BUILDING INFRASTRUCTURE FOR LONG-TERM GROWTH – THE CASE OF VIETNAM

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ABSTRACT

Massive funds have been injected in infrastructure construction in developing countries to support economic growth and their integration into global markets. However, whether these funds would improve the nation’s public infrastructure in the long-run depends on how well infrastructure is planned and built. Based on an extensive literature review, this paper identifies a number of deficiencies in the planning and policy making process, as well as in the implementation of infrastructure plans. This paper aims to show policymakers that the critical challenge faced by developing countries in infrastructure construction is thus not about the funding but should be more about effective planning and implementation for long-term benefits.

INTRODUCTION

Infrastructure is regarded as one of the determinants of international competitiveness, which directly impact the ability of countries to engage in international trade, and to compete for foreign direct investments (APEC Economic Committee, 1997; Nwankwo, 2000; Kohsaka, 2006; Brooks, 2008). The poor quality and inadequacy of infrastructure thus become one of the major development challenges in many developing countries. Considerable financing is required to meet large scale infrastructure expansions in developing economies. As a result, the literature is dominated by studies focusing on potential difficulties in project financing for infrastructure development (Fay and Yepes, 2003; Davis, 2008; Arnold, 2011).

Globally, government investments accounted for 78% of total investments in infrastructure construction from 1994 to 2003 (Estache, 2006; Kenny, 2007). The study of infrastructure in developing countries by Devarajan et al. (1996), however, indicated that infrastructure actually had negative impacts on economic growth. The empirical analysis by Flyvbjerg (2008) indicated that cost overruns, benefit shortfalls and waste were found in most infrastructure projects around the world. The low
efficiency and quality of public investments in infrastructure found in these studies suggest that there are important issues beyond the difficulties in project financing for infrastructure development. A focus on financing issues therefore does not provide a comprehensive answer to the infrastructure development problems in developing countries.

Some studies focus on the planning and policy making aspect of infrastructure development (Flyvbjerg, 2007; Mustajab, 2009; Marshall, 2011). Other empirical studies show that there are still a number of issues (for example delay, cost overruns, quality, safety and productivity) in infrastructure construction to transform these master plans into physical infrastructure capital (Toor and Ogunlana, 2008; LaFraniere, 2011; Memon et al., 2011). Reviewing the literature on problems in infrastructure planning and delivery in developing countries thus would be important for the governments to cut down costs and waste, thus enhancing the efficiency of public investments in infrastructure, and meeting development goals.

INFRASTRUCTURE PLANNING AND DELIVERY IN DEVELOPING COUNTRIES

Problems in infrastructure planning

There are a number of issues relating to the quality of infrastructure planning outcomes, including the absence of an adequate problem analysis, lack of alternatives, ambiguities about the effects of improved infrastructure on the development of a wider area, inadequate research of the interaction across infrastructure sectors, and underestimated costs and overestimated benefits (Estache and Fay, 2007; Flyvbjerg, 2007; Priemus, 2010). The poor quality of infrastructure planning outcomes would thus result in bad policy choices, which subsequently have a wider effect on the economy. Although infrastructure planning tools have recently been developed (Schweikert and Chinowsky, 2012; World Economic Forum, 2012), there are deficiencies in the capacities required for using these tools. Tackling deficiencies in planning and policy making capacities of governments can therefore play a crucial role in determining the efficiency of public investments in infrastructure for trade and economic growth in developing countries. Reviewing the literature on government planning, especially in the area of infrastructure development, the following factors can be attributed to deficiencies in the infrastructure planning and policy making process.

*Capacity for estimation and monitoring of rates of return of projects*

Unexpected infrastructure planning outcomes can first be explained by the lack of capacity for estimation and monitoring of rates of return of projects, including limitations of forecasting methods and appraisal techniques; inadequate data; inherent problems in predicting the future
and monetizing external and indirect effects; lack of experienced forecasters; lack of quality checks on planning outcomes; and inadequacy in routinely ex post analysis and external audits on whether policies and projects meet objectives (Short and Kopp, 2005; Flyvbjerg, 2007; Collier and Venables, 2008).

**Politically decision making**

Besides these technical factors, failures of the planning process could be explained by the political factor (Devarajan and Swaroop, 1993; Todaro and Smith, 2003; Flyvbjerg, 2007). Political leaders and government bureaucrats can use investments in infrastructure construction as a tool for securing political positions or competing for scarce funds. Lack of commitment of political leaders and government bureaucrats to national goals could therefore make infrastructure planning and decision making politicized rather than rationalized. In addition, powerful groups with vested interests can create pressure to affect the planning that serves their own interests (Todaro and Smith, 2003; Henisz and Zelner, 2006b).

**Transparency and accountability**

Infrastructure planning and policy making processes are rarely fully transparent to the public. Forecasting methods, criteria of project selection and the determination of planning objectives are often not made available for consultation with the interested or affected individuals or groups. Independent peer reviews and quality checks on forecasts and planning outcomes by independent-review bodies and the scientific and professional community are not sufficient. Lack of penal systems to enforce penalties on those that deliberately and consistently produce deceptive forecasts is also attributable to the accountability problem (Short and Kopp, 2005; Flyvbjerg, 2007).

**Institutional weaknesses in planning**

Since planning and policy making for infrastructure is a multi-actor process, nurturing of an institutional capacity that coordinates efforts and resources is considered one of the determinants of infrastructure development (Mody, 1997). However, there are a number of institutional weaknesses of the planning processes of most developing countries, including the poor communication between the planning agency and the day-to-day decision-making machinery of government; intersectoral rivalries; lack of interaction between political leaders, planners with non-governmental actors; incompetent and unqualified civil servants; as well as complicated and bureaucratic administrative systems (Todaro and Smith, 2003).

**Problems in delivery of infrastructure**

While there may be widespread agreement with a policy of supporting the increase of infrastructure investments for trade and economic growth,
there are concerns in infrastructure construction. In recent years, governments, especially those in developing countries, such as China and India, have initiated ambitious infrastructure investment plans (Arnold, 2011). Empirical evidence in developing countries has shown that even if sufficient investments are raised, there are still a number of issues in infrastructure construction (for example, delay, cost overruns, quality, safety and productivity) to transform these master plans into physical infrastructure capital (Ahmad, 2004; Long et al., 2004; Le-Hoai et al., 2008; Toor and Ogunlana, 2008; LaFraniere, 2011; Memon et al., 2011). To improve the quality and efficiency of infrastructure investment and planning, these issues in the implementation of infrastructure development plans need to be examined.

**Political commitment**

Studies on infrastructure development in East Asia have emphasized that sustained and powerful government leadership is crucial (Mody, 1997). Infrastructure development involves a long-range vision that sustained commitment from the government is essential to support the development of a concrete strategy and subsequent actions. Lack of political commitment thus could have direct effects on the implementation of infrastructure development plans (Waterston, 2006). Lack of political commitment could be the result of political discontinuity, political inconsistencies at the national level and between different tiers of governments, and lack of a high-powered government institution that provides an effective mechanism for implementing national infrastructure plans (Priemus, 2010).

**Corruption in infrastructure construction**

Construction, in particular infrastructure construction, continues to be ranked as one of the most corrupt sectors worldwide. Corruption in the sector occurs in all stages from securing government contracts to the delivery of infrastructure. Major impacts of corruption in infrastructure can lead to poor construction, limited occupational safety and low returns to government infrastructure investments (Kenny, 2007). There are a number of causes of corruption in infrastructure construction, including the lack of transparency and competitiveness in bid processes, the discretionary power of individual bureaucrats involved in the award of contracts, inadequate financial and physical auditing, and inadequate capacity of regulatory bodies to enforce regulations (Kenny, 2007, Dabla, 2011).

**Land acquisition**

Problems in land acquisition can cause substantial delays and cost overruns in infrastructure construction (Priemus, 2010). In many developing countries, land acquisition is considered one of the major barriers to governments’ plans to develop infrastructure (Agrawal, 1999; Morris, 2007). Major problems in land acquisition for infrastructure in
developing countries can include poor compensation and undervalued market price of land. Several causes for these problems can be identified, including lack of a negotiating mechanism to make land acquisition compensation more market-oriented; bureaucracy in settling land disputes and claims; lack of a land acquisition compensation monitoring system; and lack of clarity about compensation valuation methods, lack of law enforcement to regulate land price speculation (Chan, 2003; Raghuram et al., 2009; Widhiarto, 2011).

Building capacity of local firms

Various construction components, including finance, technology, management, materials and labour are required in the construction of infrastructure projects. The inadequate capacity of the domestic construction firms in developing countries to meet the level of construction activities required for the construction of infrastructure could thus affect the implementation of infrastructure development plans. Moreover, the inadequate capacity of the domestic construction firms could lead to increasing foreign participation, which in turn could limit the opportunities for local firms to win contracts and for the local labour to gain employment (Raftery et al., 1998). Current issues pertaining to the capacity that domestic construction firms in developing countries are facing include poor level of efficiency and quality of work; poor level of professionalism and entrepreneurship; and resources shortages, especially in construction technology, management and finance (Howes and Robinson, 2005; Ofori, 2012).

Institutional and legal weaknesses in infrastructure construction

Other concerns involve institutional and legal weaknesses in infrastructure construction, including obsolescence of building regulations, changing and inconsistent law and regulations, ineffectiveness of implementation of existing statutes and codes, and bureaucracy in formal procedures relating to project planning, construction permissions and administration (Raftery et al., 1998; Ofori, 2000, 2006; Ofori, 2012).

THE CASE OF VIETNAM

Infrastructure related indicators compared to other Asian countries

Over the last decade, Vietnam has sustained about 9-10% of GDP invested in infrastructure (Nguyen and Dapice, 2009; Moore et al., 2010). Compared to other East Asian countries during their period of rapid industrialization, Vietnam’s level of infrastructure investment was relatively higher. For example, Taiwan invested 9.5% of GDP during 1970-1990, South Korea invested 8.7% during 1960-1990, and China invested about 8% between 2003 and 2004. Development experience
also suggests a lower level of infrastructure investment, 7% of GDP, in order to maintain high economic growth (Nguyen and Dapice, 2009).

However, the progress of infrastructure development in Vietnam remains slower than other regional countries. Vietnam’s infrastructure ranked 111th out of 133 countries surveyed in the Global Competitiveness Report (GCR) 2009-2010 (Schwab, 2009). From 2006 to 2010, time and costs of exporting and importing in Vietnam have been increasing (Doing Business, 2010). Share of logistics costs was about 20-25% of Vietnam’s GDP in 2009, which was far higher than that of developed countries and even higher than its neighbor and rival, China (Manila Bulletin, 2009).

According to various GCRs published by the World Economic Forum (Schwab, 2008, 2009), among the major competitiveness indicators, Vietnam’s infrastructure remained the biggest drag on the country’s further economic development. Similarly, in other recent surveys such as those conducted by the Vietnam Business Forum and the Japanese External Trade Organization (as cited by Moore et al. (2010) and Nguyen and Dapice (2009)), poor infrastructure was identified as the largest bottleneck for doing business in Vietnam. Weak infrastructure is holding back the country to compete for both domestic and foreign investments in manufacturing and exports even though Vietnam is still a globally competitive, low wage manufacturer and commodity producer (Tran, 2009; Vo and Nguyen, 2009). Limited state budget and Overseas Development Assistance (ODA) funds have been identified in many studies as the major cause for this poor progress. Solutions to the infrastructure bottlenecks in Vietnam thus seem to lie in further improvement in the Public-Private Partnership (PPP) regulatory regime and the encouragement of private sector participation in infrastructure delivery (Warlters, 2006; Vo, 2007; Vo and Nguyen, 2009; Moore et al., 2010). It is, however, notable that while investments in infrastructure development have recently increased, the quality of the infrastructure system of Vietnam has not improved as expected. The country’s experience in the construction of large-scale infrastructure projects has proved to be very problematic as discussed below.

**Infrastructure investment planning**

There are a number of issues related to inappropriate master planning in project selection and investment coordination in Vietnam (Nguyen and Dapice, 2009; Vo and Nguyen, 2009). Investments in infrastructure in rapidly growing and key regions should be the most essential. However, many large-scale roads, ports and airports have been planned and built without regard to these regions. For example, in 2000, the Ho Chi Minh National Highway, built parallel to National Highway No. 1A (also known as National Highway No. 1) linking the north and the south of Vietnam, was planned to reduce the heavy traffic in National Highway No.1A and thus to stimulate economic growth in the poorer regions in the highlands.
that it cut through. Although many parts of the highway have been opened for use, traffic on these parts has not considerably increased and most vehicles still chose to travel on National Highway No. 1A. Likewise, Da Nang port in central Vietnam was built in the early 2000s and was ranked first class in Vietnam. However, it cost more and took more time to export goods through Da Nang port than through Sai Gon port in the south where economic activities were heavily concentrated (Nguyen and Dapice, 2009).

Similarly, the railway system of Vietnam, which has been in operation since 1936 (Vietnam Railways, 2012), is in need of repair. However, annual capital expenditure on the sector remained insignificant that could not meet 40% of minimal demand (Ho, 2011). Uneven distribution of funds also occurred in the energy sector. While Vietnam was always short of electricity supply, the Electricity of Vietnam, the largest state-owned corporation in electricity supply, was expanding its investments in mobile phone and financial services as well as real estate developments (Nguyen and Dapice, 2009).

Besides inappropriate planning, the report by the Standing Committee of the National Assembly of Vietnam on the implementation of the state-funded infrastructure construction policy from 2005 to 2007 indicated that the disjointed distribution of investments was common and showed an upward trend. A number of investments were planned individually albeit their overlaps (Phuong, 2008).

**Infrastructure project implementation**

Over the past few years, the government of Vietnam has approved a number of infrastructure investments. However, many roads in Vietnam are still in bad condition, suffering from insufficient structure (such as poor drainage and inadequate foundations or supporting structures) and poor maintenance. Even some newly-built major municipal roads and bridges also suffered severe quality problems. For example, shortly after being built or upgraded, a number of roads in Ho Chi Minh City were dug up again for the installation of underground utilities, causing further traffic congestion. Finishing work was done improperly and potholes were common on these roads (Tuan, 2010). In another example, while still under construction in 2007, two side spans of Can Tho Stayed-cable Bridge connecting Can Tho City and Vinh Long province in the south of Vietnam, the longest stayed-cable bridge in Southeast Asia, collapsed (Nguyen, 2007). Although the USD 342.6 million investment (2001 exchange rate) funded mainly by ODA from Japan was planned to be completed in 2008, the incident was expected to delay the completion until 2010 (Nguyen, 2009).

The feasibility and cost effectiveness of building major infrastructure projects were questionable as well. One of the most problematic issues in building municipal roads is site-clearance related issues, which often
remarkably raised total development time and costs of these roads. For example, the construction cost for the Nam Ky Khoi Nghia Road, which played a key role in the development of the urban transport axis of Ho Chi Minh city, was only VND 68 billion, but site clearance cost was VND 654 billion, almost 10 times higher (Vo, 2008). Likewise, many ports have been built albeit in a very low cost-effective way. For example, in 2004, the first phase of Cai Lan Port in the northern city of Hai Phong was completed and available for use with a total cost of VND 1,500 billion (around USD 96 million at that time) funded by ODA from Japan, and was expected to be one of the central ports in the north to accommodate ships of up to 40,000 DWT. The port, however, could accommodate only 15-20,000 DWT ships. Consequently, container cargos carried by 40,000 DWT ships were trans-shipped to 15,000 DWT ships before being unloaded in the port. This subsequently increased the shipping costs (and time) by tens of millions of USD per year (Do, 2006).

Long et al. (2004) conducted a survey of the issues relating to the poor performance of large construction projects in Vietnam. Top ranked factors included incompetent designers and contractors; poor estimation and change management; social and technological issues; site related issues, and improper techniques and tools. Similarly, Le-Hoai et al. (2008) conducted a survey on the causes of delay and cost overruns in large construction projects located in robust development economic zones in Vietnam. The study revealed a number of issues in the implementation of construction projects, which were often funded by the government. These issues included slow payment of completed works, poor contract management, obsolete or unsuitable construction methods and unforeseen site conditions; poor site management and supervision, slow information flow between parties and poor project management assistance; mistakes in design, design changes and additional works; shortages of materials, inaccurate estimates and price fluctuations; financial difficulties of contractors and owners; obstacles from government; and shortages of skilled workers. In a more recent work by Ling and Hoang (2010), a number of risks related to the implementation of construction projects in Vietnam were also identified. The major risks were corruption, termination of public projects, bureaucratic administrative system, changing and inconsistent regulations, inadequate legal framework, and fluctuation of exchange, interest and inflation rates.

CONCLUSION

To meet the huge demand for infrastructure, increasing infrastructure investments are encouraged in developing countries. However, empirical evidence has shown that these development objectives might not be realized as expected due to the low efficiency and quality of administering these public investments. Several studies have found that the low efficiency and quality of public investments in infrastructure could be
attributed to deficiencies in the planning and policy making process (Todaro and Smith, 2003; Henisz and Zelner, 2006a; Flyvbjerg, 2007; Guasch et al., 2007; Collier and Venables, 2008; Priemus, 2010). In addition, there are concerns about the implementation of infrastructure development plans that could affect the quality and efficiency of public investments in infrastructure (Kenny, 2007; Dabla-Norris et al., 2011). This highlights the importance of bringing these issues in both planning and implementation processes together and looking at them through the role of the government as coordinator and facilitator of overall economic development. A number of issues were identified, notably inadequate capacity for estimating and monitoring of rates of return of infrastructure projects; politicized decision making; transparency and accountability problems; institutional weaknesses in decision-making; lack of political commitment in the implementation of infrastructure development plans; corruption in infrastructure construction; problems in land acquisition; local construction firms’ capabilities and resource shortages; and institutional and legal weaknesses in infrastructure construction. In order to improve the efficiency of government funding invested in infrastructure to support trade growth and economic development, these issues must first be resolved.
References


