

FINANCING OPTIONS FOR TRANSPORT INFRASTRUCTURE

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INTRODUCTION

Development of adequate and efficient transport infrastructure is one of the immediate priorities of all SADC member States, just as is the case for any country, especially the developing countries. Such infrastructure is key to facilitating the realisation of the aspirations for rapid economic and social development necessary for uplifting the standards of living of the citizens and, hence, eradication of poverty.

The capital outlay required to meet the infrastructure demand is very huge. For example, according to the 1998 (EC financed) SATCC Transport and Communications Integration Study report, financing required for rehabilitation of the SADC road infrastructure, due to deferred or backlog maintenance, was estimated to be US\$ 6.4 billion. The requirements for expansion are much higher. In this regard, considering the regional main roads only, out of the total 501,000kms only about 105,000kms are paved. Consequently, to upgrade the remaining 396,000kms main roads to paved standard would require approximately US\$ 316.8 billion (at an average of about US\$ 800,000 per kilometre). Similarly, for railways, ports and airports, several billions of US dollars capital outlay would be required to rehabilitate the previously poorly maintained infrastructure and for capacity expansion to cater for expected future demand.

This amount of capital outlay required for infrastructure is so huge that it is practically impossible to finance from the traditional sources comprising principally government funds, donors or international development assistance agencies, and government guaranteed borrowing from especially multilateral finance institutions such as the World Bank and other regional or national development banks. One solution that is being resorted to is to involve the active participation of the private sector in infrastructure projects. Whereas, financing transport infrastructure from traditional sources is declining, due mainly to diversion to social services and competition for development assistance among beneficiary countries, investment in infrastructure by the private sector has been rising in the past decade. For example, it is estimated by the World Bank that investment by the private sector in all infrastructure in the world had by 1995 risen to about US\$ 60 billion per year. It is estimated to be higher now.

Infrastructure projects, by their nature and purpose, are unique and different from other private sector projects. Because of their public good characteristics, indicating the essential nature of their services for day-to-day life, they involve several agencies and stakeholders. The projects demand large sums and they typically have long-gestation period. Positive net cash flows accrue only when the project is well into the operation phase. Because of initial uncertainty and cash outflows involved, investors are extremely cautious in getting involved in such projects. Several innovative options for financing and operating infrastructure projects have evolved over the years. These are discussed below.

FINANCING OPTIONS

The basic options or sources available for financing infrastructure development include public financing, development assistance or grants from donors, private sector financing (by private project developers), borrowing from financing institutions (multilateral, international, regional and local) and from internally generated funds by operating institutions. The current status and future prospects of each of these options or sources is discussed below.

Public Financing

Public financing entails direct investment by government from within its budget (*fiscus*) and soft loans borrowed by the state government. Traditionally these, and grants received from donors, have been the principal sources of transport infrastructure development financing. Thus, most of the major roads, railways, ports and airports development projects have in the past been financed by funds from these sources.

However, this is no longer the case now and for the foreseeable future, for three major reasons. First, there are more limited and often relatively dwindling funds available under this option, principally as a result of monetary policy reforms being implemented to bring about necessary macro economic and financial stability. Secondly, also within the context of the reforms, higher government attention is accorded to the development of social welfare programmes such as education, health, other community development (direct poverty alleviation related) activities as well as infrastructure (transport, communications, water and energy) in inaccessible or undeveloped/underserved areas where private sector financing and service provision is considered not viable. Thirdly, as indicated earlier, the requirement for infrastructure development to facilitate realization of the envisaged faster economic growth, the main benefit foreseen from the macro economic and social and political reforms, is so huge that the traditional sources of financing alone would not be able to cope.

Development Assistance

Donors or international development assistance agencies have in the past provided a large amount of aid or grant funds for infrastructure development in SADC, to support government intervention. Just as is the case for public funds, availability of donor funds for infrastructure development is also dwindling. Donor assistance is also being directed to social services, such as education and health, and other poverty alleviation programmes of direct benefit to the local communities. Furthermore, in addition to this competition for donor funds with other sectors, there is also intense competition among recipient countries, especially with Eastern Europe countries, the relatively “new” entrants to this category after the collapse of the communist block. In addition, there is a deliberate move towards leaving the commercially viable projects and operational functions to the private sector, in accordance with the thrust of the ongoing policy reforms. This means that some of the projects that were in the past financed by donors, including railways, ports, airports and some road programmes, would now be carried out by the private sector alone or in partnership with the public sector.

Borrowing from Finance Institutions

International, regional and local financing institutions have also been and continue to be a significant source of infrastructure development funding, through commercial loans extended to infrastructure projects developers. Until recently, the principal infrastructure projects developers were government institutions (typically for roads and airports) and state owned enterprises (SOEs) or parastatal organisations (typically for railways and ports). In this regard, the funds are provided

for projects where there is a guarantee of repayments with same interest. As most infrastructure projects were undertaken by government institutions or SOEs, such guarantee was generally provided by governments. However, due to inefficient or non-commercial operations by the government institutions and the SOEs concerned, the loans were not repaid. Consequently, the governments have often had to take-over the financial obligation or liabilities emanating from the loans. That is why restructuring (commercialisation and privatisation) of SOEs has typically involved government's taking over of long term financial liabilities in order to make the SOEs attractive to the private sector.

As regards future prospects for this source of funds, whereas there is a clear increase of availability of funds from commercial loans from financing institutions, there is a major change in the recipients. Many of the traditional or historical recipients of the loans are no longer credit-worthy. Major reforms are being carried out to tackle this problem, among others. Under these ongoing reforms, the government institutions and SOEs concerned have been or are being restructured and part or fully-privatised. Furthermore, the governments are no longer providing guarantees except in cases where their involvement is necessary to fulfill a public service obligation, by providing access to undeveloped or poorly served areas where a commercial approach is not possible. Hence, funds from financing institutions will remain a major source of infrastructure development financing but with the private sector developers becoming the principal recipients of the loans.

Internally Generated Revenue

In properly managed and efficient commercial ventures, the net-result from operations constitutes a source of funds especially for expansion of the capital assets. In the case of infrastructure projects, efficient operation and finance management should also generate funds to support infrastructure expansion in the concerned project area. However, due to non strict application of commercial principles (in pricing and finance management) and institutional weaknesses (with no clear accountability and business discipline), the government institutions and SOEs concerned with infrastructure development and operations were generally loss making and/or recipients of government subsidy or subventions. However, with the ongoing reforms, the new operators in a new environment (emphasising commercial approach and business discipline) should be able to generate funds to be used as a source for infrastructure expansion in the respective project area. Furthermore, such discipline will at least ensure that adequate maintenance is undertaken to prevent accumulation of "backlog that necessitates "capital outlay" in rehabilitation of seriously damaged infrastructure.

Private Sector Financing

There are three principal sources of finance for private sector developers of infrastructure projects. First is financing from their own investment or equity funds; second is financing from other partner investors or shareholders such as from the capital markets; and, third, is loan financing from lenders or financing institutions. In order for a project to attract such financing it must prove viable. An infrastructure project requires a combination of the following factors to make it a viable proposition:

- Detailed risk analysis - to assess whether all the risks (commercial and political) will be satisfactorily covered;
- Financial analysis - to demonstrate adequate cash flows; and
- Economic analysis - to demonstrate acceptable rates of return to the project and the government.

Project structuring is thus a complex process that involves reconciling, within a definite period of time and at an acceptable overall cost, conflicting variables and requirements so as to meet the objectives of investors, lenders, governments, contractors, suppliers of materials and purchasers of output or service.

As regards future prospects, as has been stated above, private sector financing has been rising in the past decade and will in future continue to be a major source for infrastructure development funding. Indeed, according to current trends, the private sector should in future be the principal financing option for major infrastructure development projects in railways, airports, ports and highly trafficked road links.

PROJECT FINANCE STRUCTURING

On the basis of the aforesaid prospects for future project financing options, it is clear that the structuring of financing of major infrastructure projects should as much as possible aim at accessing private sector investment and/or involvement. In this respect, the structure of infrastructure projects depends on:

- The degree of public nature of the service to be provided by the project: this will determine the degree of private sector involvement the state is willing to allow. In sectors such as roads, which have a significant public good characteristic, the government will normally still have an interest in retaining a certain amount of control in the operations and service provision. A suitable structure in this case should give the government flexibility in ensuring that, while private participation is encouraged, the strategic interests of the nation are also maintained.
- The uncertainty surrounding the project development and implementation: the uncertainty relates to the risk (commercial and others) that desired cash-flows may not materialise. In cases where the uncertainty and risk are high, private participants will normally want more support from the state/local authority concerned. They also not willing to take up full risks associated with the project and demand some form of guarantees and other fiscal support or participation from government.
- The degree of competition that is achievable in the concerned sector: the market structure and the level of market development also affects the decision of investors and the degree of state interventions in the form of policy and regulatory regimes. Hence, the market structure contributes also to the degree of uncertainty and risks that may be involved.
- The size of the project: financing structuring of a very large project will normally involve a larger number of participants and stakeholders whose interests must be reconciled. Hence the structure will in this case be more complex that would be for smaller size projects.
- Other contextual or “external environment” factors including political, economic and legal environment of the country concerned; background of the project promoters and developers; and the prevailing regulatory regime. This environment is critical for especially reducing uncertainties and risk in order to attract private sector investment and participation. In some cases, guarantees from institutions such as the World Bank’s MIGA may be resorted to for mitigating risk from these external “environment” factors.

In summary, the structuring of project financing is fundamentally concerned with the sharing or allocation of risks. Different risks must be allocated to the participants that are best equipped to bear the respective risks. Generally, commercial risks will be borne by the project developer whereas

other external or “environment” related risks will require a significant involvement of the government through guarantees or fiscal support. However, in cases where commercial risk is too high for a particular project to attract private sector financing, a public-private sector arrangement may be resorted to.

Over time, innovative approaches have evolved for major infrastructure project financing involving the participation of the private sector, while ensuring maintenance of strategic interests. The most well known approach in this regard is the build-operate-transfer (BOT) arrangement and its many variants. The common variations of the BOT approach include:

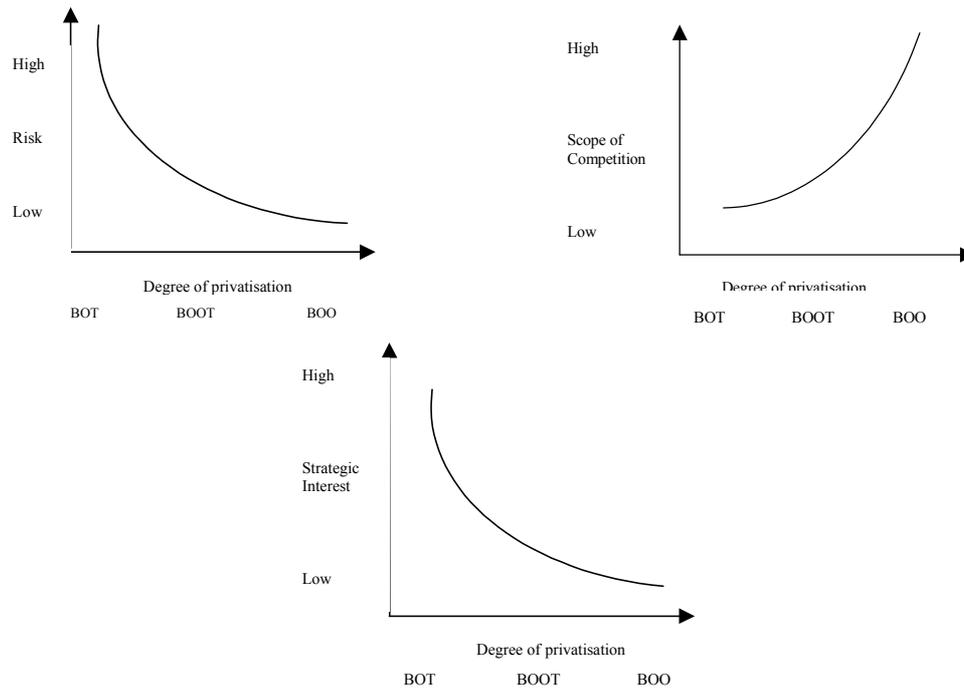
- **BOO - (Build-Own-Operate):** The investor retains ownership; operating via an open-ended franchise.
- **BOT - (Build-Operate-Transfer):** The facility is paid for by the investor but is owned by the host. The investor maintains the facility and operates during the concession period.
- **BOOT - (Build-Own-Operate-Transfer):** At the end of the franchise period the ownership of the facility reverts to the state and there is no terminal payment to the investor. Where a residual value has to be paid the variation is known as BOOS - (built-own-operate-sell).
- **LROT - (Lease-Refurbish/rehabilitate-Operate-Transfer):** This is used in the context of revamping and refurbishment of the old or existing facility. The facility is owned by host/concessionaire; the investor pays for refurbishment, maintains and operates the facility during the concession period.

Figure 1 shows the degree of privatisation that can be said to occur with different project structures. At the left end of the continuum is a totally government owned project and at the other extreme is a fully private entity. In between fall the various project formats. To the left are innovative financial instruments such as ordinary leases that do not entail strict privatisation but are structures to attract marginal private investment. In between are the whole range of other structures such as BOT and BOOT, in which the permanent ownership of assets exists with or will revert to the state after the concession period.

Figure 1: Degree of Privatisation



Furthermore, Figure 2a to 2c depict the relationship between the project structure and parameters such as risk, level of competition and significance to national or strategic interests as described above.



EXPERIENCE IN SADC

Under the ongoing reforms, several approaches described above are being used for infrastructure development. Whilst governments and donors continue to provide finance, albeit in a limited scope, there is an increase in the involvement of the private sector. Examples of such reforms in the different transport sub-sectors are given below.

Railways

- A Beitbridge-Bulawayo railway (BBR) of about 350kms was built on a Build-Operate-Transfer (BOT) concession and started operating in July 1999.
- Malawi railways (1994) Ltd was concessioned and the concessionaire started to operate the renamed “Central East Africa Railway (CEAR)” towards the end of 1999.
- Mozambique Railways - CFM (N): Agreement was reached in January 2000 to concession the railway (and Nacala Port) to the same concessionaire operating CEAR. The concessionaire is expected to start operations in the second/third quarter of 2000.
- Mozambique Railways - CFM (S): A concession agreement on the Limpopo and Goba lines is expected to be signed within the first half of 2000 to one concessionaire. As regards the Ressano Garcia line, efforts are still underway to find a suitable concessionaire.
- Mozambique Railways - CFM (C): Mozambique intends to concession both the Beira-Machipanda and the Sena lines as one concession, preferably on a BOT basis due to high cost of rehabilitation of the Sena line.
- Zambia Railways Ltd (ZRL): In March 2000 the Government of Zambia decided on the concession option to be pursued for the railway. Concessioning is being processed.

- Tanzania Railways Corporation (TRC): A concession consultant has been engaged to examine options for concessioning of TRC. Concessioning of the railway is expected by the end of 2001.
- Tanzania-Zambia Railway Authority (TAZARA): Feasibility of a joint venture concessioning, between Chinese interests and private sector and their counterparts in Tanzania and Zambia, is currently being investigated.
- South African Railways (Spoornet): A company has been appointed to determine a strategy by end of September 2000 for restructuring Spoornet. The initial intention is to package Spoornet into five companies some of which will be sold outright and for others strategic partners will be sought.
- For National Railways of Zimbabwe (NRZ) and Botswana Railways (BR), their respective governments have included these companies in the general privatisation strategy which is either under discussion or being prepared for implementation.

Ports

- In Mozambique a decision was taken in 1999 and agreement reached for concessioning all the hitherto non privatised operations in the port of Maputo. The terminals which had been previously leased/concessioned were the container, sugar, citrus and coal terminals. Similarly the Nacala port has been concessioned in the same package to the railway concessionaire.
- In Tanzania, privatization of the container terminal in the port of Dar es Salaam has been to be concluded in 2000.
- South Africa has split Portnet into a Port Authority Division and a Port Operations Division, with the former intended to be the “landlord” and the latter to be responsible for commercial and operations activities.
- The other SADC coastal states of Angola and Mauritius in 1998 passed Port Authority Acts, establishing the “landlord” port authorities to oversee private sector involvement in terminal development and operations.

Civil Aviation

- In South Africa the airports company of South Africa (ACSA) has entered into strategic partnership, with Aeropoti di Roma acquiring 20% of the company shares. The national airline, Southern African Airlines (SAA), has also entered into strategic partnership with Swiss Air. Also, the country’s air navigations services are being provided by an independent company (ATNS).
- In Tanzania, the Kilimanjaro International Airport and its vicinity are under long-term operating and development lease to a private company.
- Lesotho and Swaziland have privatised their national airlines.
- Generally, many countries have established autonomous organisations to manage airports, as a step towards enhanced involvement of the private sector through strategic partnerships or

other options. Countries that have such organisations are Angola, Malawi, Mauritius, Mozambique, Namibia, South Africa, Tanzania and Zambia.

- There are many private airlines operating in many SADC countries for mainly domestic and regional routes. Although many national “flag carriers” are yet to be privatised, a number are being processed for that eventuality. Zambia does not have a state owned national carrier as it was liquidated.

Road Infrastructure

- The fundamental reforms which are being undertaken, and which will enhance the participation of the private sector in road infrastructure, are the creation of dedicated road funds, road boards and autonomous road agencies to effectively manage programming, and procurement of private sector investors and contractors. In this regard eight countries have made appreciable progress by establishing the road fund and/or road boards, although they are at different levels of strength. Five countries have also established road agencies. Namibia is also transforming its “force account” to an independent contracting company.
- As regards private sector involvement in the investment and operations of roads, the principal regional “example” project is the toll road between Maputo in Mozambique and Witbank, South Africa. There are other toll roads that are operational in South Africa.
- There is a strong drive to develop the local or regional contracting industry to be able to cope with the expected increase in road works due to the ongoing reforms.

CONCLUSION

This paper has described several available financing options for transport infrastructure development as well as factors affecting project finance structuring. The options include the traditional sources of funds from government, donors and government guaranteed borrowing. However, the ongoing economic and sector reforms are focusing on attracting and accessing investment by the private sector through own equity capital funds and/or borrowing from financial institutions. This has capacity to secure a large sum of funds to fulfill the requirements and complement the now reduced finance from the traditional sources. The innovative approaches that have evolved in project finance structuring internationally, such as the BOT approaches, are being used in SADC. However, there is need to continue working towards improving the environment conducive to attracting investment and also determination of more suitable strategies for public-private sector partnership in project development. The requirement for investment in the SADC transport sector is very enormous and requires the maximum accessing of all the sources available in the combinations suitable for specific projects.