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Financing Infrastructure in Bangladesh – Some Options

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I. Introduction

The inadequacy of economic and physical infrastructure – with respect to both financing needs and quality itself – is a common characteristic in developing countries. The World Bank has estimated that developing countries need about US\$ 1.1 trillion in annual infrastructure expenditure through the year 2015, of which low-income countries need the greatest share – 12.5 per cent of their GDP.² Establishing a comprehensive financing framework – which will meet developing countries' infrastructure needs and in the process cover investment, maintenance and repair costs – poses significant challenges for policymakers. To attract foreign direct investment and achieve long-term growth, it is imperative that there are an efficient transport system nationwide, modern telecommunication systems and reliable supply of energy and water. The investment required for improving infrastructure is massive – various estimates have pointed out the need for considerable investment in developing countries. For instance, the International Energy Agency (2003) estimated that developing countries would have needed to invest US\$ 120 billion in the electricity sector annually from 2001 to 2010 and US\$ 49 billion for water and sanitation from 2001 to 2015.

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² *Transformation through Infrastructure, World Bank (2011)*

The need for quality-oriented and consistent investment is pressing indeed for a country like Bangladesh. The country has been undergoing consistent economic growth since the 1990s, the quest for which has led to enormous strains on the country's transport and energy infrastructure – there has been a general deterioration in infrastructure nationwide. The services provided to users have not kept pace with the increasing demand. The quality of the road network is abject, with roads being dilapidated and too narrow to handle traffic. The power sector is marred by a yawning gap between supply and demand leading to power outages which, in the process, has led to adverse impacts on firm-level productivity and economic growth. Public finances over the years have played a vital role in the infrastructure sector and will continue to play a major role. The private sector has also invested significantly in infrastructure, with 35 per cent of total investment coming from this sector in the late-1990s and early-2000s.³ However, expenditure has been beset by poorly targeted spending, low allocation of resources, limited sources of finance, governance and institutional challenges among others – all these, despite allocations to infrastructure being prioritised by past governments, albeit rhetorically.

This paper seeks to outline the infrastructure needs of Bangladesh with respect to domestic sources of finance. While infrastructure encompasses energy, transportation, telecommunications, water and sanitation, and social infrastructure such as education and health, the paper focuses on the financing needs of the **transport** and **energy** sectors. The transport network and energy sector have a more immediate bearing on economic activity and therefore growth. If Bangladesh is to step up its growth and truly graduate to a middle-income status, these two sectors are in need of greater, more targeted and immediate financing.

II. Spending on Infrastructure

Patterns and Allocation in Spending

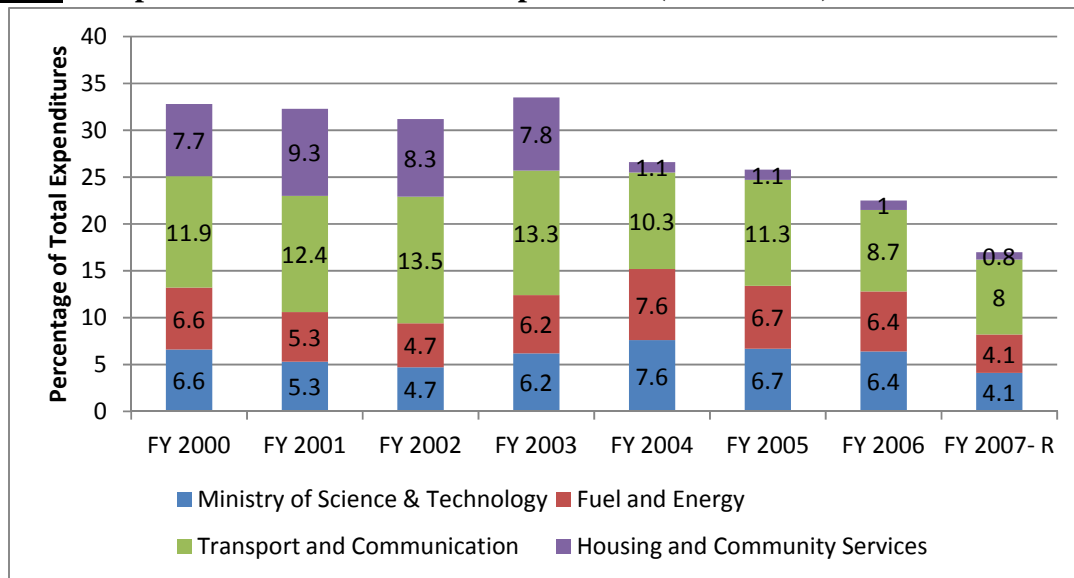
To conduct an appraisal of spending on power and roads, the overall spending on infrastructure has to be seen in context. Total national spending on infrastructure for the period 2000-2007 has fallen over time, while spending on the social sectors has increased. Spending on infrastructure has been consistently falling over time – from around 33 per cent in 2000 it has fallen drastically to 17 per cent of total government expenditures as of 2007. Excluding spending on science and technology, infrastructure spending proper has been halved from 26 per cent in 2000 to 13 per cent in 2007.⁴ Spending in the transport sector, excluding rural roads, has declined while total spending on fuel and energy has increased. The increasing allocation for fuel and energy includes transfers to the loss-making state-owned enterprises (SoEs) to cover their increased losses due to the global oil price hikes (Figure 1). Judging from the spending by the relevant ministries, the Ministry of Transport and Communication has seen its share of spending go down

³ *Ibid*

⁴ *The World Bank (2010), Bangladesh Public Expenditure and Institutional Review*

from a high of about 13 per cent to eight per cent in FY 2007, although it still has the largest share among the four relevant ministries.

Figure 1: Composition of Infrastructure Expenditure (FY00-FY07)



Source: Ministry of Finance and World Bank Staff Estimates

The Annual Development Program (ADP) allocations to the power and transport sector reveal a couple of trends. Allocation to the power division had fallen drastically from around Tk. 36 billion in FY 2007 to Tk. 27 billion in FY 2010 and represented around nine per cent of the total national development budget. However the share has increased in FY 2011 to Tk. 50 billion (14 per cent of the national development budget), which to some extent reflects the increasing government emphasis on the need to spend more in the power sector. Economic activities have been increasingly hampered due to frequent power outages and an ever-increasing demand for electricity by factories and businesses. The supply deficit has been accumulating due to the energy policies of successive governments. Insufficient power had been added to the grid while exploration of gas reserves for power plants had proceeded at a snail's pace. All these were in addition to the persistence of various operational and maintenance inadequacies in the power sector. The Ministry of Communication, which consists of the Roads Division, saw its allocations decline from 12.7 per cent to 10.5 per cent in 2008. After 2009, the ADP allocations towards the transport sector were channelled into Roads and Railways Division, the share of which was still quite low – in FY 2011 Roads Division had 10 per cent of the total development budget. Given the value of the road assets under the Roads and Highways Department, the ADP allocation is not quite enough. According to the Sixth Five Year Plan (SFYP), the value was estimated to be around US\$ 7.4 billion. The slated allocation of around US\$ 430 million is inadequate for the purpose of maintenance works, a fact that has been identified in the Plan. As a

share of national income, transport spending was around 1.4 per cent of GDP in 2006/07, of which the largest share of spending was on investments. Investments on new roads comprised about 69 per cent of the total, while rehabilitation and maintenance to improve road conditions accounted for 31 per cent. Developing countries normally invest 2.5 per cent to three per cent of GDP in transport, and by those standards, Bangladesh appears to be spending quite low.⁵ Very little amount has been allocated to maintaining roads and as such they have suffered increasingly. It has been suggested that maintenance expenditure for infrastructure in the long run lowers operating costs and greatly expands the life of the assets – such “savings” are not considered when maintenance budgets are cut back. Solely investing in assets is not sufficient.⁶

The overall quality of fiscal performance and expenditure management has been weak in Bangladesh. According to the World Bank (2010), consumption expenditure has exceeded investments in infrastructure, particularly on power and ports. Recurrent expenditure as a share of GDP has risen to about nine per cent of the GDP as of 2007, while capital spending has fallen to about 3.4 per cent of GDP in 2008. The recurrent expenditure budget includes components such as subsidies and transfers and interest payments that made up 30.5 per cent and 13.4 per cent of total spending, respectively, as of fiscal year 2007 – these expenses have shown major increases over time. Subsidies particularly represent inefficient spending in Bangladesh, with the urban middle and upper classes being the main beneficiaries of subsidies – the poor sections benefit very little. Subsidy spending as proportion of total spending is too high and has increased over time. This has imposed significant opportunity costs on the government, with investments in social and the physical sector being constrained.

This under-spending in infrastructure can be attributed to various factors. Poor fiscal management and negligence with respect to allocating sufficient funds to the infrastructure sector in general, combined with poor planning and implementation of projects, can explain why infrastructure in Bangladesh has been unable to cope with growing economic activities, especially in the road and power sectors. For a while now, policymakers have exhibited inadequate foresight in focusing on the physical infrastructure and have failed to upgrade it in line with the country’s increasing economic growth. So far, the steady growth of the economy has taken place in spite of the inadequate attention paid to infrastructure. The allotments to ministries and divisions in charge of maintaining and providing the infrastructure services display a declining trend overall. Constant or increasing shares are devoted to social sectors like health, family welfare and education. The government itself is having budgetary constraints and running up budget deficits – total borrowing from the financial system as of fiscal year 2011 was US\$ 3 billion and fiscal deficit was around four per cent of the GDP. The government’s resort to borrowing money could mean that budgetary allocations to some ministries will not be consistent; furthermore spending on fuel subsidies, the social sector, agricultural input subsidies

⁵ *Ibid*

⁶ *Estache and Goicoechea (2005)*

and the import of crude oil have been prioritised. Increasing the spending in social sectors is generally viewed as a political strategy to alleviate poverty; and, therefore, some competition for government resources could have an impact on infrastructure spending. Spending on infrastructure is not generally viewed as a direct effort to alleviate poverty. This might have been the case for Bangladesh in recent years. While falling allocations do not fully explain why the provision of infrastructure is insufficient, it however does suggest the need for greater and targeted financing from other sources. The relevant ministries in the process can be endowed with funds to invest in power and transport sectors, an option that has not been explored much. As between the two parallel budgets of the government – revenue and development – the development budget is more flexible and subject to less strict rules of allocation and financing.

By economic classification, a greater portion of the development budget (84 per cent) finances capital expenditure such as acquiring assets, purchasing land, construction activities and so on, while the rest covers the recurrent/revenue expenditures. An increasing amount has been reallocated from the development budget to finance revenue spending and might have crowded out development expenditures/capital expenditures gradually. A very slow disbursement of development funds has also been attributed to poor project management in large infrastructure projects. At a time when Bangladesh needs to boost its economic growth through physical infrastructure, capital spending has fallen quite dramatically. The government also appears to take on too many projects at the same time, which implies that financial resources are spread thin over diverse projects leading to small annual allocations per project. Long delays in project completion are also symptomatic of the inefficient project management. An average Roads and Highways (RHD) project takes six years to complete. The time it takes to complete a project is far in excess of the international average of two years. The overall trend indicates that in addition to under-spending and low allocation of resources, the institutional capacity in implementing projects is very weak, and undue political influences play a role in misallocating resources and distorting priorities.⁷

Quality of Spending in Infrastructure

Investment in infrastructure can be assessed by looking at the gross fixed capital formation (GFCF) in the economy. The GFCF measures the value of the purchase of new or existing fixed assets in the economy that includes the public and the private sectors. As such, the GFCF measures the gross net-investment in fixed capital within the domestic economy and includes the tangible assets such as residential and non-residential buildings, roads, bridges, airports, etc. – it is a reliable measure of the net-additions to the stock of fixed capital. The time series data on GFCF is also used to investigate trends in investment activity over time and when taken as a ratio to GDP, it gives a measure of the investment in modern infrastructure and technology.

⁷ *The World Bank (2010), Bangladesh Public Expenditure and Institutional Review*

Gross fixed capital formation has increased consistently in Bangladesh over the period 2000-2011 and latest data suggest that it is around US\$ 24 billion. The period saw a doubling of the GFCF from US\$ 10.8 billion.⁸ This indicates that investment activity with respect to fixed assets and acquisition of tangible assets has been significant – the decade prior to this also exhibited a similar trend. The scale of this increased investment activity is aptly illustrated by the comparison with neighbour Pakistan. Up until the year 2000, the GFCF of Pakistan was greater than Bangladesh's at US\$ 11.7 billion, but Bangladesh has overtaken Pakistan – Pakistan has a GFCF of US\$ 16 billion now.

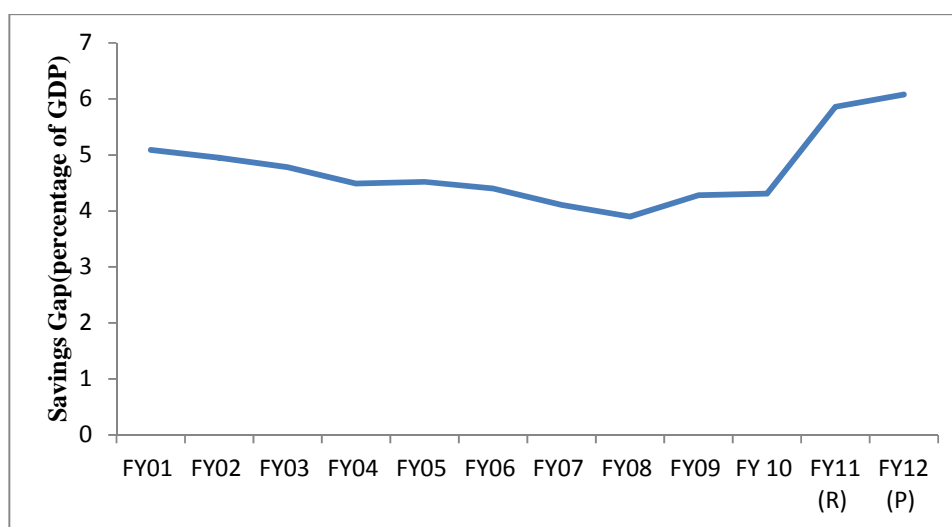
The investment rate – as measured by the ratio of GFCF to GDP – for Bangladesh has exhibited an increasing trend over the period 2000-2011, reaching around 28 per cent. This means that around 28 per cent of the total factor-income has been reinvested in new fixed assets and indicates that longer-term investments in fixed assets have been consistent. To some extent, it would appear that infrastructure deficit have been closed over time. However when compared to its neighbours India and Sri Lanka, investment rates have been low in Bangladesh. From comparable levels of investment rates in 2000 (23 per cent in India and 28 per cent in Sri Lanka), the rates in these two countries have increased to 31.6 per cent and 42 per cent respectively. Bangladesh's investment rate should be in line with the SFYP targets of 32 per cent by FY 2015, but an increasing public investment has to be the main driver. Public investment to that end has fallen when compared to the private sector investment in Bangladesh. A greater public investment is expected to be a catalyst for more investment in infrastructure and a significant proportion of investment can also be achieved through PPPs. Although there is an assumption that scarce capital might be freed up for efficient use by the private sector once the public sector "retreats" (a reversal of the "crowding-out" effect), this argument might be debatable. Fiscal retrenchment by the Euro-zone governments in the aftermath of the global financial crisis did not lead to the anticipated burst of private-sector activity. The economy was depressed and the private sector did not find the economic environment conducive for taking on large capital projects. However, the Bangladesh government has to ensure that the private sector is not starved for capital, but neither should it curtail its own investment drastically to make room for the private sector to move in.

The gap between investment and savings has gone up in recent times. That poses some problems for financing large-scale investment activities. While gross domestic investment as a proportion of GDP has increased from 23 per cent in 2001 to about 25 per cent in 2011, gross savings have not increased at the same rate – in the 10 year period from 2001 to 2011 it has increased by about one percentage point to 19.4 per cent. This has resulted in the savings gap to increase to six percentage points, whereas it had previously hovered around the four per cent mark (Figure 2). Gross domestic investment has consistently exceeded domestic savings and the disparity between them indicates that investment financing is not quite channelled from national savings.

⁸ *WDI and IMF WEO*

As such, gross domestic savings in Bangladesh has been inadequate to finance investment activities. Another gap lies in the foreign exchange market, where earnings of foreign exchange are much less than the demand for foreign exchange. If the objective is to direct a part of the savings pool by contractual means through investors wanting to finance infrastructure projects, then the data suggests that savings in Bangladesh are quite low for these to be considered a feasible source of finance – the domestic savings pool is very modest for galvanising infrastructure funds. Domestic finance is needed in addition to external financing such as foreign aid, grants and commercial borrowing by government to address this investment gap in infrastructure.

Figure 2: Domestic Savings Gap (FY 2001-FY 2012)



Source: Bangladesh Bank Quarterly April-June 2012, Volume IX No.4

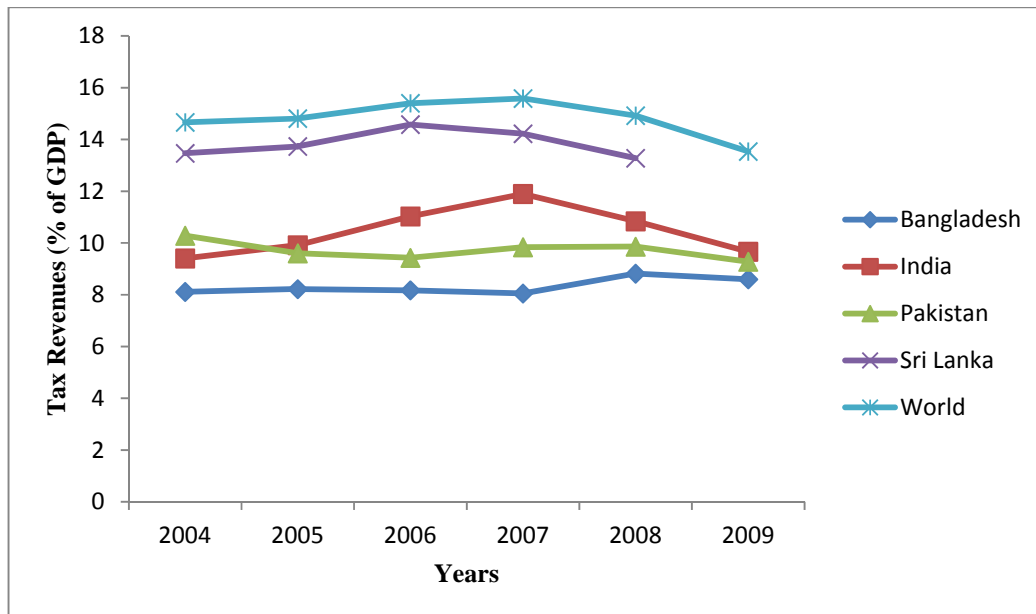
The tax system despite recent reforms is still underdeveloped, and expenditure management in SoEs is still wasteful. Mobilisation of revenues is one of the lowest in the world and old policies and rigid administrative practices mean that the tax planners have been very slow to bring in new income-generating activities within the tax net. Such weaknesses also mean that a significant portion leaks away along with tax evasion.⁹ All these result in Bangladesh having the lowest tax-revenue-to-GDP ratios in South Asia (Figure 3) – tax revenues have exhibited a very slow upward trend over the period 2004-2009. Compared to the world average of 13.5 per cent, Bangladesh can collect tax revenues amounting to only 8.6 per cent of GDP. This is also important for financing purposes – as of FY 2010, tax revenues still comprise around 83 per cent of the total government revenues, with the remainder being accounted by non-tax revenues.¹⁰

⁹ *The World Bank (2010), Bangladesh Public Expenditure and Institutional Review*

¹⁰ *National Board of Revenue*

The inadequacy of tax receipts despite these being the major source of revenue posits some problems for financing. This has implications for allocating spending towards infrastructure from a limited revenue pool.

Figure 3: Tax Revenues



Source: WDI 2012

III. Sources of Infrastructure Finance

The nature of infrastructure spending is such that it involves the commitment of a relatively large amount of capital. While every infrastructure project is unique with respect to providing a certain type of service or dealing with various actors and customers, the means of financing general infrastructure will be discussed. The need for targeted investment in infrastructure, coupled with a few secure and stable sources of financing, is a pressing issue for Bangladesh. While other countries and the private sector have initiated a few innovative and successful financing strategies, a similar path should be pursued by Bangladesh government in the immediate future. Although the private sector has become a sizeable source of financing globally, experience from the 1990s shows that it cannot be the sole alternative to the public sector. The public sector still remains essential to the provision of infrastructure services – in this regard it can act as the facilitator or the actual provider of services.

The Power Sector Master Plan (PSMP) of 2010, although designed specifically with the gas sector in mind, aptly depicts the investments required in Bangladesh. The Plan recognises the fact that investment, at least in the energy sector, is beyond the capacity of the public sector and requires other sources of financing to fill the gap. Besides garnering other sources, the energy sector needs to set a tariff structure to cover maintenance costs and future investments. Given the limitations imposed by the institutions and the financial structure of Bangladesh, the actual amount that may be raised, along with the efficacy through which the investment may be channelled, is debatable. However there are some untapped sources that should be explored. Traditional channels such as foreign direct investment and public-private partnerships are the obvious sources of financing, and they have enjoyed varying degrees of success in Bangladesh and abroad. An equal emphasis should be placed on galvanising domestic sources, whether it is through the capital and bond market, utilising tax revenues, mobilising pension and insurance funds, etc. The finances garnered can then be channelled through PPPs, which should be the most effective avenue for infrastructure funding. Similar to the Investment Promotion and Financing Facility (IPFF) scheme of the central bank, projects can be selected by the public sector and then implemented by the private sector, selected by a competitive bidding process.

Foreign Exchange Reserves

Bangladesh's foreign exchange reserves could be a potential source of funding. Countries in the Asia-Pacific have considered using the huge pool of reserves in the region, which amounts to about US\$ 5 trillion. An ESCAP study suggested that spending in infrastructure for the region could be supplemented by utilising at least five per cent of the region's reserves. Bangladesh's foreign reserves have been consistently increasing over time and are estimated to be worth around US\$ 13 billion. A portion of the reserves, to the tune of one per cent or even two per cent, results in a sum of US\$ 130 million to US\$ 260 million, which is sufficient to fund small-scale to medium-scale annual projects. This significant pool of savings is sufficient to finance infrastructure development, provided the exact mechanisms to direct such savings can be developed. Furthermore, this amount corresponds with what multilateral funding can cover as well. The large development finance institutions have been estimated to focus their funding on large-scale projects that can exceed US\$ 30 million. The typical size of infrastructure projects for the IFC and ADB ranges between US\$ 1 million and US\$ 100 million.¹¹ In this case, financing from a portion of the reserves to the tune of US\$ 100 million essentially means that domestic financing is very feasible and may even exceed multilateral financing in some cases. Such small and medium-scale projects may include the financing of distributed power-generating plants and any major highway project.

¹¹ *World Bank, IFC, AfDB, ADB, EBRD, IADB, Annual Reports for 2010.*

For Bangladesh, which consistently runs balance of payments deficits, it is critical to have a stable reserve for import purposes and currency stabilisation. Furthermore the foreign reserves are not significant enough to warrant self-financing of infrastructure. Foreign exchange reserves cannot be directly invested in infrastructure by the central bank – such quasi-fiscal operations are not possible to be conducted. One of the possibilities is to tune the role of the central bank. Its functions can be that of a central bank as well as an infrastructure-financing bank. The central bank has taken some steps in this regard. It has already initiated a project named Investment Promotion and Financing Facility (IPFF) whose role is to finance private infrastructure projects based on PPP. The IPFF is a mostly IDA-funded project and whose funds from this facility are disbursed to various financial institutions and banks for financing the PPP projects. The facility funds projects in the power sector, and the second phase of the project has been expanded to have a portfolio of around US\$ 318 million as the on-lending component up to 2015. While this facility can provide long-term loans for private infrastructure projects like power generation, port development, waste management, water supply and distribution, highways and expressways etc., the IPFF has so far funded projects in the power sector only. The portfolio is not sizeable enough to finance projects in the other sectors. The total amount disbursed as of 2012 is not significant – US\$ 60 million to seven small power plants generating only 78 MW and to one water treatment plant in Chittagong.¹² The budget for the IPFF has to be scaled up in order to fund more significant capital projects that involve establishing medium-sized power plants generating significant power; and then IPFF can possibly branch into other sectors such as roads and highways, port development, industrial estates and land development among others. The operations and processes of IPFF should be developed further to disburse more funds.

Bond Market

Bangladesh's bond market is the smallest in South Asia, accounting for only 12 per cent of the country's GDP. Government bonds dominate this market in Bangladesh while there are a couple of corporate sector bonds. Only the primary market is sufficiently developed – government bonds are being auctioned off by the central bank of the country, the Bangladesh Bank, to the primary dealers consisting of banks and financial institutions like leasing companies. The secondary market has not been developed yet, although steps are being considered to establish it. Currently, only the government can float bonds to finance the various infrastructure projects – the potential of the secondary market is still largely untapped. The market is dominated by the fixed income debt instruments, among which, the savings of small investors are mobilised through the National Savings Certificate. The interest offered on this saving certificate is higher than that on other bonds in the market, but the amount raised is far-too low.

¹² *Investment Promotion and Financing Facility (IPFF), Bangladesh Bank.*

Along with the primary market, the secondary market can greatly augment the amount of funding that can be available for infrastructure financing. Over-reliance on government funding for infrastructure has meant that the private bond market markets have not been developed well. If the secondary bond market is developed, it may not be lucrative for investors to invest immediately due to the uncertain economic condition of Bangladesh. The current volatility of the stock market makes it a somewhat expensive financing mechanism for domestic borrowers. To facilitate large-scale infrastructure financing, a strong regulatory role by the central bank and the Securities and Exchange Commission is required through which funds can be directed into the capital market. Future cash flows can result from infrastructure bonds issued in the capital market. Initial public offerings (IPO) by private companies can also help mobilise funds for infrastructure. Moreover, there is need to introduce corporate bonds in the market and further deepen the corporate bond market over time. It is possible to issue bonds to international investors, but the return has to be high to encourage investors to invest. The Sri Lankan bond market has been successful in this regard, and Bangladesh will have to offer competitive rates to entice international investors.¹³ However, domestic investors, let alone international investors, are unable to invest in corporate bonds due to the restrictive guidelines set out or the lack of professional fund management. The major institutional investor owned by the government, Investment Corporation of Bangladesh (ICB) is the one dealing with mutual funds – there are no private mutual funds that can mobilise savings. The monopoly position of the ICB has prevented new investor companies from entering the market, and, as such, mutual funds have not developed in Bangladesh. Furthermore, it is difficult to develop any depth in the market – there are not enough players with significant demand. Overall, the secondary bond market should be more stable and worthwhile in the long-run, by which time there should be ample scope of funds for investment in infrastructure.¹⁴

Land-based Financing

Land-based financing opens up some possibilities to finance infrastructure. Cities such as Shenzhen and Shanghai have permitted sale of the usage rights in regard to state-owned lands through auction or tendering. As such, developers take over such lands and construct office buildings and housing – with local amenities such as roads, water and electricity services being developed by the public sector or private contractors. Around 40 per cent of the income generated in China by the sale of usage rights was initially channelled to the central government, and the city governments kept the remainder. The 1994 fiscal reforms then led to the entire land-leasing revenues to be allocated to municipal governments.¹⁵ This mechanism, heavily influenced by the Hong Kong land-leasing model, arose from the de facto decentralisation of China's fiscal system in the late-1980s and early-1990s. Land-leasing was tied to infrastructure

¹³ *Central bank officials.*

¹⁴ *Central bank and commercial bank officials.*

¹⁵ *Peterson (2006).*

investment from the onset and therefore provided a significant source of income. The revenues were then invested mostly in infrastructure systems which enhanced the cities' potential for economic growth.

This mode of financing is especially relevant for Bangladesh since the value of land is already very high – the potential for revenue mobilisation is immense. The government can lease huge parcels of land to commercial developers to construct houses, office buildings and the like – such projects can be deemed as being “self-financing” in a way. If the government adopts this mechanism widely, this will not only increase revenues for the state and subsequent infrastructure financing, this is also expected to lead to multiplier effects in the form of large-scale development of roads and other public utility services in the vicinity. The effects of implementing such land-usage rights are therefore multifaceted. It is debatable whether Bangladesh can adopt China's mechanism of municipalities being allowed to lease lands and grant usage rights, which in effect will enable them to gain control over a revenue source. This falls under the purview of whether the central government will allow some devolution of power to be granted to the city and municipal authorities in the future. If municipal governments are allowed to finance infrastructure investment through asset sales, more specifically, land sales, they will not have to rely on central government for revenues. The central government in Bangladesh has control over the tax policies and as such municipalities cannot change tax rates, introduce new taxes or even abolish inefficient local taxes. Increases in urban land values can be captured, and the sale of land or land rights can generate revenues quickly; this is a viable proposition than administering betterment taxes or property taxation. Furthermore, sale of locally-owned land can sustain infrastructure finance for a longer period of time and, therefore, is a very valuable asset on the municipal books. The municipality should earmark a specified amount of land-leasing proceeds for infrastructure investment so that land-leasing revenues are directly tied to municipal spending in infrastructure. The infrastructure investments that are financed in this case could be very basic in nature, consisting of minor upgrades to water distribution, road surfacing, and electric lines maintenance, among others. The federal land-leasing proclamation in Ethiopia has a similar policy, where a municipality shall allocate 90 per cent of land-leasing revenues for infrastructure spending.¹⁶

This concept of urban-land self-financing mechanism is also possible if the government initiates a start-up on a small scale. This linkage between land-leasing, investment and debt is illustrated by a highway project in the Hunan Province in China. To fund the project, the municipality transferred leasing rights to a public-private development corporation, which undertook the construction of the highway. Half of the amount to build the highway was financed directly from the sale of leasing rights to the land with infrastructure already in place, while the other half was financed through borrowing. To that end, the agency was able to borrow against the future predicted value of the improved land and thus raise money from commercial banks. The agency

¹⁶ *Ibid*

was then able to meet the debt servicing obligations by selling off the parcels of land, whose value had been enhanced after the highway was completed. A similar scheme can be undertaken in Bangladesh as well. Neighbouring India is on its way to institute a similar scheme, known as the land parcels scheme. The “development model” consists of the government providing “trunk infrastructure” such as utility services and feeder roads linking to highways. With such infrastructure in place, the private sector can be induced to develop business units in such areas and stimulate commercial activities.¹⁷ The “corridor” where rapid urbanisation is taking place in Bangladesh provides ample opportunities for this to be implemented.¹⁸ Towns such as Bogra, Rangpur, Gazipur and Tangail are becoming more urbanised leading to business activities becoming more and more concentrated in those areas. The government can lease out lands to businesses and commercial developers, while feeder roads leading to the highways and various utility services are provided for the enterprises. The available land is therefore leveraged for funding infrastructure services; and, with more and more successful projects, increasing funds can be channelled towards creating a revolving infrastructure fund. In addition to the proceeds from land-leasing sales, borrowing from state-owned commercial and development banks against the anticipated future value of the land can finance the remaining urban infrastructure investment.

An important precondition should be to formalise informal payments and receipts made to the government from such sales. These sums have to become publicly accountable. When government land is leased or sold commercially, the relevant government officials keep a significant portion of the fees as bribes, while a minor component accrues to the government authority.¹⁹ This mechanism deprives the government of major revenues and therefore these informal payments have to be brought within the formal net of government fees. In sum, in line with the Chinese land-leasing strategy to kick-start infrastructure investment particularly in urban areas, such monetisation of land that is generating little or no economic return at the moment could play a major role in infrastructure finance in Bangladesh.

Pension Funds

An important potential source of long-term financing for infrastructure is pension plans. Such pension plans have experienced tremendous growth in many developing countries in recent years. Given the demographic composition of most of these developing countries where there are a sizeable number of young people, the assets held by such funds are accumulating rapidly. One of the advantages of using pension funds for infrastructure investment is that the payments from these funds are spread over a long term and are stable – this makes it easier to invest in long-term assets such as infrastructure which can provide constant long-term returns. Life insurance

¹⁷ *Perspective Plan for DMIC Region, DMICDC, 2009.*

¹⁸ *Dr. Hossain Zillur Rahman suggested the concept of small “start-ups”.*

¹⁹ *Dr. Fouzul Kabir Khan, Professor, North South University, Dhaka.*

policies can be an appropriate source of funds for long-term investments. However there are some pitfalls in using pension funds in Bangladesh. Firstly, there are no universal pension schemes; only government officials get pensions. As such the pool of pensions in Bangladesh is very limited for such a large-scale use. Secondly, like most countries, the government regulates pension-fund investments and as such can limit the amount and the ability to invest in infrastructure projects directly. There are some legal restrictions on the use of pension funds by the government and autonomous agencies for investment. Regulations could be framed to enable the government to use these funds. Finally, Bangladesh does not possess the expertise and means to channel investments from pension funds into the various infrastructure projects. The mobilising of pension funds will be quite difficult given these circumstances. If proper mechanisms and regulations are instituted along with a significant and universal pension scheme, then using pension funds could become a viable option in the near future.

Privatisation

While privatisation of the various utility companies may be a radical solution to easing the infrastructure bottlenecks and solving the financing deficit, it is a viable option in the medium- and long-run. While no direct financing is involved in privatisation, the nature of private enterprises seeking to avoid losses means that wasteful expenditure is avoided and there is a stream of revenue. If there are private electric companies in Bangladesh for instance, the electric power distribution network can be divided and segmented to enable an easier operation. Each network can then be sold off or leased out to a different private electric company to prevent monopoly and promote competition.

Another option could be to install many small power stations that are privatised, instead of building large stations that run into operational inefficiencies. This system would consist of “distributed power generation” and is suitable for gas-fired power stations. These small stations can occupy small parcels of land and can raise capital to install several 10 MW to 50 MW power stations. This power-sector privatisation could work because of the profit motive that private enterprises possess. Any power outage would entail a loss of revenue, lower profits and hence financial loss for the companies. Therefore, investors and managers of private electrical companies would actively prevent any such power interruptions to safeguard their financial investments and incomes generated from the sale of electricity. A sense of urgency and purpose will enable them to immediately fix faults in the machines and electrical network to restore electricity supply.

IV. Conclusion and Policy Implications

While it is possible to draw upon the various financing sources in Bangladesh, the reality might be different. The political will of the government, along with the vested interests will dictate how feasible the avenues for self-financing are. The land-based financing option seems viable at the current time, followed by the bond market as a source. This is not to suggest that mobilising pension funds, using foreign reserves to create a non-commodity sovereign wealth fund, and privatising are not practical at all – they might become more workable in the long run as the Bangladesh economy strengthens and attains middle-income country status. The economy has to achieve greater financial integration and penetration, marshal greater sources of revenue and develop strong institutions safeguarding property rights. More broadly, ineffective governance and corruption will have to be addressed. The governance framework has to be transparent and efficient for infrastructure projects to be taken on. There is greater need to strengthen supervisory capacity in the various ministries looking after infrastructure; improve the ability of infrastructure regulators, competition agencies; to improve the systems of procuring capital goods; and to strengthen the auditing bodies that can supervise the proper allocation and use of public funds. A sound macroeconomic and legal framework has to be established so that the country-risk is reduced for private companies.

While this paper has focused solely on harnessing domestic sources of infrastructure finance, it does not mean that multilateral financing should be disregarded. To that end, domestic financing will complement multilateral funding and will rely heavily on the technical expertise that multilateral organisations offer. The international multilateral agencies, along with the bilateral agencies, can and do offer funds on favourable terms. Increased foreign direct investment, as well as foreign portfolio investment, is also required to plug the savings-investment gap in Bangladesh. There is also greater need to scale up infrastructure on the social side as well – focusing solely on physical infrastructure will not drive the Bangladesh economy forward. While social infrastructure includes schools, hospitals, judiciary and police, small-scale social infrastructure such as health centres, clinics and community schools will also be necessary to enable key services to be accessible to rural communities.

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