRODUCTION

1. Drivers for topic and field of study selection

Given the newness of PPP investment in Quang Ninh and Vietnam at large, most of the relevant participants are in lack of experience. The implementation of investment socialization, in practice, reveals a number of shortcomings. What could be mentioned is the inconsistency and synchronicity in the legal corridor calling for investment from non-state budget resources in the transportation sector. Additionally, most of the investors and credit-providing institutions are domestic-based, while the involvement of foreign partners is extremely limited. The fee policy has not received the consensus of society. This, in turn, requires strict and transparent management in fee-collecting practices. The quality of construction and maintenance in several projects has not reached the requirement. A number of PPP projects are not implemented or terminated because of (i) the wide gap in the expectation of the public and private sectors and (ii) the shortage of definite goals and commitments from the government.

Originating from these above-mentioned reasons, the author chooses the topic of "Analysis on attracting the investment from the private sector in transportation infrastructure in the form of public-private partnership in Quang Ninh province" as his/her doctoral dissertation.

2. General research objective

To establish research models and evaluate the impacts of factors affecting the attraction of investment from the private sector in transportation infrastructure development in Quang Ninh province

3. Specific objectives

- To synthesize and analyze the experiences of countries worldwide on viewpoints and policies related to public-private partnership and investment from the private sector in transportation infrastructure in the form of public-private partnership;
- To evaluate the status of attracting investment from the private sector in transportation infrastructure development in the form of public-private partnerships in Quang Ninh province;
- To propose solutions with the view of enhancing the ability to attract the private sector investment in transportation infrastructure development in the form of a public-private partnership in Quang Ninh province.

4. Dissertation contributions

- The study systematizes the theoretical background of investment in and development of transportation infrastructure in the form of public-private partnership.

- The study identifies the factors and their impacts on the status of attracting investment from the private sector in transportation infrastructure development in the form of public-private partnership in Quang Ninh province.

- The dissertation proposes the viewpoints, orientations and solutions to enhance the ability to attract the private sector investment in transportation infrastructure development in the form of a public-private partnership in Quang Ninh province.

5. Subject and scope of the study

5.1. Research subject

The dissertation analyzes the factors affecting the attraction of investment from the private sector in transportation infrastructure, thereby proposing recommendations to improve the ability to attract this investment in the form of public-private partnerships in Quang Ninh province by 2030.

5.2. Study scope

- *Spatial scope:* Analysis factors affecting the attraction of investment from the private sector in transportation infrastructure development in the form of public-private partnership in Quang Ninh province.

- *Timing scope:* Collecting documents and data from 2015 to the present.

6. Research methodologies

- Methods of analysis, comparison and synthesis: The dissertation applies dialectical and historical materialism methodology in combination with the survey, selection, comparison and analysis.

- Economic statistical method and quantitative research methods.

7. Research framework

Step 1: Qualitative research on the basis of an overview of documents, scientific literature and case studies related to the study's topic.

Step 2: Qualitative research using interviews with 30 experts (n = 30) to determine the roles and list of factors affecting the ability to attract private investors in transportation infrastructure development in the form of public-private partnership in Quang Ninh province.

Step 3: Quantitative research identifying the roles and factors affecting the ability to attract private investors in transportation infrastructure development in the form of public-private partnerships.

Step 4: Quantitative research determining the factors affecting the

attraction of investment from private investors in transportation infrastructure development in the form of public-private partnerships in Quang Ninh province.

Step 5: Proposing recommendations toward improving the ability to attract investment from the private sector in transportation infrastructure development in the form of public-private partnerships in Quang Ninh province.

8. Dissertation structure

Chapter 1. Overview on attracting investment from the private sector in transportation infrastructure in the form of public-private partnership

Chapter 2. Theoretical and practical background on attracting investment from the private sector in transportation infrastructure in the form of the public-private partnership

Chapter 3. Status of attracting investment from the private sector in transportation infrastructure in the form of public-private partnership in Quang Ninh province

Chapter 4. Evaluation of factors affecting the attraction of investment from the private sector in transportation infrastructure in the form of public-private partnership in Quang Ninh province

Chapter 5. Perspectives, orientations and solutions to enhance the ability to attract investment from the private sector in transportation infrastructure in the form of public-private partnership in Quang Ninh province.

CHAPTER 1
OVERVIEW ON ATTRACTING INVESTMENT FROM THE PRIVATE SECTOR IN TRANSPORTATION INFRASTRUCTURE IN THE FORM OF PUBLIC PRIVATE PARTNERSHIP

1.1. Overview of literature

1.1.1. Foreign research works related to the thesis

Through literature review, case study research and expert interviews, scholars proposed various determinants of the private sector investment in the form of public-private partnerships.

Table 1.1: Synthesis of research on factors affecting the attraction of PPP projects

No.	Authors	PPP categories	Spatial scope	Key findings
1	Akintoyeet	PFI	UK	- Drivers for the best value in

No.	Authors	PPP categories	Spatial scope	Key findings
	al. (2003)			PFI projects include detailed risk analysis and appropriate risk allocation, project completion acceleration, project cost reduction, project innovation encouragement and full maintenance cost accounting. - Barriers to the best value in PFI projects include the high cost of the PFI investment process, long and complicated negotiation, difficulty in determining service quality and pricing facility management services, conflicts of interest between investment parties and the incapable of public sector clients in consulting management.
2	Jefferieset al. (2002)	BOOT	Australia	Factors identified from the study of an Australian sports stadium project include a strong private corporation with a wide range of expertise and experience, reputation, an efficient approval process within a rigid timeframe, and innovation in the corporation's financial options.
3	Li et al. (2005)	PFI	UK	- Most important factors, in descending order of importance, are a strong

No.	Authors	PPP categories	Spatial scope	Key findings
				private corporation, appropriate risk allocation, available financial markets, public/private sector commitment/responsibility, thorough cost/benefit assessment, technical feasibility, well-organized public sector agencies and good governance. - Factors are classified into five main groups including investment efficiency, project implementation capability, government guarantees, favorable economic conditions and available financial markets.
4	Qiao et al. (2001)	BOT	China	Eight independent factors include proper project identification, political and economic situation, attractive financial package, acceptable tariff/toll rates and reasonable risk allocation, suitable sub-contractors selection, management control and technology transfer.
5	Zhang (2005)	PPP	International	Five key dimensions of factor are determined as economic viability, appropriate risk allocation through reliable contractual arrangements,

No.	Authors	PPP categories	Spatial scope	Key findings
				sound financial packages, reliable franchisee with technical advantages and favourable investment environment.

1.1.1: Source: Author's compilation

1.1.2. National research works

In Vietnam, there is not much scientific research on PPP. Instead, there are mostly policy consulting studies and single research articles which have not addressed PPP as a system of interrelated issues yet.

1.2. Findings, lessons learned and future research needs.

1.2.1. Findings and lessons learned

Table 1.2: Key findings and lessons learned

No.	PPP aspects	Key findings	Lessons learned
1	Success drivers and barriers	• The success or failure of a PPP project depends on several factors that can be classified into four groups comprising government authority, appropriate franchise partner selection, proper risk allocation between the public and private sectors and a healthy financial package.	• Applying the public-private partnership approach is not easy.
2	The role of the government	• The role of the government includes (i) creating an enabling investment environment, (ii) establishing an adequate legal/regulatory framework, (iii) establishing a coordinating and supporting body, (iv) selecting an appropriate franchising partner and (v) engaging actively into the phases of the project life cycle.	• Government credibility and capacity play an important role in infrastructure development in the form of PPP.

No.	PPP aspects	Key findings	Lessons learned
3	Franchise partner selection	• A multi-tiered bidding process that includes expression of interest, prequalification bidding, tender evaluation, and negotiation with the preferred contractor(s) is widely adopted by the government. • Some of the bidding evaluation methods currently in use include the simple scoring method, NPV method, multi-attribute analysis, Kepner-Tregoe decision analysis technique, "two envelopes" method ", the NPV method plus the scoring method and the binary method plus the NPV method. • Evaluation criteria usually include four aspects of finance, technique, safety, environment, and management.	• Needed for PPP success is a franchise partner with financial advantage, technical competence and managerial capabilities.
4	Risks of PPP	• Risks associated with PPP projects can be classified into political, financial, construction, operation and maintenance risks, market and revenue risks, and legal risks. The environment risks should be retained by the government, while the risks directly related to the project are mostly allocated to the private sector. Some risks beyond the control of both the public and private sectors are shared by both parties.	• It should be ensured that all risks are properly identified and allocated.

No.	PPP aspects	Key findings	Lessons learned
5	Finance of PPP	• A sound financial plan for a PPP project should include a mix of equity and debt and a financing strategy based on considerations of project risks, project conditions and financial resources. Several government supports, such as minimum revenue guarantees, flexibility in tariff structure, financial support and guarantees for force majeure events may be required for a financially viable PPP project.	• A proper financial plan is needed. • Reasonable financial incentives and stable revenue are important to attract private investment

1.1.2: Source: Author's compilation

1.2.2. Future research needs

A number of studies abroad have systematized and analyzed the impact of factors on the success of PPP projects in infrastructure development. These studies also confirm factors, their importance and their impacts are local-specific, sector-specific and PPP projects-specific.

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CHAPTER 2
THEORETICAL AND PRACTICAL BACKGROUND ON ATTRACTING INVESTMENT FROM THE PRIVATE SECTOR IN TRANSPORTATION INFRASTRUCTURE IN THE FORM OF PUBLIC PRIVATE PARTNERSHIP

2.1. Basic concepts related to the dissertation's topic

2.1.1. Definition of infrastructure

Infrastructure serves as the backbone of a modern, competitive and efficient economy playing an important role in the economic development and life of a country's people. The system supports good and service transportation, transactions and commerce promotion, connect supply chain connection and operational cost reduction in a wide range of industries.

2.1.2. Definition and features of investment in transportation

2.1.2.1 Definition of investment in transportation

Transportation infrastructure is a type of economic infrastructure. It is understood as an establishment or service that creates convenience in time and place by transporting people and goods from one place to others. Transportation infrastructure is the backbone of a modern, competitive and efficient economy playing an important role in the economic development and life of a country's people. It supports goods and service transportation, transactions and commerce promotion, connect supply chain connection and operational cost reduction in diverse industries.

Investment in transportation infrastructure development means investing in new traffic systems and improving the existing traffic networks. Investment in transportation networks plays a crucial role in the improvement of cities, regions and countries.

2.1.2.2. Features of investment in transportation infrastructure development

The objective of the transportation infrastructure investment is basically not only for making profit but more importantly, to create a premise for other production industries to develop and serve the needs of people's life.

- Transportation infrastructure investment projects require a large initial investment, have a long business cycle and encounter different uncertain factors which are often beyond the self-regulatory ability of investors.
- Transportation infrastructure products are purchased in advance according to predetermined requirements and at a predetermined price.
- Transportation infrastructure products are unique and are influenced by geographical, natural and socio-economic conditions of the place of consumption.
- Having long-time usage, high technical and artistic level. The production cost of transportation infrastructure products is high and varies between projects.
- Products usually are large in size, weight and scale with complex structures or spread along lines.
- Transportation infrastructure projects require cooperation among actors in implementation and are invested in accordance with the development strategy of the state.

2.1.3. Definition of PPP

Table 2.1. Definition of PPP

Sources	Definition
HM Treasury	PPP is an arrangement between two or more entities that allows them to cooperate towards common or compatible goals. It is characterized by shared authority and responsibility to a specific degree, a joint investment of resources, shared risks and mutual benefit (HM Treasury, 1998).
World bank	PPP is an approach that involves the sharing of risks, responsibilities and benefits. It is applied in the case of providing value-for-money benefits to the taxpayers (The World Bank, 2003).
European Commission	PPP is an arrangement between two or more parties that have agreed to cooperate towards common and/or compatible goals and in which there is shared authority and responsibility; joint investment of resources; shared liability or risk and mutual benefit (European Commission, 2003).
Canadian Public-Private Partnership Council	PPP is a collaborative joint venture between the public and private sectors, built on the expertise of each partner, to satisfy well-defined public needs through the allocation of resources, risks and relevant benefits (Canadian Council for Public-Private Partnerships, 2004).
Asian Development Bank	PPP is a contractual mechanism between public sector entities (national, state, provincial or local) and private sector entities through which skills, assets and/or financial resources of each party are allocated in a complementary way with the shared risks and benefits in order to deliver optimal service performance and value for citizens (ADB, 2013).
Law of investment in the form of public-private partnership, Law No. 64/2020/QH14 dated June 18, 2020 (being effective from January 1, 2021)	*Investment in the form of a public-private partnership (hereinafter referred to as an investment in the form of a PPP approach)* is an investment manner established on the basis of limited-term cooperation between the state and private investors through the signing and implementation of PPP project contracts.

1.1.3: Source: Author's compilation

2.1.4. Categories of PPP

Table 2.2: Several categories of PPP

PPP categories	Description
Operation - Maintenance (OM)	- The private sector is responsible for all aspects of business operations and maintenance. - While the private sector may not be financially responsible, it is possible to manage an equity fund and determine how it will be used in conjunction with the public sector. (The World Bank, 2007)
Design – Build – Operation (DBO)	- The private sector is responsible for the design, construction, operation and maintenance of the project for a certain period before disposing of it to the public sector. (E.S. Kelly, 1998)
Design – Build – Finance – Operation (DBFO)	- The private sector is responsible for project financing, design, construction, operation and maintenance. - In most cases, the public sector retains ownership of the entire project. (U.S. Department of Transportation)
Build – Operation – Transfer (BOT)	- The private sector is responsible for the financing, design, construction, operation and maintenance of the project during the concession period. - The property is transferred back to the state at the end of the concession period and is usually free of charge. (M.M. Kumaraswamy and X.Q. Zhang, 2001)
Build–Own–Operation (BOO)	- Being similar to a BOT project, but the private sector retains ownership of the property in perpetuity. - The government only agrees to buy those services for a fixed period of time. (L.W. Chege and P.D. Rwelamila, 2001)

1.1.4: Source: Author's compilation

2.2. Features and roles of public-private partnership

2.2.1. Features of public-private partnership

Firstly, PPP has the simultaneous participation of both public and private parties.

Secondly, the public and private sectors have an equal position

relationship in PPP projects.

Thirdly, the relationship between the public and private sectors in PPP projects is through a contractual mechanism.

Fourthly, the cooperation is on the basis of mutual benefits and aims to reach the goals of both parties.

2.2.2. Roles of public-private partnership

Firstly, is to increase the ability to invest in infrastructure.

Secondly, is for more effective risk allocation and management.

Thirdly, is to save costs through strengthening the linkage between stages.

Fourthly, is to improve the quality of public services.

2.2.3. Benefits and barriers of PPP

Table 2.3: Benefits and barriers of PPP

No.	Authors	Issues	Key findings
1	Li (2005); Zhang (2006); E. Engel (2006)	Benefits	PPPs can increase "the worth of money" spent on infrastructure services by providing more efficient and reliable services at a lower cost; PPP helps to reduce the budget burden of the public sector, especially in case of a budget deficit; PPP allows the public sector to avoid early investment costs and reduce public sector management costs; Project lifecycle costs and project delivery time can be reduced by using PPP; PPPs can improve the quality and efficiency of infrastructure services; PPP facilitates innovation in infrastructure development; The public sector can transfer the risks related to the construction, finance and operation of projects to the private sector; PPP can promote local economic growth and create job opportunities.
2	Li (2005); R. Orr (2006)	Barriers	PPP is a rather recent concept that is not well understood in some countries; Both the public and private sectors are in lack of the appropriate knowledge and skills to implement long-term projects; Competition for PPP projects is limited due to high bidding costs;

No.	Authors	Issues	Key findings
			PPP projects are most likely to be delayed by political instability, public opposition and complicated negotiation processes; PPP projects may imply higher costs because the private sector can not mobilize capital at preferential interest rates as the public sector; Project accountability may be lowered in PPP methods because a lot of information can be seen as confidential in commercialization; PPP can lead to monopoly and, therefore, higher costs for beneficiaries of infrastructure services.

Source: Author's compilation

2.3. Evaluation criteria for attraction of the investment from the private sector in transportation infrastructure in the form of public-private partnership

– Size of registered and implemented private sector capital

– Structure of registered and implemented PPP capital according to investment methods of BOT, BTO, BTL or BLT contract

– Structure of registered and implemented PPP according to the field of transportation infrastructure

– Structure of registered and implemented PPP according to economic regions.

2.4. Factors affecting the attraction of investment from the private sector in transportation infrastructure in the form of public-private partnership

Table 2.4: Overview of factors affecting the attraction of investment in transportation infrastructure in the form of public-private partnership

No.	Authors	PPP categories	Scope of research	Key findings
1	Akintoyeet al. (2003)	PFI	UK	- Factors that contribute to the best value in PFI projects are detailed risk analysis and appropriate risk allocation, accelerating project completion, reducing project costs, incentivizing innovation in

No.	Authors	PPP categories	Scope of research	Key findings
				project development and full-accounted maintenance costs. - Factors that hinder achieving the best value in PFI projects are the high cost of the PFI investment process, complicated negotiation, difficulty in determining service quality and pricing facility management services, conflicts of interest between investment parties and incapable of public sector clients in consulting management.
2	Jefferieset al. (2002)	BOOT	Australia	Factors identified from the study of an Australian sports stadium project include a strong private corporation with a wide range of expertise and experience, reputation, an efficient approval process within a rigid timeframe, and innovation in the corporation's financial options.
3	Li et al. (2005)	PFI	UK	- Most important factors, in descending order of importance, are a strong private corporation, appropriate risk allocation, available financial markets, public/private sector commitment/responsibility, thorough cost/benefit assessment, technical

No.	Authors	PPP categories	Scope of research	Key findings
				feasibility, well-organized public sector agencies and good governance. - Factors are classified into five main groups including investment efficiency, project implementation capability, government guarantees, favorable economic conditions and available financial markets.
4	Qiao et al. (2001)	BOT	China	Eight independent factors: suitable project, political and economic situation, attractive financial package, acceptable fees/tariff rate, reasonable risk allocation, selection of suitable subcontractor, management control and technology transfer.
5	Zhang (2005)	PPP	International	Five key aspects of PPP investment attraction factors are identified: profitability, appropriate risk allocation through reliable contractual arrangements, reasonable financial packages, reliable franchise corporation with technical advantages and favorable investment environment

Source: Summary of literature review

2.5. International experience in attracting the private sector to invest in the development of transportation infrastructure in the form of public-private partnership

Government commitment and capacity play an important role in attracting the private sector to develop transportation infrastructure under the public-private partnership model.

A financially strong franchisor with advanced technical and management capabilities is needed to attract the private sector to develop transportation infrastructure under the public-private partnership model.

All potential project risks should be identified and appropriately allocated

Reasonable financial incentives and stable revenue streams are very important to attract the private sector to develop transport infrastructure under the public-private partnership model.

CHAPTER 3:
THE SITUATION OF ATTRACTING THE INVESTMENT FROM THE PRIVATE SECTOR IN TRANSPORTATION INFRASTRUCTURE DEVELOPMENT IN THE FORM OF PUBLIC PRIVATE PARTNERSHIP IN QUANG NINH PROVINCE

3.1. Socio-economic situation in Quang Ninh province

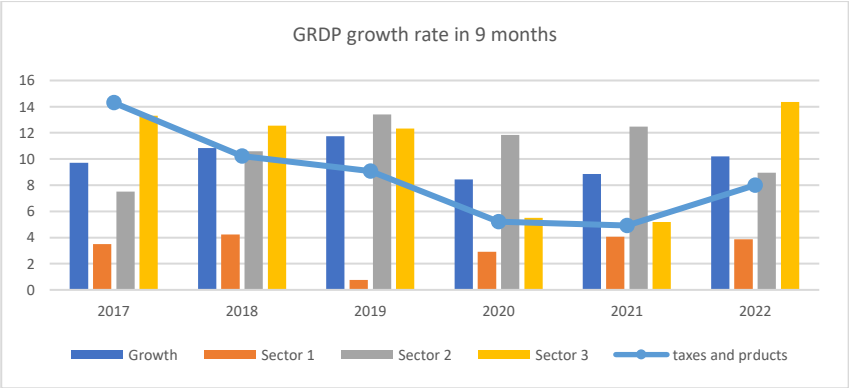

Fig 3.1: Quang Ninh's 9-month GRDP growth over the years.
Source:Department of Planning and Investment, Quang Ninh province

3.2. The situation of transportation infrastructure in Quang Ninh

3.2.1. The situation of road infrastructure

The total length of the road system in Quang Ninh province is 6,343.01 km, of which the highway has a length of 85.22 km (including 02 highways: Ha Long - Hai Phong has a length of 25.52 km.

3.2.2. The situation of railway infrastructure

Quang Ninh has a national railway crossing with a length of 64.08 km connecting from Kep station (Bac Giang) to Dong Trieu, Uong Bi and Ha Long. Railway density of Quang Ninh is 0.9km/100km

3.2.3. The situation of waterway infrastructure

- National inland waterway channel: Including 19 routes with a total length of 528.9km and located mainly on 2 national inland waterway corridors including national waterway corridor No. 1 (Quang Ninh - Hai Phong - Vietnam). Hanoi - Viet Tri) and No. 2 (Quang Ninh - Hai Phong - Thai Binh - Nam Dinh - Ninh Binh). Local inland waterway channels include 18 channels, with a total length of 308.6 km; most channels are level II~IV, some are level V.
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- Regarding inland ports and wharves: Currently, there are 159 ports in Quang Ninh province, of which 44 ports and 115 wharves are licensed to operate.

3.2.4. ***The situation of marine transportation infrastructure***

Currently, the whole province has 06 maritime zones including Van Gia - Hai Ha, Mui Chua, Co To, Cam Pha - Cua Do, Hon Gai and Quang Yen. However, there are only 05 areas with maritime activities (except for Co To maritime area) with 03 wharf areas (Yen Hung - Quang Yen wharf area, Cai Lan - Hon Gai, Cam Pha), 02 wharves (Mui Chua, Van Gia), 01 international passenger port in Ha Long

3.2.5. ***The situation of air transportation infrastructure***

Van Don Airport was built on an area of about 290 ha in Doan Ket commune, Van Don district, with the size of one runway, a parking lot of at least 04 Boeing 777 and Airbus 321. The project was completed and operated in 2018.

3.3. The situation of attracting the investment from the private sector in transportation infrastructure in Quang Ninh province.

Quang Ninh province focused on investing in the development of transportation infrastructure in the five years from 2016 to 2020, the total investment capital was more than 30,000 billion VND (of which the investment capital from the state budget was 10,172 billion VND, socialization capital was 19,828 billion VND)

According to the investment from 2009-2021 in Quang Ninh province

, the province attracted the private sector to invest in road infrastructure, which mainly accounts for 90% of the total investment, followed by aviation infrastructure with the Quang Ninh airport projectin the form of BOT in Van Don

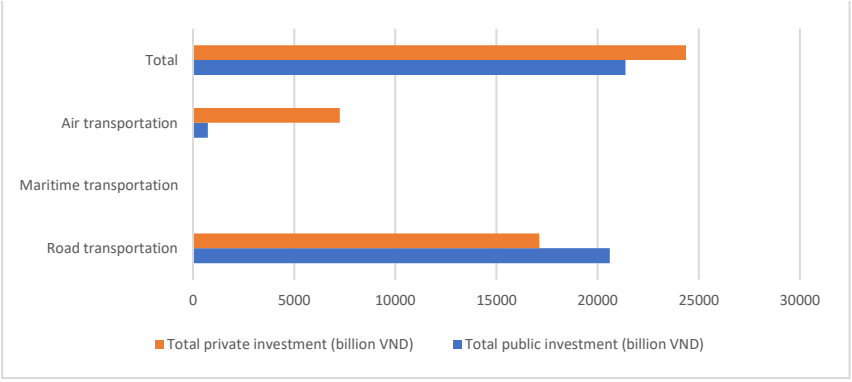

Fig 3.2: Investment in transportation infrastructure in the form of public-private partnership in Quang Ninh province 2009-2021

According to the form of investment from 2009 to 2021 in Quang Ninh province, the province attracted the private sector to invest in transportation infrastructure in the form of BOT, which mainly accounts for 90% of the total investment, followed by BT and PPP forms.

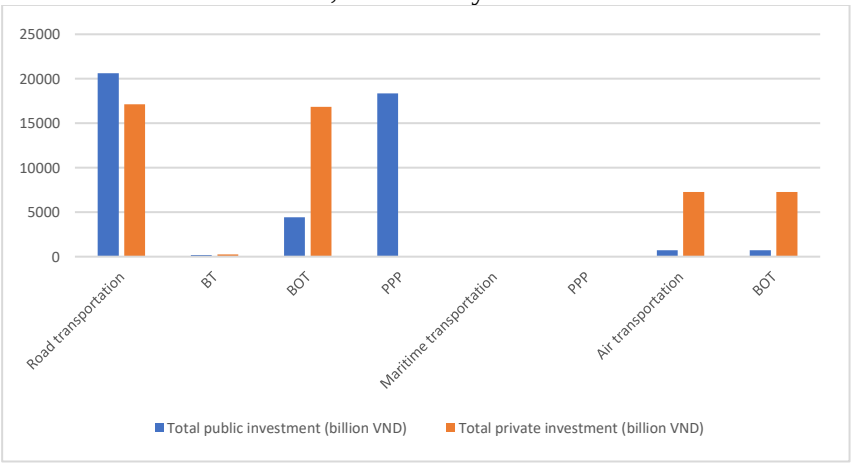

Fig 3.3: Investment in transportation infrastructure in the form of public-private partnership in Quang Ninh province 2009-2021

It can be affirmed that the focus on mobilizing and using resources is key solutions in improving the quality and efficiency of growth. Along

with that, the selection of investment methods, resource mobilization and implementation of projects must indicate the roles and responsibilities of the leaders, associated with responsibilities in resource mobilization, investment management, project management after investment. Localities and investors need to improve the appraisal capacity of investment projects, select qualified contractors; resolutely eliminate unqualified consultants, incompetent contractors.

3.4. Evaluation of success, limitations and causes of limitations in attracting the private sector to invest in transportation infrastructure in the form of public-private partnership in Quang Ninh province

3.4.1. Sucess

+ *The planning system of the whole province is being implemented synchronously with high quality*.

+ Pay attention to institutional improvement and recomend mechanisms and policies that are attractive enough to investors

+ Transportation infrastructure is invested to meet development requirements

+ Provide practical solutions to support investors and enterprises

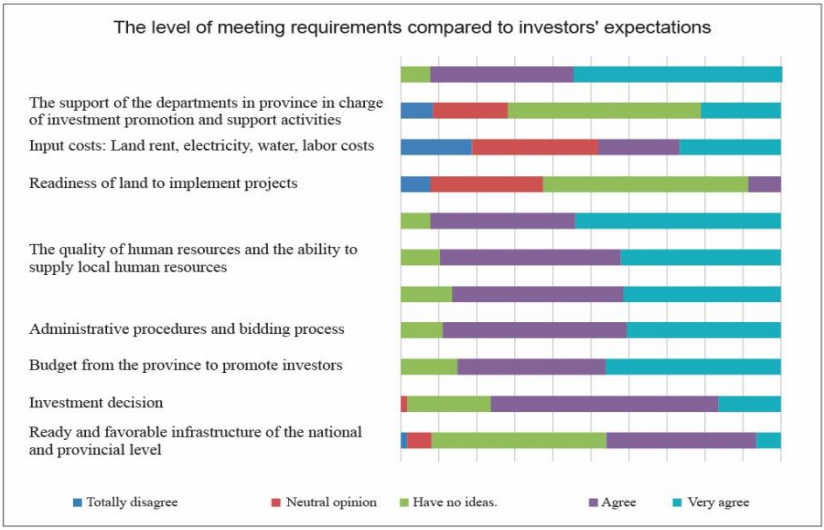

Fig 3.4: The level of meeting requirements compared to investors' expectations

Source: Office of Investment Promotion and Support

3.4.2. Limitation

The investment and business environment have not been paid attention; The government has not accompanied and supported companies effectively with specific actions. The government does not have a consistent and clear long-term orientation and strategy to implement the PPP model. Investor selection is not effective, most PPP projects appoint contractors.

3.4.2. Causes of limitations

- *Objectively:* (i) The system of mechanisms and policies in the implementation of the PPP cooperation model is not synchronized

(*ii*) The procedures related to PPP projects are still complicated, governed by many inconsistent views, so this makes it difficult for both investors and government.

- *Subjective*: (i) Some Departments, local government have not been active in analyzing and implementing PPP projects; (ii) The capacity of some PPP project investors is still weak, so project implementation is delayed.

3.4.3. Lessons learned

First, closely follow the instructions and support from the Central Government, especially for difficult or unprecedented tasks; *Second*, renewing development thinking, closely following the actual situation in Quang Ninh, determining the right focus and breakthrough to focus on leadership; *Third*, to be drastic in directing administrative procedures, site clearance, project progress, and work quality; *Fourth*, innovation and breakthrough in promotion and investment attraction in the direction of professionalism, practicality and efficiency; *Fifth*, there must be political determination of the whole political system, first of all, the head needs to be proactive, responsible for decisions and closely follow the direction of the Central Government; *Sixth*, it is necessary to effectively use the budget and non-state resources for important development investment, in accordance with the strategy and planning.

CHAPTER 4:
INVESTIGATING AND ANALYZING FACTORS AFFECTING THE INVESTMENT FROM THE PRIVATE SECTOR IN TRANSPORTATION INFRASTRUCTURE IN THE FORM OF PUBLIC PRIVATE PARTNERSHIP IN QUANG NINH PROVINCE

4.1. Summary of important factors affecting the success of attracting the private sector to develop transportation infrastructure in Quang Ninh province

Table 4.1: Summary of factors affecting the attraction of PPP projects

TT	Nhân tố ảnh hưởng	Tác giả
1	Strong private partner	Tiong (1996) Birnie (1999) Jefferies et al. (2002)
2	Appropriate risk allocation and risk sharing	Grant (1996); Qiao et al. (2001) Nguyen Hong Thai and Than Thanh Sơn (2015)
3	Competitive bidding process	Kopp (1997) Jefferies et al. (2002)
4	Commitment/responsibility of public/private sectors	Stonehouse et al. (1996) NAO (2001)
5	Comprehensive and realistic cost/benefit assessment	Brodie (1995); Hambros (1999) Qiao et al. (2001)
6	Project technical feasibility	Tiong (1996) Qiao et al. (2001)
7	Transparency in the bidding process	Kopp (1997); Jefferies et al. (2002) Nguyen Hong Thai (2007)
8	Good governance	Frilet (1997); Qiao et al. (2001) Badshah (1998)
9	Favorable legal framework	Boyfield (1992); Stein (1995) Bennett (1998)
10	Available financial market	Qiao et al. (2001); Akintoye et al. (2001) Jefferies et al. (2002)
11	Political support	Zhang et al. (1998); Qiao et al.

TT	Nhân tố ảnh hưởng	Tác giả
		(2001)
12	Multi-benefit objectives	Grant (1996)
13	Guarantee of the local government	Recommended by the author
14	synchronous and stable viewpoints, orientations, and policies	Recommended by the author
15	Stable macro-economic environment	Dailami and Klein (1997) Qiao et al. (2001)
16	Well-organized public agencies	Boyfield (1992) Stein (1995)
17	Shared authority between public and private sectors	Stonehouse et al. (1996) Kanter (1999)
18	Social support	Frilet (1997)

Source: summary from author

4.2 Survey design

Table 4.2: The role of survey respondents in PPP projects

Sector	Interviewees	Number	%
Public	State agencies	12	14,4
	Research institutes and experts	10	12,0
	Total	22	26,4
Private	State enterprises	5	5,88
	Private enterprises	48	56,5
	Credit institutions, banks	10	10,8
	Total	63	73,6

Source: Summary of interview results

Table 4.3: respondents' experience

Years of experience	Public sector	Private sector	Total	%
0-10	3	22	25	29.4
10-20	14	29	43	50.5
20-30	2	9	11	12.9
>30	3	3	6	7.2
Total	22	63	85	100

Source: Summary of interview results

4.3. Data analysis and results

The relative importance of 18 attractive factors influencing the private sector to participate in transportation infrastructure projects in the form of public-private partnership was determined by the questionnaire method with 5-point Likert scale. In which: Level 1 - not important; Level 2 - less important; Level 3 - important; Level 4 - very important; Level 5 - absolutely important.

Data were analyzed using SPSS statistical software. Statistical analyzes were performed including: descriptive analysis, reliability testing using Cronbach's alpha, one-factor analysis of variance and factor analysis.

4.4. Ranking the importance of factors affecting the investment from the private sector in transportation infrastructure in the form of public private partnership in Quang Ninh Province

Table 4.4 shows that there are three factors with mean value greater than 4.0; 13 factors have mean values of 3.0 and 4.0; and the other two factors have mean values from 2.0 to 3.0

Table 4.4: the importance of factors affecting the investment from the private sector in transportation infrastructure in the form of public private partnership in Quang Ninh Province

Factors	Public sector		Private sector		Total			
	Mean	Rank	Mean	Rank	Mean	Rank	*F*	Sign.
Strong private partner	3,87	5	4,19	1	4,11	1	1,379	0,245
Appropriate risk allocation and risk sharing	3,73	8	4,17	2	4,05	2	2.011	0,162
Competitive bidding process	3,80	7	4,12	4	4,04	3	1.681	0.200
Commitment/responsibility of public/private sectors	3,60	10	4,12	3	3,98	4	3,107	0,084
Comprehensive and realistic cost/benefit assessment	3,87	6	3,98	5	3,95	5	0,183	0,711
Project technical feasibility	3,53	11	3,88	6	3,79	6	1.465	0,231
Transparency in the bidding process	3,93	4	3,67	8	3,74	7	0,567	0,455

Factors	Public sector		Private sector		Total			
	Mean	Rank	Mean	Rank	Mean	Rank	*F*	Sign.
Good governance	3,93	2	3,64	9	3,72	8	0,940	0,337
Favorable legal framework	3,47	12	3,69	7	3,63	9	0,748	0,391
Available financial market	3,73	9	3,55	10	3,60	10	0,271	0,605
Political support	3,93	3	3,43	11	3,56	11	2.115	0,152
Multi-benefit objectives	4,00	1	3,14	16	3,37	12	4,694	0,035 *
Guarantee of the local government	3,07	15	3,24	13	3,19	13	0,401	0,529
synchronous and stable viewpoints, orientations, and policies	3,13	14	3,21	14	3,19	14	0,058	0,811
Stable macro-economic environment	3,27	13	3,17	15	3,19	15	0,100	0,753
Well-organized public agencies	2,87	18	3,26	12	3,16	16	0,779	0,381
Shared authority between public and private sectors	3,00	17	2,98	17	2,98	17	0,005	0,945
Social support	3,07	16	2,71	18	2,81	18	0,774	0,383

Source: Result of data analysis by SPSS software

4.5. Analysis of factors affecting the attraction of the private sector to invest in transport infrastructure in the form of the PPP model

Table 4.5: Analysis of variance of factors explained for factors affecting successful attraction of PPP projects

Factors	Initial eigenvalue			Total rotation of load squared factor		
	Total	percent variance	Cumulative percent	Total	percent variance	Cumulative percent
1	5.9726	33.1813	33.1813	4.0585	22.5471	22.5471
2	2.2708	12.6153	45.7966	3.1779	17.6553	40.2023
3	1.9120	10.6220	56.4186	1.9310	10.7280	50.9304
4	1.2408	6.8934	63.3121	1.8834	10.4631	61.3935
5	1.0667	5.9260	69.2381	1.4120	7.8446	69.2381
6	0,8057	4.4760	73.7141			
7	0,7758	4.3100	78.0241			
8	0,7411	4.1170	82.1411			

Factors	Initial eigenvalue			Total rotation of load squared factor		
	Total	percent variance	Cumulative percent	Total	percent variance	Cumulative percent
9	0,5743	3.1907	85.3318			
10	0,4987	2.7706	88.1024			
11	0,4376	2.4308	90.5332			
12	0,3729	2.0719	92.6051			
13	0,3340	1.8557	94.4609			
14	0,3012	1.6735	96.1344			
15	0,2133	1.1849	97.3193			
16	0.1792	0,9957	98.3150			
17	0,1680	0,9335	99.2485			
18	0,1353	0,7515	100.0000			

Source: Result of data analysis by SPSS software

Table 4.6: Rotation matrix of factors affecting the attraction of the private sector to invest in transportation infrastructure in the form of the PPP model

Factors	Composition				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Transparency in the bidding process	0,7817				
Competitive bidding process	0,7501				
Good governance	0,7362				
Well-organized public agencies	0,7121				
Social support	0,7007				
Shared authority between public and private sectors	0,6557				
Comprehensive and realistic cost/benefit assessment	0,5448				
Favorable legal		0,8181			

Factors	Composition				
	Factor 1	**Factor 2**	**Factor 3**	**Factor 4**	**Factor 5**
framework					
Project technical feasibility		0,6970			
Appropriate risk allocation and risk sharing		0,6657			
Commitment of local government		0,6603			
Strong private partner		0,6390			
Guarantee of the local government			0,7046		
Multi-benefit objectives			0,6054		
Political support					
Stable macro-economic environment				0,9266	
synchronous and stable viewpoints, orientations, and policies				0,8231	
Available financial market					0,8685

Source: Result of data analysis by SPSS software

The 18 factors can be grouped into 5 main factors as follows:

(a) Factor 1 represents *investment efficiency*.

(b) Factor 2 represents *the ability to implement the project*.

(c) Factor 3 represents *government guarantees*.

(d) Factor 4 represents *favorable economic conditions*.

(e) Factor 5 represents *the available financial market*

CHAPTER 5:
SOLUTIONS TO ENHANCE THE ATTRACTION OF THE PRIVATE SECTOR TO INVEST IN TRANSPORTATION INFRASTRUCTURE IN THE FORM OF PUBLIC PRIVATE PARTNERSHIP IN QUANG NINH PROVINCE

5.1. Perspective and objectives of investment in transportation infrastructure in the form of public-private partnership in Quang Ninh province

5.1.1. Perspective.

(1). Mobilize all resources, diversify investment forms; speed up development and improve the system of socio-economic infrastructure in a synchronous and modern direction, ensuring connectivity, giving priority to the development of strategic transportation infrastructure.

(2). Pursuing the implementation method of "*taking public investment to lead private investment*"

(3). Speed up investment in highly interconnected traffic projects, economic zones, industrial parks, and seaport infrastructure to create hubs connecting international transport and service infrastructure.

5.1.2. Objectives:

Developing the transportation system in a synchronous and modern direction in line with the orientation of Quang Ninh province "One center, two routes, multi-way, two breakthroughs" based on geographical advantages of the province such as the province is the transport gateway of the Northern Key Economic Zone, in trade with Northeast Asian countries, the Greater Mekong Sub-region and the connection point of the ASEAN - China Free Trade Area.

5.1.3. Orientation to attract the private sector to invest in transportaion infrastructure in Quang Ninh province.

Table 5-1: Structure of investment capital for transport development to 2025, 2030

	2021-2025		2026-2030	
Capital	**Total investment**	**Investment structure**	**Total investment**	**Investment structure**

	(billions VNĐ)		(billions VNĐ)	
Central budget	11.084	23,8%	9.815	29,9%
Local Budget	5.986	12,8%	3.223	9,8%
Socialization and other sources	29.595	63,4%	19.782	60,3%
Total investment	**46.666**		**32.820**	

Source: Resolution No. 141/NQ-HDND dated May 29, 2020 of the Provincial People's Council.

5.2. Solutions to enhance the attraction of the private sector to invest in the development of transportation infrastructure in the form of public-private partnership in Quang Ninh province

5.2.1.Provide an attractive political environment and policy mechanism for the private sector

** Ensure political commitment to the development of the PPP model.*

** Develop strategies and planning on development of transportation infrastructure in the form of public-private partnership based on the resources of Quang Ninh province in each certain period.*

** Provide transparent policies to develop transportation infrastructure in Quang Ninh province in the form of public-private partnership*

5.2.2. Strengthening the management capacity of the State sector for the transportation infrastructure development in the form of public-private partnership in Quang Ninh province

a. Improve management capacity for State sector

b. Set up a dedicated department to manage PPP model

5.2.3. Capacity building for PPP project development in Quang Ninh province

- The State supports capital for construction of auxiliary works, compensation, site clearance and resettlement.

- It is necessary to take innovative solutions to attract the participation of enterprises in enterprise dialogues to ensure effectiveness, practicality and suitability for each industry and locality.

- Improve the institution and legal framework to provide the legal Support to investors. Continue to effectively implement the legal support program for investors with specific and effective activities.

5.2.4. Financial support of Quang Ninh provincial for PPP projects

(i) Project Development Fund (PDF)

It is an effective tool for Quang Ninh province to implement PPP projects through supporting for PPP projects, including: preparation of pre-feasibility study reports, feasibility study reports, and investor selection.

(ii) Fund for Financial Deficit (VGF)

VGF in international practice is defined as the State's support for a project to ensure its financial viability (capital contribution to construction costs or subsidies for the operation phase of the project).

(iii) Guarantee Fund

Quang Ninh province may have several guarantee mechanisms, such as loan guarantee, revenue guarantee, exchange rate guarantee, force majeure risk guarantee.

CONCLUSIONS AND RECOMMENDATIONS

1. CONCLUSION

To attract the private sector to invest in transportation Infrastructure in Quang Ninh province in the form of public-private partnership, first of all, Quang Ninh province selects investors transparently, without privileges, equally for all investors, not affected by political factors and personal interests; Risks are reasonably shared in mutual trust and commitments are kept. However, it should be clear that the central and local state agencies in Quang Ninh province represent the people using public services; Therefore, it is necessary to keep the right to choose a private partner, to ensure the rights and interests of the people and society in general.

2. RECOMMENDATIONS

Recommendations to the Government: Ministries and central governments provide support and give more priority in both capital and technology to invest in the development of transportation infrastructure in Quang Ninh province..

Recommendations to the Ministry of Transport: Develop incentive mechanisms and policies to support investors in the socialization of seaport infrastructure construction and price and fee incentives to increase the competitiveness of services at seaports.

PUBLICATIONS RELATED TO THE DISSERTATION

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