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REVIVAL OF INDIAN ECONOMY THROUGH RECONSTITUTION OF INFRASTRUCTURE DEVELOPMENT IN INDIA

Dr. RAJA ROY CHOUDHURY
DIRECTOR
N L DALMIA INSTITUTE OF MANAGEMENT STUDIES & RESEARCH
MUMBAI

MRUNAL ARUN MULE
RESEARCH SCHOLAR
DEPARTMENT OF COMMERCE
DR. RAM MANOHAR LOHIA AVADH UNIVERSITY
FAIZABAD

Dr. VIJETA CHAUDHARY
RESEARCH ASSOCIATE
N. L. DALMIA INSTITUTE OF MANAGEMENT STUDIES & RESEARCH
MUMBAI

ABSTRACT

Infrastructure is a major sector which plays a key role for propelling India's overall development. A country's development is strongly linked to its infrastructure strength and its ability to expand trade, cope with population growth, reduce poverty and produce inclusive growth. The Indian economy is still expanding significantly, and substantial investment in infrastructure continues to be required in order to sustain India's economic progress. The country's capacity to absorb and benefit from new technology and industries depends on the availability, quality and efficiency of more basic forms of infrastructure. The infrastructure sector primarily comprises of electricity, roads, telecommunications, railways, irrigation, hospitals, schools, colleges, water supply and sanitation, ports and airports, storing facilities, and oil and gas pipelines. India's infrastructure facilities, including transport, sanitation and electricity, are still estimated to be inadequate for its population; thereby expansion of infrastructure sector is a necessary prerequisite to further economic growth. The primary objective of this paper see the status of Indian economy through reconstitution infrastructure development.

KEYWORDS

Indian infrastructure, development, revive Indian economy, economic growth.

INTRODUCTION

Infrastructure services, defined broadly to include roads, ports, airports, communication networks, water supply, irrigation systems, and electric power, have unique characteristics that invariably generate special interest among governments of all kinds, be they monarchical, authoritarian, republican or otherwise. While it is true that infrastructure in the 19th century was largely owned and managed by private entities in many countries including the US and the UK, with the increasing scale of infrastructure provisioning to an expanding consumer set over the years, governments, as guardians of public interest, were compelled to intervene if not as owners, then certainly in a regulatory role. Indeed, over the 20th century, infrastructure development and service delivery reverted in varying degrees across different countries to the state preserve. In fact, by the second half of the 20th century, infrastructure came largely within the state domain in emerging market economies. Since the 1990s, however, endeavors to invite private interest in the infrastructure sector have been renewed. Given the strategic importance of infrastructure services, their role as public goods and their natural monopoly characteristics and associated externalities, and often large and lumpy nature of investments involved, the state can never fully relinquish its role as the key player in this space.

Be it power utilities or the Interstate Highway system of the United States; mass-transit systems or the water utilities of modern day Europe; airports or the high speed rail system in Japan, the story of infrastructure development in these countries is closely linked to their political histories and the changing roles of governments (federal, state and local) in their economic development. India is no exception. Therefore, in seeking to shed light on the post-Independence evolution of India's infrastructure sector,

The 11th five year plan laid special emphasis on the development of infrastructure and proposed strategies for better investment in infrastructure. It persuaded the government to undertake initiatives such as public private partnerships (PPPs), to draw private sector investments into the infrastructure sector. This move has benefited several infrastructure companies, and has consequently renewed their interest in undertaking large scale infrastructure projects within the country. Major infrastructure development requires a substantial influx of investment capital. The policies of the Indian Government seek to encourage investments in domestic infrastructure from both local and foreign private capital. The country is already a hot destination for foreign investors. PPPs have traditionally been formed to enhance the productivity and efficiency of infrastructure development activities. Public investment is still largely expected to finance infrastructure needs in backward and remote areas for improving connectivity and expanding much-needed public services. Since resource constraints will continue to limit public investment in infrastructure in other areas, PPP-based development needs to be encouraged wherever feasible. The government plans to draw an even mix of public and private sector investments in the 12th Five Year Plan through PPP and other initiatives.

In recent years, the PPP model in India has been fairly successful with several projects being implemented across sectors. However, one of the main problems confronting infrastructure and PPPs in India is the delay in implementing and executing large-scale projects resulting in time and cost overruns. Efficiency in implementing infrastructure projects in India is infrequent. Success of an infrastructure project is greatly influenced by proper management of the risks associated with the project. A poorly designed project-delivery approach or the wrong decisions about procurement can also lead to delays, higher costs, and diminishing returns.

Project risk management has to be a core element of project selection, planning, and design, and it has to be continuous across the entire life cycle of the project.

REVIEW OF LITERATURE

Aschauer (1989) pioneered the research on the impact of investment in infrastructure on output and productivity growth. Following Aschauer, Lynde and Richmond (1993) had shown that low Investment in infrastructure in USA was the cause for decline in output and productivity growth during early 1970s. Aschauer (1993) argued further that public infrastructure such as streets and highways, mass transit, water and sewer systems and like should be considered as a factor of production along with labour and private capital. He explained how investment in infrastructure could boost aggregate demand through increased expenditure during the period of construction and maintenance operations. Fedderke and Bogeti (2006) investigated direct impact of infrastructure investment on labour productivity and indirect impact on total factor productivity.

Herranz-Loncan (2007) analyzed the impact of infrastructure investment on Spanish economic growth between 1850 and 1935. GRIPS Development Forum of Vietnam, in a study made in November, 2003, had shown that investment in infrastructure could reduce poverty by creating more jobs. Study made by Pedroni P and Canning D 2008) showed that relationship between income per capita and infrastructure stocks per capita can be explained through an inverted U shaped curve, commonly known as environmental Kuznet curve. In this article, the author has followed a model of Barro (1990) to derive this simple estimated relationship as a reduced from of a growth model. According to the model, there is a growth maximizing level of infrastructure above which the diversion of resources from other productive uses outweighs the gain from having more infrastructure. Below this level, increase in infrastructure provision increase long run income.

Outcome of literature review confirms that investment in infrastructure has no doubt direct positive impact on economic growth, poverty alleviation and improving quality of life.

NEED FOR COMMERCIALIZATION OF INVESTMENT IN INFRASTRUCTURE

Shifting towards a positive preference for commercialization of investment in infrastructure has been triggered by several factors as follows: First, the public sector operations are inefficient and insensitive to consumers. Second, funds required for massive investment to match economic growth cannot be met by government due to fiscal stringency. Third, companies run by government cannot compete with the private companies due to technological changes which brings in competition horizontally and unbundling of services vertically. Fourth, both domestic and foreign investors in a country want efficient infrastructure services to their business in a cost-effective and competitive manner. Finally, possibility of getting large funds for infrastructure investment on a commercial basis has increased for emergence of an integrated international capital and debt market. While these factors are pushing most countries towards commercialization of infrastructure investment, there is also increasing understanding of the social dimension of infrastructure. In underdeveloped countries, the state is required to bear the cost for providing social infrastructure services such as health, education, water supply, sanitation and sewerage. The Introduction of a new regulatory framework for encouraging public-private partnerships in different forms would, therefore, be the correct step in right direction for fructifying investment in infrastructures.

REFORMS IN REGULATORY FRAMEWORK

Infrastructure projects require multiple sequential clearances at various levels of government. Large projects also require various categories of clearance and approvals from various ministries from pre-tendering to post-construction stage. As it stands today, most of the infrastructure projects in India suffer from delays in completion mainly due to inadequate regulatory framework and inefficiency in the approval process. These lead to time and cost overruns and delay in financial closure of projects. In terms of cost to the economy, delays in implementing power projects are the most serious. Taking possession of land for large projects is both contentious and time consuming. Land and environment-related issues often lead to delays caused by complex and time consuming legal procedures. It is thus necessary to have an articulate regulatory framework, which should be radically different from the existing legal framework in terms of transparency, clarity of obligations, duties and responsibilities between the participants in the infrastructure projects. The new framework must reduce the layering of approvals in obtaining them within a definite time frame. Certain sections of the existing acts which are anachronistic should also be either deleted or replaced. Keeping in view these major impediments to infrastructure development, the steps that should be taken by the government are as follows- (a) Establishment of an autonomous regulatory body for each sector; (b) Separation of regulator and operator with clarity and coherence in legislation and policy; (c) Special legislation for project formats; and (d) establishment of an omnibus regulatory Appellate Tribunal.

MAJOR STAGES OF IMPLEMENTATION OF INFRASTRUCTURE PROJECTS

Decisions required to be taken and main activities involved at each stage have been discussed in this section. First stage is gestation when concept of the project is developed on the basis of preliminary study on feasibility. In this stage, decisions are taken for investment with the estimated budget and scope of the project. Once decision is taken for going ahead, main activities, namely, detailed techno economic and legal feasibility studies; risk analysis, structuring risk management; evolving a basic structure for implementation; discussion with government; assessment of possible environmental impact; planning for rehabilitation of the affected entities and execution of Memorandum of Agreements (MOUs) are undertaken. Second stage is development when decisions are taken on finalization of special purpose vehicle (SPV) and final structure for project implementation. Main activities at this stage are execution of agreements with government, various stake holders, EPC and O&M contractors and financial closure with the lenders.

Third stage is construction. Main activities at this stage are those required for completion of construction activities in accordance with the implementation schedule. Since time is the essence, monitoring is done by all stakeholders so as to avoid both cost and time overrun. Next stage is operation and maintenance. After comparing projections with actuals by means of variance analyses, facilities developed are handed over at this stage to O&M contractors after determination of levy and tariff to be collected from users/consumers so as to ensure repayment of debt and return to equity investors. Final stage is termination and transfer to the government. This is the most difficult stage since the challenge is to provide adequate protection of interest to all concerned parties to ensure sufficient incentive to them. Main activity is the process of handing over the facility by SPV to the government.

RISKS ASSOCIATED WITH INFRASTRUCTURE PROJECT

Risks are variables or circumstances associated with implementation of a project that has the potential to adversely affect the development of a project or interest of stakeholders. Magnitude of risk depends on the geographical location of the project, legal framework of the sector to which the project is related, basis of commercial feasibility of the project, proposed structure for implementation of the project; political scenario and economic factors affecting the project. Risks associated in the gestation stage are the costs incurred for pre-investment appraisal. Critical identification and analyses of legal framework; techno-economic and techno commercial viability; environment and social impact would largely mitigate these risks. In the development stage, main risks are possibility of government's either rejecting or altering; possibility of litigation impeding progress; scope of works for the project; delay in obtaining approvals and clearances from various authorities and ministries. Other risks are related to mobilization of finance; availability of suitable contractors; getting equity investors in SPV; acquisition of land and delivery of vacant possession to SPV and political risk. Critical analyses of the activities and correct evaluation of pre-investment TEV studies in the gestation stage with formulation of a risk matrix and its distribution and management help mitigating the risks associated in the development stage. In the construction stage, risks are associated with design and technology deployed and physical progress of construction. Critical study of conditions embedded with demographic locations; assessment of availability of resources, industrial relations, safety measures, quality of raw materials, workmanship, construction technique; proper checking of various aspects of design would largely mitigate the risks. In the operation and maintenance stage, risks are associated with operation, maintenance and revenue collection. One needs to stipule standard operating parameters to be followed by contractors and monitor their performance. Besides, proper management of cash flow would help mitigate the risks. Above all, SPV must formulate a risk matrix comprising of splitting the project into various stages, categorizing risks in each stage, identifying particular events that may enhance the risks, identifying the parties to whom risks are allocated and specifying the mitigation measures in the gestation stage itself. Formulation of a correct risk matrix is the key element in the risk mitigating exercise.

CRITERIA FOR FINANCING INFRASTRUCTURE PROJECTS

An infrastructure project is different from an industrial project for its following features: highly capital intensive; huge sunk cost; long gestation period; long economic/ operating life; output is not generally tradable except electricity generation and telecommunication projects; generation of revenues is highly uncertain; long payback period leading to longer debt maturities; high debt-equity and high risk arising from each stage of implementation. Techniques for financing infrastructure project, therefore, depend on the nature of the projects whether government sponsored or under Public Private Partnership (PPP) and the specific sector in which investment would be made. In this section, we discuss in a none-too-technical manner the techniques for financing projects under B.O.O.T. (Build, Own, Operate and Transfer) which is the most popular amongst PPP arrangements. Others are B.O.T. (Build, Operate and Transfer), B.O.O. (Build, Own and Operate) etc. There are again a number of financing tools that exists to finance infrastructures including the Regulated Asset Base (RAB) model. Our plan is to present the technique which would be user-friendly. The underlying principles in financing infrastructure project is that lenders, on one hand, want their expected rate of return with full repayment and SPV, on the other hand, wants their expected rate of return considering the risks associated with the project. The problem arises mainly on two issues - long gestation period and amount of revenues to be generated during operation period before it is transferred to the government. Since the gestation period is very long, soft cost of the project is often higher than the hard cost 56 SPV expects that government should determine the streams of revenues to be earned from the project considering the return SPVs would have got had the fund invested during the entire gestation period been invested elsewhere. Another key issue is high risk associated at each stage of implementation of the project. SPVs want to discount the future cash flow at a rate much higher than normal for calculation of expected Internal Rate of Return (IRR). SPVs also expect that government should compensate in the form of tax-holiday, lower tax rate and cash to ensure expected rate of return. Besides, in some projects, they want the government to give guarantee for projected cash inflows and they will take responsibility of bringing in excess fund required to meet cost and time overrun. Keeping all these factors in view, viability of infrastructure projects is not determined on the basis of IRR only. Other method of viability study based on return on equity (ROE) calculated on free cash flow method is also used in financing infrastructure project. Amount of tariff is normally calculated by adding rate of return (ROR) and/or ROE agreed by both the government and SPV with cost of service (COS). Under the RAB model, revenues include mutually agreed tariff and allowances for the depreciation on regulated assets over time calculated according to either Companies Act or Income Tax Act and compensation given by the government for forecast level of operating expenditure (OPEX) during O&M period before handing over the project to the government. Return to investors is calculated by multiplying RAB with weighted average cost of capital (WACC).

CONCLUSION

Investment in infrastructure services has two different impacts on the economy. One through supply - side effect of increasing the capital stock and the other through the demand-side effect of providing additional effective demand. Consumption of infrastructure services also enhances the welfare of poor people. Furthermore, large-scale infrastructure contributes to economic growth that may provide private and public resources to reduce poverty. Therefore, investment in infrastructure by means of PPP has become the need of the day. There are, however, many constraints in expanding investment through PPP. At macroeconomic level, main constraints are

Inadequate regulatory framework, inefficiency in the approval process and availability of adequate fund. This calls for reviewing the policy by the government by undertaking reforms in regulatory system and changing norms for expanding flow of funds from both domestic and international sources.

The global economy has shown signs of strengthening over the past few months and the emerging markets like India need to increase investments, especially in infrastructure, to revive growth, Finance Minister P Chidambaram said.

"Policies to revive growth in most emerging markets, including India, will have to be rooted in increasing investments, particularly in infrastructure. As most emerging markets are resource constrained, it would be necessary to have recourse to foreign savings for investment," he said.

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