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Port Infrastructure Project Financing Challenges for Private Investors in Bangladesh

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Building sustainable and reliable port infrastructure is critical for increasing economic growth for Bangladesh. Worldwide, private sector investment through Public-Private Partnerships (PPP) has been appreciated as an important way out for Port infrastructure financing. Although for PPP financing there have been recent successes in regulatory and institutional framework development for Bangladesh, most of the port PPP projects face different financing challenges including developing a financially feasible and bankable project, addressing the technical concerns of lenders, and finalizing the commercial structure. Therefore, it is essential to evaluate the effectiveness of the existing Port project financing mechanism in Bangladesh. This paper analyses the selected port PPP projects in Bangladesh to draw lessons in the perspectives of the institutional, regulatory, project financing, and other policy-relevant issues. With that objective, a group of forty five experts from organizations engaged in infrastructure financing in Bangladesh has been interviewed. The paper finds that for ensuring the bankability of an infrastructure project, it is essential to obtain government support for port PPP projects.

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1. Introduction

Governments in developing countries continuously face the challenge of meeting the growing demand for port infrastructure services. In developing countries, existing port infrastructure services are often inadequate to meet consumer demand, resulting in poor service delivery standard for cargo and containers. Empirical research has long recognized the importance of infrastructure development for economic growth (Aschauer, 1989). With growing budgetary constraints, many developing countries have not been able to invest in infrastructure and support economic growth. As available funding from traditional sources and the capacity of the public sector to implement multiple port projects continue to be limited, government has increasingly turned to the private sector to improve the supply of infrastructure services.

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Public-Private Partnership (PPP) allows the public sector to utilize financial and managerial resources of the private sector for infrastructure project implementation. Fay and Yepes (2003) estimate that the infrastructure investment need for developing countries would be USD 465 billion per annum over 2005-2010. With economic growth, the need for new infrastructure is expected to rise even further in the near future. From developing country perspective, PPP provides an alternative policy option as it is often difficult for these countries to implement large infrastructure project with a huge debt burden. Public-Private Partnerships (PPPs) have become an essential economic instrument.

In recent years, the Government of Bangladesh (GoB) has emphasized port infrastructure development to facilitate trade and growth. The recent development of Payra seaport and proposed Matarbari deep sea port is part of government's long-term plan for ensuring required port infrastructure for Bangladesh. Besides, the government has made significant progress in the project development process of proposed Laldia terminal and Bay terminal under Chittaport Port. Currently, six land ports have been constructed through PPP, located in Banglabandha, Teknaf, Sonamasjid, Birol, Hili, and Bibirbazar. Considering the need for investment requirements, it is important to explore different financing options including PPP for these projects. However, for making a commercially viable port PPP project and attracting private investment in these projects, it is essential to plan the project and conduct the transaction process carefully.

As currently, Bangladesh has very limited port PPP projects, often investors do not have the required experience for these projects and find it difficult to obtain required debt financing for project implementation. In this regard, Asiedu and Esfahani (2001) argue that developing countries often lack the required technical knowledge and capital for implementing large infrastructure projects. For developing a financially viable project, it is essential to address the technical concerns of lenders. It is also essential to assess the effectiveness of the existing Port project financing mechanism in Bangladesh.

This research aims to assess the effectiveness of existing financing mechanism for port projects in Bangladesh. In this regard, this study also seeks to evaluate the role of governments in facilitating project financing for port PPP projects. The private firm's decision to invest in port PPP projects will be influenced by the expected risk and return associated with the particular project. Many of the factors determining the expected risk-return outcomes will be project-specific. However, others will be associated with macroeconomic characteristics, including the government's role in the project. Our hypothesis tests whether the government's commitment in port PPP project is an essential determinant for project stakeholders.

Governments of developing countries are in dire need of large infrastructure projects for increasing their economic growth and getting out of poverty. However, such projects are difficult to finance and often involve a lot of risks. Therefore, it is crucial that we determine the determinates of the project's success. Our goal was to unearth those determinates so that future projects would have a higher chance of success and thus more such projects will be carried out. The motivation and reasons for carrying out this research was to add to the body of knowledge the determinates of success in the hopes that this would help people all over the world.

With that objective, this paper analyses port PPP projects in Bangladesh to draw lessons in the perspectives of the institutional, regulatory, project financing, and other policy-relevant issues. To explore these issues, a systematic research approach, including literature review and interviews with experienced practitioners has been taken to draw experience, learn and lessons. As part of the research, a group of forty five experts from organizations engaged in infrastructure financing process in Bangladesh have been interviewed.

Our research contributes to the literature in the following ways. Past studies show that macroeconomic factors such as investment liberalization in the country (Doh et al. (2004), control of corruption, aggregate demand, macroeconomic stability, and inflation (Hammami et al. (2006) are essential in encouraging private sector participation in PPP projects. We extend this line of research by showing that Government Commitment is also important for promoting PPP project.

Furthermore, the study contributes to the literature on project financing. Most of the PPP projects in the world are carried out through a project financing structure. Despite the importance of PPP projects, only a few theoretical study currently exists. Prominent among these are the works by Shah and Thakor (1987), Berkovitch and Kim (1990), John and John (1991),Chemmanur and John (1996) and empirical studies by [Esty and Megginson (2003), Sorge (2004)]. And the significance of this study is that it identifies the importance of government oversight and commitment for the success of PPP projects given the scarce body of literature available on this niche topic and the wide use of PPP projects throughout the world and its crucial importance to developing countries.

The structure of the rest of this paper is as follows. Section 2 provides a literature review, followed by the current context of infrastructure financing market in Section 3. Section 4 discusses the research methodology for this study. Section 5 outlines the findings from this study. Conclusion and a policy recommendation are provided in Section 6.

2. Literature Review

PPP project performance largely depends on the efficient project risk allocation among the project owners. Li et al. (2005a) find that appropriate risk allocation is the critical success factor for PPP projects. In the U.K., PPP projects had an unsatisfactory performance as stakeholders failed to take account of relevant project risks (Quiggin, 2002). Some of the critical PPP project risks include financial, operational, demand and asset ownership risk (Queensland Government, 2008). In this regard, Quiggin (2002) has emphasized on the importance of managing asset ownership risk in PPP projects. Contracting with the public may also magnify PPP ownership risks since governments as the regulator can change the rules, construct competing projects, or even terminate the project as they see fit. Depending on the country and sector, these ex-post changes by governments can add 2–6 percentage points to the cost of capital (Guasch and Spiller, 2001).

Doh et al. (2004) investigate the factors that influence PPP project implementation in telecommunications infrastructure projects. They test whether country, sector and project-specific variables can affect PPP project structure. Using a sample of 500

telecommunication PPP projects in more than 100 developing countries, they find that private sector investment is positively associated with economic development and investment liberalization policy of the country. Higher levels of private investment are found to be positively associated with greenfield projects but negatively associated with divestitures. The level of private participation is higher for PPP projects with multiple private investors, suggesting that collectively, private investors are willing to take relatively more project risk and ownership. However, private sector investment is negatively related to the technological complexity of the projects. If we consider technical complexity as a proxy of project risk, then this finding suggest that private investors prefer to take less ownership in risky projects.

Hammami et al. (2006) analyze a sample of 2,712 PPP projects and conclude that countries with common law and better control of corruption have PPPs with more private sector participation. They also find that PPP projects in the water industry sector tend to have less private sector involvement while telecommunication projects have higher private participation. They also find that PPPs tend to be more common in countries with higher aggregate demand is sizable. Private investors may prefer to invest in these countries as markets are large enough to allow for cost recovery. They also find that macroeconomic stability is essential for PPPs because investors prefer countries with low inflation.

Dailami and Klein (1998) discuss the potential risks of PPP projects, including currency convertibility and transferability risks. PPP project revenues are often generated in local currencies, but the servicing of foreign debt and equity involves payments in foreign currencies. Exchange rate fluctuations and capital controls limiting currency convertibility and transferability can create a risk to foreign investors and financiers. In assessing these risks, they conduct a case study of the Argentinean private natural gas transport company COGASCO. The company started its operation with a guarantee from the central bank that it would be able to convert currency. During 1982, with low foreign exchange reserves, the state-owned company Gas del Estado breached the contract with COGASCO. In fact, by initiating a dispute, the government tried to minimize its project responsibility. After this dispute, COGASCO and its parent company became bankrupt.

Existing studies provide evidence that infrastructure assets have lower return than non-infrastructure assets. Bitsch et al. (2010) compare the risk, return and cash flow characteristics of infrastructure investment funds with those of non-infrastructure investment funds. Based on a sample of 363 fully-realized infrastructure and 11,223 non-infrastructure deals, they find no evidence that infrastructure investments offer more stable cash flows than non-infrastructure investments. However, infrastructure deals generate a higher average and median returns, as measured by the investment multiples and internal rates of return. Their research shows that the regulatory environment has an impact on infrastructure project returns. However, their sample contains only equity investments, which differ from PPP project investments. For one, infrastructure funds are managed by specialist fund managers who keep a portfolio of infrastructure projects and make investment decisions on behalf of investors. Through a portfolio of infrastructure projects, an infrastructure fund provides the diversification benefit for the investors. In comparison, PPP project investors have to select a particular project and the level of investment equity for that project.

Existing studies find that private investors get little return from PPP projects relative to the risk undertaken. Sirtaine et al. (2005) estimate the returns to investors in PPP projects and assess whether they are adequate relative to the project risk. They find that in most cases, PPP project returns are well below the cost of capital; the average operating profitability of PPP projects is just 6.3%. Their sample includes 34 PPP projects from Latin America, covering electricity, telecommunication, transportation, and water sectors. They rely only on audited financial statements and official company press releases, and four measures of effective project return: shareholders' internal rate of return; the return on equity; the project internal rate of return; and the return on capital employed. They check whether the return is adequate given the project risk by comparing it with the cost of capital.

The paper also develops a quality of regulation index and examines the extent to which the regulatory framework contributes to maintaining alignment between the cost of capital and rates of return. They examine whether the regulatory framework has allowed excessive rent capture by the investors or excessive benefits from the users at the expense of the investors. Their study shows that projects achieve a closer alignment between financial returns and costs of capital with a higher quality of regulation. Thus, the paper validates the claim that regulation, indeed, matters for PPP projects. Their study also shows a significant variance in returns across sectors. PPP projects in the telecommunication sector appear to be most profitable. Compared to other sectors, projects in the water sector are less attractive. The quality of regulation can partially explain the variance of returns across different sectors.

Currently there exsit very limited studies focusing on port PPP projects. Aerts et al. (2014) applies a multi-actor analysis, to investigate the critical success factors (CSFs) for port PPP projects. They find that the concreteness of the concession agreement, appropriate risk allocation and management, the attractiveness of the financial package, and a realistic project assessment is important for successfully implementing port PPP projects.

Cabrera et al. (2015) reviews the port PPP projects from Spain. They argue that for promoting port PPP projects it is important to prepare explicit and exhaustive contract terms and ensure proper risk allocation among the project partners. Panayides et al. (2015) analyze the effect of institutional issues in the success of port's PPP projects. They study finds that market openness'; 'enforcing contracts'; 'regulatory quality' and ''ease of starting business' are important institutional determinants of a successful port PPP project.

Although these study focus on the government's policy level support government for implementing port PPP projects, project level support from the government can play an important role in developing a bankable port PPP projects. For private investor's port infrastructure investment is not a free entry project and for a port PPP project private sponsors need to form commercial contracts with public sector. Along with partnering with private sector governments also implement port infrastructure projects with state funding. In addition, port PPP projects may involve significant political and regulatory risk. When investors are unwilling to undertake a project because of political-and-regulatory risk, government guarantee can ease those concerns and allow the project to proceed. Therefore, it is important to assess the role of government support for developing a bankable port PPP project. With that

argument our hypothesis tests whether the government's commitment in port PPP project is an essential determinant for project stakeholders.

Blanc-Brude and Strange (2007) emphasize on the government role in project financing, especially in infrastructure projects. They argue that PPP project's loan spread should be lower as government supports these projects. Since PPP projects are the politically important, government has an incentive to support these projects. Considering the government's incentive, banks may view government as the underwriter of the PPP project. Lenders often receive implicit or explicit repayment guarantees from the government. They provide an example of London Underground PPP, where the British government agreed to underwrite 95-100% of the total principal of £4.5 billion. They assume that considering the government involvement in infrastructure PPP projects, banks charge a lower fee for project financing deals. However, based on their empirical analysis they do not find any evidence for supporting their hypothesis. Their findings confirm that lenders do not consider the public sector to be the direct underwriter of PPP debt.

3. Infrastructure Financing Institutions in Bangladesh: An overview

Commercial banks, especially the state-owned banks, dominate the infrastructure financial sector of Bangladesh. State-owned commercial banks (SCBs) receive most of their funds in the form of deposits, which are channeled into lending. However, lending to infrastructure projects by banks and NBFIs is not significant. Instead, other specialized organisations play a leading role in infrastructure financing in Bangladesh.

Bangladesh Infrastructure Finance Fund Limited (BIFFL) is one of the largest capital based Financial Institution. The primary objective of BIFFL is to provide predominantly long-term financing for PPP projects through the issuance of bonds, debt instruments, and equity offerings. The Government of Bangladesh, with support from the World Bank, developed the Investment Promotion and Financing Facility (IPFF) project in 2006, mainly for lending to infrastructure projects in the private sector. The IPFF has made available partial debt financing through private financial intermediaries for eligible PPP projects.

The Government of Bangladesh established infrastructure Development Company (IDCOL) in fulfillment of the conditions under the Private Sector Infrastructure Development Project (PSIDP) loan of the World Bank. It has been mandated to provide long-term senior and subordinated debt financing to viable infrastructure projects in the private sector for power generation, gas and gas-related infrastructure, toll roads and bridges, water supply, urban environmental services, ports, telecommunications, renewable energy, and other similar projects. It provides soft loans as well as modest grants for the development of rural infrastructure. Advisory, project structuring, and syndication services

There is little interest in the bond market to raise long-term funds due to high-interest rates and high non-interest fees due to dealers, trustees, and others, as well as interest costs to be given to the bond buyers. The non-interest cost of public issue of the debenture is also initially high. This tends to discourage companies from issuing bond/debentures to the public since obtaining debt from commercial banks, share

market IPOs, and NBFIs is more economical and procedurally more straightforward with lesser compliance obligations. The debt market in the country is based on primary auctions. All activities related to the issuance of government debt are done through primary auctions conducted by Bangladesh Bank.

Bangladesh Bank has formulated a policy for NBFIs to allow them to receive foreign loans only for manufacturing industries and infrastructure funding with prior approval of Bangladesh Bank and through proper approval route. Despite the regulation, the flow of external funds is quite small due to a lengthy approval process involving both the Bangladesh Bank and the Board of Investment on a case by case basis. Infrastructure projects require long-tenor loans, and if financed through foreign currency borrowings these funds need to be adequately hedged against currency risks since few infrastructure projects have foreign exchange earnings to serve as a natural hedge. Inability to hedge long-term currency risk is a significant disincentive in as far as foreign currency loans are concerned.

4. Research Methodology

Currently, there exists limited academic research on PPP project financing in Bangladesh. The primary research methodology for PPP projects has been field-based studies rather than large sample statistical analysis. The study will use qualitative approach for conducting this research. Previously, Li et al. (2005b) have used a similar kind of research approach for PPP projects in the UK. The study is based on a comprehensive review of literature, government policy document and stakeholder's interview. As part of this study, this research contacted one hundred three stakeholders and invited them to participate in this study. Among these respondents, forty five respondents formally participated in the study and provided telephone and face to face interview. The forty five stakeholders include officials from government agencies, private investors, financing institutions, academicians, policymakers, and project consultants.

As part of the study, telephone and face-to-face interviews with industry practitioners have been carried out. For conducting effective interviews, lists of discussion issues and questions addressing different aspects of port PPP projects are sent before formally conducting the interviews. This process has been followed to ensure that the respondents have time to prepare their response. Previously Zhang (2005) used similar approach for conducting study for PPP projects.

For this study, a convenience sampling strategy has been used instead of random sampling. For this particular study, convenience sampling was selected as there is no comprehensive database of Bangladeshi stakeholders involved in port PPP projects. Random sampling can only be used if the industry stakeholders are well distributed, and the population is known (Diekhoff, 1992)

As the study aims to incorporate insights from different groups of stakeholders, the respondents were divided into four separate groups, and the questionnaire was designed accordingly. For this study, the first group of stakeholders with seven respondents was selected from government agencies. Also, eight respondents were selected from financing institutions, ten respondents were selected from academic institutions and finally, twenty respondents were selected from project consultants.

While the sample size of this study is very small, but it is mainly attributed to the fact that private infrastructure financing is still an emerging sector in Bangladesh with very limited industry stakeholders. A partial explanation for limited academic research in this area is that obtaining stakeholders with project-level data for PPP projects can be difficult.

5. Findings

During the interview, the stakeholders identified a number of essential issues which are important for promoting private sector's investment in port PPP projects. A wide range of barriers to port public–private partnerships (PPPs) in infrastructure development have been identified, which are broadly classified into four aspects: (1) Local Investors Financing Ability; (2) Importance of Government's Project Commitment; (3) Importance of Favorable Economic Scenario; (4) Support for Developing Bankable Projects. These are considered in greater detail here.

Local Investors Financing Ability

During the survey, it was found that eighty percent project investors, which are currently operating in Bangladesh, think that the size of the balance sheets of their companies did not allow them to take on the entire risk of implementing large port PPP projects. As a result, they are interested in joint ventures with other foreign partners for the transfer of technical expertise and financial strength for implementing such projects.

Importance of Government's Project Commitment

Overall, sixty-six percent respondents feel that in recent years Project finance market context has improved in Bangladesh as there is a precedence of successful implementation of other PPP projects in Bangladesh. However, there hasn't been much involvement of institutions in financing port PPP projects. The respondents from the financial institutions insist on certain comforts to be present in the contractual documents in Port projects for their participation. They had suggested that minimum revenue by way of annuity payment and Viability Gap Funding (VGF) during construction and operation phase is essential to install confidence amongst banks to lend to such port PPP projects. Further, forty percent of respondents feel that government guarantees in the form of termination payments during the operation period covering the due debt obligations are important and needs to be incorporated. As per existing regulations, Central Bank prohibits banks to lend more than 15% of their share capital to a single borrower. Since the average ticket size in an Infrastructure Project Finance transaction is around USD 300 million, the limited capital base of a single bank does not allow them to take the entire exposure.

Especially when capital markets are underdeveloped, the availability of long-term project financing may be limited for the private investor. In India, the government set up the Tamil Nadu Urban Development Fund (TNUDF) for this purpose, with contributions received from the State Government of Tamil Nadu and several Indian financial institutions. TNUDF also has access to a line of credit of about Rs 3.7 billion from the World Bank. The fund provides long-term debt for infrastructure development on a non-guarantee mode (Krishnan, 2007).

Importance of Favorable Economic Scenario

Overall, eighty percent of respondents believe that the unstable political scenario in Bangladesh limits confidence in the foreign funding agencies for investing in Bangladesh. Further, the absence of a broad foreign exchange market notably the absence of hedging instruments for long-term borrowings also prevents the flow of cheap foreign funds which are essential for funding infrastructure projects. Ambiguity in tax guidelines, particularly for repatriation of profits in the form of dividends by foreign entities often prevents foreign investors from investing in Bangladesh.

Support for Developing Bankable Projects

Overall, seventy-three percent respondent's think that the Government needs to ensure that the proposed port PPP project structure is "bankable", referring to the ability of a PPP project to raise financing. For a port project to be bankable, lenders need to be confident that the project is technically, financially and socially sound. Therefore, from the government's perspective, the critical considerations for ensuring bankability is to plan the project considering the technical, social, environmental, and financial viability. To achieve this, the government needs to assess the project and then design the project carefully.

The government can also assure the market about the bankability of a particular project through committing its resource. Governments can participate in the finance structure through debt, equity, guarantees, and other instruments. Girardone and Snaith (2011) report that project finance loan spreads are significantly lower with a government loan guarantee. Brandao and Saraiva (2008) note that in providing the guarantees, the state (government) becomes responsible for all future liabilities that the guarantees may create. Through these support measures, the government can build the other lenders confidence. In many developing countries, the government has established special financing institutions which provide concessional loans, guarantees, and other project supports to PPP project companies. These institutions also play the essential role of refinancing the PPP projects.

Our findings are consistent with Ramamurti (2003) as their study also emphasizes on the role of government commitment in infrastructure projects. Their study explains that Government can affect a private investment as a financier, supplier, customer, competitor, and regulator. Governmental involvement in PPP project can occur at the federal, state, or local levels. Li et al. (2005a) argue that government guarantees are necessary if private investors are not confident about government policy. Kumaraswamy and Zhang (2001) also emphasize on the government support for PPP projects, including establishing an adequate legal and regulatory framework. Their study stresses on the project level support required from the government, including ensuring fair and competitive bidding and providing adequate project assistance and guarantees.

Based on the interview response, market risk as per perceptions for port projects have decreased in Bangladesh over the last few years primarily due to a large number of structural and policy level reforms formulated by the current government regime. The stability in the domestic market coupled with greater foreign investments has increased the confidence of the investment populace. However, the risk

estimated by local and domestic construction players and financiers is high, and as a result, they demand a higher return to commensurate with the risk premium.

6. Policy Recommendations and Conclusions

Our findings that government commitment is vital for the success of PPP projects is supported by other studies. Particularly, Ramamurti (2003) also emphasizes on the importance of government commitment in infrastructure projects. Governmental involvement in PPP project can also occur at the federal, state, or local levels. As, Li et al. (2005a) argue that government guarantees are necessary if private investors are not confident about government policy. Kumaraswamy and Zhang (2001) also emphasize on the government support for PPP projects, including establishing an adequate legal and regulatory framework.

Besides, the outcomes of the study also show that the government can also assure the market about the bankability of a particular project through committing its resources. That also supported by many previous studies. As, Girardone and Snaith (2011) report that project finance loan spreads are significantly lower with a government loan guarantee.

The research also found, along with the government, development partners also need to play a crucial role in port PPP project financing. Since government commitment often relies on the political climate therefore In the case of project disputes, development partners can coordinate with the government and can offer political risk diversification options to private investors. In fact, some of the development partners, including MIGA, are set up with the mission of managing political risk in foreign direct investment projects (Baker, 1999). Miller and Lessard (2000) provide an example for Hub power project in Pakistan, where the World Bank negotiated with the government for avoiding project contract change. Sorge and Gadanecz (2008) argue that the availability of political risk mitigation instruments from development partners can reduce project finance loan spreads. They emphasize that development partners can intervene at any initial sign of project dispute, and resolve potential complications with the government on behalf of private sector investors.

Previous studies show that macroeconomic factors such as investment liberalization in the country (Doh et al. (2004), control of corruption, aggregate demand, macroeconomic stability, and inflation (Hammami et al. (2006) are essential in encouraging private sector participation in PPP projects. This paper has furthered the body of knowledge on PPP financing in that it discusses the importance of government commitment and support. It specifies the ways the system should be set up to ensure the required government commitment and support. Thus make the project bankable and increase the chances of such a project being implemented in the first place.

The study contributes to the literature as it is related to the literature on project financing. In fact, most of the PPP projects are implemented through project financing structure. In spite of its importance, only a few theoretical study including by Shah and Thakor (1987), Berkovitch and Kim (1990), John and John (1991),Chemmanur and John (1996) and empirical studies [Esty and Megginson

(2003), Sorge (2004)] have thus far been published. However, despite these contributions, this research is based on a limited number of interviews among the industry stakeholders. Further research involving a large number of respondents is needed to indentify different critical success factors (CSFs) for port financing challenges.

It is hoped that this study would significantly help to stakeholders who wish to assess the financing challenges of PPP projects, to government and development partners who design PPP projects, and to researchers who investigate the impact of financing structure on PPP project. More particularly the public and private decision makers in assessing the financing challenges of PPP projects particularly in developing countries. It also adds to the body of knowledge on PPP financing challenges in developing countries where the political climate and the regimes are mostly in flux.

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