ROADS TO THE MILLENNIUM DEVELOPMENT GOALS
FINANCING THE SUB-SAHARAN ROAD NETWORK

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ABSTRACT

Sub-Saharan Africa (SSA) needs to invest 1.5-2.0 percent of its gross domestic product (GDP) on roads annually, over at least five years, which amounts to typically a three-fold increase in spending. Otherwise the road network will continue to pose a major impediment to achieving the first goal of the Millennium Development Goals (MDGs): halving income poverty estimate of 1990 by the year 2015. However, transport is but one of the sectors yearning for increased public funding; there is competition from sectors like health and education. It is therefore imperative that the much needed finances are drawn from the private sector. This paper explores ways of capturing private finance, and management expertise, for road network management. The paper starts with an exposition of the relationship between roads and equitable economic growth in SSA. The state of the SSA road network is then discussed. It is observed that all-weather roads constitute only approximately one quarter of the network. The poor state of the network is attributed to the widespread notion that roads are a public good. It is argued that this is a delusion that must be dispelled. A change in attitude would make the heavily trafficked roads attractive to private finance; create fiscal space for low volume roads; and subsequently lead to a sustainable road network. The future of domestic equity and debt markets - key drivers of private infrastructure financing - is explored. Lessons on enhancing SSA domestic markets are drawn from Asia. The paper then presents emerging success stories in private road financing in Africa. Benefits of maturity in private infrastructure financing, based on the UK experience, are outlined. The paper concludes that road space should be treated as a private good, subject to market forces of demand and supply. Where demand is high, road space should be packaged and taken to the marketplace.

1 INTRODUCTION

The first goal of the Millennium Development Goals (MDGs) is to halve income poverty of 1990 by the year 2015. To achieve this target, the economy of Sub-Saharan Africa must grow at not less than 5 percent per capita till 2015 (UNDP, 2005). The region's per capita growth was 1.6 percent over the last five years. A major leap is required. A reliable road network must be an important ingredient in a recipe for boosting progress towards MDGs. It would propel equitable growth.

The economic internal rate of return for urban and interurban road improvements in SSA is often in excess of 30 percent. This high return is not surprising. Most of these roads are in poor condition. This means the vehicle operating costs are irrationally high. Collier et al. (1998) estimate that freight and insurance cost accounts for about 15 percent of the total export earnings in SSA. This proportion of export earnings is about three times that of the developed countries. Not only are vehicle operating costs high,

travel delay costs are rising because most cities in SSA are gridlocked. Investing in urban and interurban roads is therefore good for growth.

The aggregate growth in SSA in the last five years is not reflected in poverty prevalence. Income poverty has increased in the last five years. Equity in SSA, as measured by the Gini index, is the highest in the world. The average Gini index greater than 0.7 whilst the index for South Asia is approximately 0.3. To address this situation, rural peasants – who constitute over 70 percent of the population – must commercialise. Commercialisation of rural production requires a reliable rural road network. Currently, the rural populace cannot access urban markets, where they would competitively market their produce.

This paper argues that the financing and management of high volume urban and interurban roads should be assigned to the private sector. This would create fiscal space for rural road networks, which are less attractive to private finance. This approach would deliver a network that can facilitate progress towards the first goal of the Millennium Development Goals. The current state of the SSA road network is discussed in the following section.

2 STATE OF THE NETWORK

The SSA road network is approximately 1.5 million kilometres. Heggie et al. (1998) estimated the value of the road network at 150 billion US dollars. Using an asset accumulation rate of 5.5 percent, the road network is equivalent to approximately 15 percent of the region's gross domestic product (GDP). In spite of the high value of the road network- and importance to economic growth - efforts to preserve, renew or develop the network have been dismal. This was more so in the 1990s. The World Bank estimates that in 1990, 17 percent of SSA road network was paved. However, by 1998 the figure had fallen to 15 percent because of poor maintenance. Many of the paved roads deteriorated to gravel standard. And as expected, the deterioration was not confined to paved roads. The gravel road network is very unreliable. Currently, only 15 percent of the gravel roads are passable in all weather.

The condition of the SSA road network, in a geo-economic context, is captured in Table 1. It is shown that the ratio of classified roads to GDP for SSA is approximately four times the ratio for China. This indicates that, based on coverage alone, the SSA road network is not an impediment to economic growth in comparison with the Chinese network. Further, the paved roads to GDP ratio for SSA is similar to the ratio for China, which illustrates the poorer quality of the SSA classified road network. Table 1 also shows that paved roads per capita for China is approximately twice that of SSA; and mobility in SSA (based on per capita traffic) is approximately two-thirds that of China. This implies that aggregate transport demand in SSA is not too dissimilar to the demand in China. The SSA aggregate supply (i.e. of classified roads) is higher than China's; but the quality of the supply is far inferior. Compared to the Indian network, the quality of the SSA road network also stands out as inferior.

Table 1 - Road Statistics for Selected Regions

	Sub-Saharan Africa	China	India	UK
Land Area (×1000 km^2)	24260	9598	3287	244
Population (million)	741	1305	1095	60
Population Density (persons per km^2)	31	136	333	246
Gross Domestic Product (billion US$)	615	2229	786	2193
Gross National Income Per Capita (US$)	745	1740	720	37600
Classified Road Density (km/1000 km^2)	60	150	1100	1600
Classified Roads (km) Per 1000 Persons	1.96	1.10	3.30	6.47
Classified Roads : GDP Ratio (km per million US$)	2.37	0.65	4.60	0.18
Paved Roads (×1000 km)	225	898	1420	388
Paved Road Density (km/1000 km^2)	0.01	0.09	0.43	1.59
Paved Roads (km) Per 1000 Persons	0.30	0.69	1.30	6.47
Paved Roads : GDP Ratio (km per million US$)	0.37	0.40	1.81	0.18
Aggregate Traffic (million vehicle-km)	350,000*	850,000	1,400,000	1,100,000
Per Capita Traffic (vehicle-km per person)	472	651	1279	18333

Note:* Assumes Traffic: GDP ratio (mobility productivity) of 600 million vehicle-km per billion US dollars.
Sources: World Road Statistics (IRF, 2006) and WDI (World Bank, 2006).

The paved roads to GDP ratio for the UK is approximately one half that of SSA. The low UK ratio is typical of a road network that supports high-value production. China and India, whose economies have been growing at 8-10 percent per annum over the last four years, will eventually show lower paved roads to GDP ratios. That is, the network will be used more efficiently; in the meantime both countries are engaged in vigorous road improvement (ADB, 2005). Eventually, it will not be different for SSA. The economy will demand a more efficient network, which means more investment in the roads sector.

Table 2 presents road investment needs, excluding rehabilitation, of SSA in comparison with other developing regions. The construction and maintenance need of SSA, relative to its GDP, is similar to the ratios for the other regions. This finding is not surprising because the estimates are based on predicted economic growth, and not desired growths consistent with development goals. Five-year estimates of annual road investment requirements (as opposed to needs) for 15 SSA countries are in the range of 1.5 to 2.0 percent of their GDPs. These estimates assume 7 percent regional GDP growth rate that is consistent with the assumptions in the Millennium Development Goals (MDGs).

Table 2 - Estimated Annual Road Investment Needs by Regions (billion US$)

	Sub-Saharan Africa	East Asia & Pacific	South Asia	Europe & Central Asia	Middle East & North Africa	Latin America & Caribbean
Construction	4.1	12.1	6.6	9.8	3.3	2.8
Maintenance	3.4	8.5	15.8	16.5	3.6	4.1
Total	7.5	20.6	22.4	26.3	9.9	6.9
Percentage of GDP	1.22	0.68	2.25	1.20	1.56	0.28

Notes:
1. The investment needs were estimates for 2005-2010 by Fay et al. (2003), and are based on predicted growth not required growth aimed at meeting development targets.
2. The estimates exclude rehabilitation needs.

3 EXPLAINING THE INVESTMENT GAP

3.1 The Approach

This section contends that the current road investment gap in SSA, and indeed most of the world, is to a large extent caused by a delusion that roads are a public good (hereinafter 'the delusion'). A public good, in the strict sense, is a commodity that is both non-rival and non-excludable (Samuelson, 1954). Non-rivalry means the marginal cost of consumption is zero; non-excludability means the commodity cannot be practically withheld from one consumer without withholding it from all.

This section explains why the provision of public goods is the domain of the public sector. Arguments against the delusion are then presented. This is followed by an explanation on how roads attained the public good tag - by tracing the origin of roads; note that the paper does not appeal to history in dispelling the delusion but in explaining it. The effect of the delusion on road policy in SSA is then analysed. Finally, it is argued that the delusion hinders efficient delivery of road infrastructure.

3.2 Provision of Public Goods

A public good in the marketplace is a perfect recipe for market failure, most economists will assert. The argument is compelling. Public goods can be consumed simultaneously by everyone and no one can be excluded (i.e. non-rival and non-excludable). Being selfish and yet rational, consumers would avoid paying their fair share of the cost of the commodity – and hence the so called free-rider problem. If handed to the private sector, therefore, the provision of public goods would always fall short of allocative efficiency. Secondly, in the case of roads, the externality issue emerges. Roads offer benefits, and disbenefits, to non-users. It is therefore argued that to ensure that social benefits closely match social costs, the public sector must provide roads. The next section explains why roads should not be considered a public good, and how externalities associated with road provision can be internalised.

3.3 Dispelling the Delusion

The high level of service the modern road user demands decreases with traffic loading. The reduction in level of service relates more obviously to spatial capacity. However, the structural capacity of roads also decreases with traffic loading, albeit in smaller proportions compared with spatial capacity. It cannot therefore be correct to assert that the marginal cost of road use is zero. Secondly, because of developments in technology, it has become much easier to ensure excludability of roads. Demand management in the world's major cities is a vivid example. In summary, it is easy to sympathise with the view that public goods and services such as national defence should be provided by the public sector. Roads are, however, far detached from a true public good.

Closely related to the delusion is the externalities argument. That is, non-user effects dictate that roads be provided by the public sector. Externalities such as environmental effects can be internalised under private sector regimes. Internalisation is achieved when road users pay for the difference between the marginal social cost and marginal private cost. Two issues arise. The first is assigning monetary values to the externalities; in other words, establishing an efficient pricing mechanism. The second issue is ensuring an efficient charge collection system. Pricing road externalities is a complex, and topical, subject that is indifferent to method of provision. With respect to user-charge collection system, payment for negative externalities (mainly vehicle emissions) is currently done through fuel levies, but technology is widening options to incorporate electronic monitoring. This approach can be used irrespective of whether a road is provided by the public or private sector. In addition, private sector provision of roads does not make internalisation of local externalities (e.g. noise and property prices) more complicated. To this end, Block (1983) presents a detailed treatise. The following section explains the delusion by appealing to history.

3.4 Tracing the Delusion

Engineered roads can be traced back to the Roman Empire (44 BC – AD 476). That is not to belittle paths used by early communities, to gather food and other necessities, which date back to the Stone Age. This paper does not present a detailed history of roads but focuses on privately financed roads. A deeper consideration of the origin of roads is presented in Amonya (2006).

Literature on privately financed roads in the Roman Empire is scarce. However, a rich collection of history of private roads is available in respect of 18th and 19th century Britain. During this period, aristocrats owned private roads commonly called turnpikes. These private roads were of better quality than publicly managed roads, and included most of the strategic roads. This is captured in the following extract from Peterson (1950).

> But history shows, if two noticeable instances establish a rule, that when highways come to play a major part in transportation, the view of them in strict collective terms breaks down both in theory and practice. This was the rule in the 18th and 19th centuries when the growing commerce of the Industrial Revolution turned to the public road for accelerated and cheapened movement. The local governments were unable to take care of traffic; and turnpike trusts of a quasi-private nature were set up to exploit the discoveries of Telford and McAdam on a business basis. Toll gates might seem offensive by customary usage, but there was effective logic in the idea that highway service, unlike other basic government activities, might be developed by ordinary investment standard and financed by specific beneficiaries, rather than the general public.

Private investment in roads was not restricted to Britain. Block (1983) discusses the contribution of private finance to road network improvement in the United States in 18th to early 20th centuries. One must then question when and why the momentum of private financing of roads was lost. It is safe to say that the World Wars (1914-1945) contributed to the demise of private roads. During the Wars, roads turned into an instrument of military advancement. Consequently, the private sector was crowded out of road provision. After the Wars, the private sectors of both countries were weak – especially Britain. Road financing became a domain of government. After 1960, the private sector became more pronounced in road provision. The public sector started contracting out its supply function (retaining the client role). In Britain, the private sector has played an increasing role in road provision culminating in the first design, build, finance, and operate (DBFO) scheme in 1994.

The preceding discussion asserted that the current upsurge in private financing of roads is a recovery from the 18th and 19th centuries. This thesis posits that the strong perception that roads are a public good is a remnant of the Wars. The following section examines the effect of the delusion on road management in SSA.

3.5 Transport Policy in SSA

This section contends that had it not been for the delusion, transport policies in SSA, and indeed the rest of the world, would have been more geared towards meeting the needs of the road user. First, an historical background of transport policy in SSA is examined; key weaknesses in the policies are highlighted. The contribution of the delusion to these weaknesses in policy is then scrutinised. In a shift from the normative to positive, the section concludes with an overview of donor-driven attempts to introduce road policies that embrace market discipline.

When most African states attained independence 40-50 years ago, the public sector (public works departments) performed both client and supplier roles. Ministries of works and transport were not only responsible for roads but also government buildings and estates, and water supply. Secondly, ministries of works and transport did not have jurisdiction over all roads. Often, urban roads were under another government ministry, with municipalities receiving instructions on the management of their roads from the central government ministry. To date, responsibility for the management of some roads is not clear. As expected, the ministry of works and transport was overwhelmed by a growing demand for good infrastructure. These weaknesses in transport policy are captured in Box 1.

Box 1 - Key Weaknesses in Road Policy and Management in SSA

- Poor Policy Frameworks: This is the main problem, which cascades from policy level to road network management and project levels, and manifests itself in subsequent weaknesses. The provision of roads has been treated as public social service, which must be financed from general tax revenues. However, reforms associated with corporatisation, followed by attempts at commercialisation of road management, have alleviated this problem.

- Lack of Clear Responsibilities: This stretches from unclear roles at ministerial level to poorly defined staff job specifications at the road management level. While good progress has been made at the ministerial level, duplication of roles is still common at the road management level.

- Inadequate Financing: This is a global problem; it is only acute in SSA because of low tax revenues and poor appropriation of the revenues. Road users have historically not paid their fair share for the service; high fuel taxes have been just that: taxes, not user fees. The resulting road deterioration has hurt growth [freight and insurance account for approximately 15% of export earnings in SSA].

- Thin Skills Base: Technical and management skills shortage is a problem in SSA just like the rest of the world. Inadequate finance in SSA compounds the problem. With exception of donor financed projects, staff pay is poor. Staff motivation is low, and does not measure to the challenges that the network poses.

Historical weaknesses in road policy have been outlined. Next, the fundamental causes of these weaknesses are dredged. Two key political developments have influenced road policy in SSA: the World Wars and the quest for independence.

Post War road policies in the West reverberated to SSA. As discussed in the preceding section, the thinking at the time was that roads were a public good that had to be financed and managed by the public sector. The practice of private ownership of roads of the 18th to early 20th centuries had been quashed by the Wars. Then, whilst independence might have presented an opportunity for a change in policy in SSA, the indigenous capital base was too narrow to finance road management. This was not helped by eroded confidence, in the foreign markets, that followed the Wars and the struggle for independence.

In a bid to improve SSA road network, the donor community - led by the World Bank - has attempted to introduce road policies that embrace market principles. This initiative entailed creating clear responsibilities in the relevant ministries, and improving the financing of roads. The current initiatives follow institutional restructuring, which include the first generation road funds of the 1970s (Heggie, 1998). The first generation road funds used earmarked government revenues and were dogged by poor governance. In response, the second generation road fund was devised. Unlike its predecessor, road financing under the second generation road fund was to be entrusted to an autonomous body. In other words it was to operate off-budget. Early success stories of this new generation road fund included Ghana and Zambia in the 1990s. A few other SSA countries have since embraced the financing arrangement. In relation to the second generation road fund, Kumar (2002) writes:

> While these are encouraging trends and represent a significant departure from the past, road administrations continue to suffer from past ills of civil service; and technical assistance and knowledge sharing is required over some time before effective arrangements can be put in place. The absence of fully functional management systems makes it difficult to ensure that the maintenance budget is correctly allocated and is often well below what would be economically rational.

Even the most efficient second generation road fund would require extra financing to manage a network that can stimulate and support the economy. Private sector finance is required. Whilst it is appreciated that engaging private sector investors would be too onerous for most road authorities in SSA, it is a journey to be made. The following section explores the private finance option. Examples of good practice are drawn from other developing regions, particularly South Asia.

4 CLOSING THE INVESTMENT GAP

4.1 The Approach

This section explores private financing of roads, particularly high volume roads; that is, roads carrying at least 10,000 vehicles per day (Queiroz, 2005). For low volume roads, Ivarsson (1999) presents an interesting financing model. The model draws from Swedish experience, and is centred on the strength of local social cohesion. Malmberg (1998) also offers a financing arrangement for low volume roads, using examples from SSA, and the model similarly exploits strong social cohesion. Subsequent discussion in this section focuses on private financing of high volume roads. Capturing private finance for high volume roads would provide fiscal space for the low volume roads.

4.2 Private Finance Initiative

The modern form of private infrastructure financing can be traced to 1992 in the UK. The first sector to benefit from the new financing arrangement was health. Faced with a glaring road maintenance backlog, the Treasury further exploited a thriving free market climate to capture the finance and management expertise of the private sector for road management. The Department for Transport – through the Highways Agency – started procuring road service as opposed to infrastructure. Focus shifted from recipe specification to performance specification. A typical PFI framework, modified for developing countries, is shown in Figure 1.

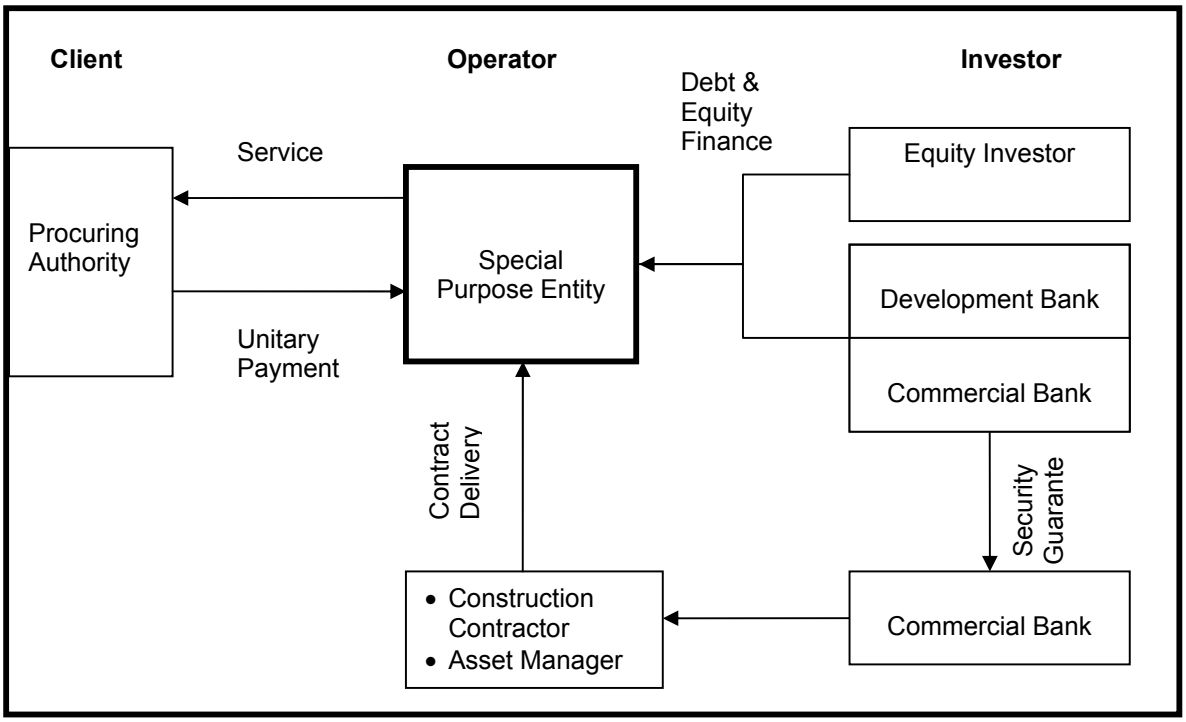

Figure 1 - Typical PFI Framework
Source: Adapted from HM Treasury (2003)

The basis of PFI procurement strategy is allocative efficiency in risk transfer and management. The potential for efficiency gains is supplemented by the off-balance-sheet nature of the procurement strategy, which relieves governments of public sector net cash requirement (PSNCR) constraints. Subsequent discussion expounds on two components of the PFI framework: equity and debt financing. The future of equity and debt markets in SSA is explored.

4.3 Equity Markets

A strong equity market is an important conduit for tapping private savings for infrastructure development. The foundation of most companies engaged in private financing of roads is a vibrant stock exchange. In this respect, SSA has 22 stock exchanges, but most are in their infancy. Most of the stock exchanges were established after 1990, the exceptions include Nairobi Stock Exchange (1920s) and JSE Limited of Johannesburg (before 1900). Market capitalisations of SSA stock exchanges are generally less than 50 billion US dollars; JSE Limited of Johannesburg, with a market capitalisation of approximately 580 billion US dollars, is an outlier. Not only are the market capitalisations low, private contribution is small. In some cases, private investors account for less than 10 percent of the total market capitalisation.

Unlike SSA, South Asia has numerous stock exchanges established before 1950 and have market capitalisations in excess of 500 billion US dollars. Age is no excuse for the poor performance of SSA stock exchanges. Had age been the overriding factor, Nairobi Stock Exchange would be a global giant. The reasons for the abysmal performance of SSA stock exchanges are diverse. They stretch from historical issues to poor governance, and poor savings culture. Moss et al. (2007) offers a wide and deep consideration of these issues. The rest of this section examines the future of SSA stock exchanges and how the roads sector could benefit from growth of the stock exchanges.

A pan-African stock exchange was mooted over five years ago. This regional exchange would be a major boost to investment in the region in two key ways: increased domestic liquidity, and improved access to global markets. The end result would be a mushrooming of private equities across the region. Private equities are driving major infrastructure investment around the world. The private equity arm of Infrastructure Development Finance Corporation (IDFC-PE) of India is but an example. Box 2 discusses the development and achievements of IDFC-PE.

Box 2 - Private Equity in Road Financing: IDFC India

The private equity arm of Infrastructure Development Finance Corporation of India (IDFC-PE) was formed in 2003 in response to the country's acute infrastructure financing problems. The main sponsors are the Government of India and International Finance Corporation (IFC). The equity firm has also attracted both domestic and foreign private investments. The main investment target of IDFC-PE is rapidly growing infrastructure companies. The firm's portfolio history reveals over 6 billion US dollars in transportation, energy, and telecommunications. Despite the apparent success of IDFC-PE, it has faced some tough challenges. Notably, investors demand very high rates of return that reflect high risk perceptions associated with private finance investment in the region. The poor risk ratings are reverberations of the Asian financial crisis of 1997.

Private equity development in India offers four important lessons for SSA. First, an unwavering government initiative is required for the equity market to take-off. Secondly, support from international donor agencies is vital. The third lesson is that a vibrant equity market is only a reflection of an enterprising domestic private sector; government policies supportive of a free market economy are important. Finally, whilst foreign investment is crucial, it must not form the backbone of the equity market; post Asian financial crisis is good testimony.

4.4 Debt Markets

Commercial lenders in SSA have traditionally provided short-term loans to construction companies. These short-term loans typically entail repayment periods not exceeding five years. Bonds, on the other hand, are still a domain of governments; corporate bonds are rare. Road financing under PFI models, however, requires long-term commitments by lenders. That means higher risks than in traditional short-term debts. This partly explains why PFI commercial lenders seem extremely risk-averse. The other reason is that unlike equity investors, lenders do not exercise managerial control over the investments. Neither do they share the profits of efficient and innovative investment management. However, since debt repayment depends on project cash flow, lenders share the downside of these investments. In light of these risks, borrowers for privately financed infrastructure would prefer domestic debt markets.

Domestic debt lenders are naturally more robust to local risks than foreign markets whose price for SSA country risks would be beyond the reach of most projects. Currently, bank lending has almost a complete dominance over the bond market as a source of corporate financing. The only SSA country with a notable corporate bond market is the Republic of South Africa (RSA). Figure 1 shows corporate bond issuance as a percentage of GDP for selected countries. The high performance of Malaysia traces back to the Asian financial crisis of the late 1990s. Following the crisis, many Asian countries were forced to rely less on foreign borrowing and depend more on local domestic bond markets. Malaysia's corporate bond issuance, for instance, increased by over 50 percent between 1997 and 1998. This demonstrates the robustness, and hence importance, of domestic bond markets in capital mobilisation for infrastructure.

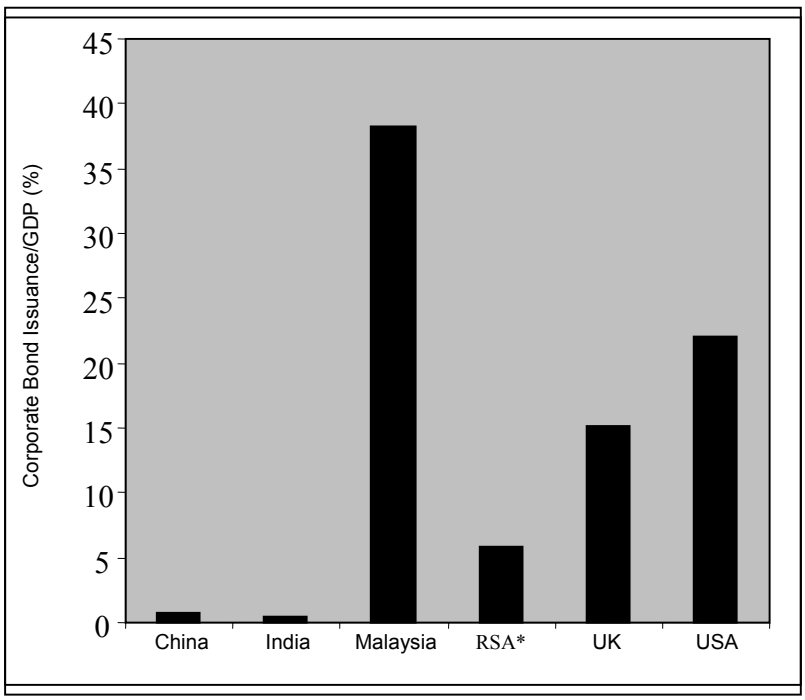

Figure 2 - Corporate Bond Markets of Selected Countries
Note: * Insignificant for other SSA countries
Source: IMF (2005)

Numerous reasons have been posited for the abysmal performance of the corporate bond market in SSA. The basic argument is that the poor state of the bond market reflects the poor economic situation of the region. Low per capita income means that most households have to use all their earnings merely to stay alive. However, high income inequality (average Gini coefficient of greater than 0.7), indicates availability of local disposable income – albeit within a small proportion of the population.

Kahn (2005) argues that domestic policies and aid inflow have been responsible for the lacklustre performance of some of the corporate bond markets in SSA. Inefficient social security institutions are singled out as evidence of poor policies. Concessionary lending, it is argued, has crowded out the domestic private debt market. In East Africa, for instance, Kenya has a more vibrant corporate debt market than Uganda. Whilst aid to Kenya was cut-off in the 1990s, most of Uganda's fiscal deficit was financed by donor aid. As a result, there has been less pressure on Ugandan government to engage in long-term domestic borrowing – which would invigorate the bond market. Kenya's more aggressive drive to develop the private market should partly explain its recent sovereign rating (EIU, 2006), the first in the region. Standard & Poor's gave Kenya a sovereign rating of BB, which is the best below investment grade. The rating imparts further impetus on the country to improve its investment climate.

Despite the current low level of activity in SSA corporate bond markets (outside RSA), the future looks bright. The telephone sector is reaping from the corporate bond market. The mobile phone provider MTN, for instance, has issued corporate bonds in Uganda – in addition to capital raised in the South African market (USE, 2003; Merrill Lynch, 2006). However, the telephone industry is more attractive to the corporate bond market than the roads sector. Returns in the communications sector are much quicker. In relatively immature investment environments like SSA – perceived to be unstable – long-term returns are associated with poor risk ratings, which translate into high cost of capital. Nonetheless, private financing of roads is emerging in SSA, outside RSA. The nascent privately financed road projects in SSA, including RSA success stories, are discussed in the following section.

4.5 Emerging African Success Stories

Weak domestic capital markets notwithstanding, there are emerging success stories of private transport infrastructure financing in SSA, outside RSA. Whilst most of the privately financed transport infrastructure projects are in the railways and ports sectors, a few toll roads are being prepared - toll roads are under preparation in Nairobi, Lagos, and Dakar. Roads are, however, less attractive to private finance than railways and ports because they entail more interfaces. Social and administrative interfaces stand out; for details, Bullock (2005) is a good reference. In spite of these challenges, private sector finance can be successfully captured for the construction and management of roads in SSA. The N4 Toll Road in South Africa is a case in point.

An overview of the development of the N4 Toll Road is presented in Box 3. Central to the success of this concession has been close cooperation between the governments of South Africa and Mozambique. Given the cross-border nature of the project, and spread of traffic demand regimes, it is unlikely that the concession would have progressed without the bilateral cooperation.

Box 3: Lessons from the N4 Toll Road South Africa

In 1994, the governments of South Africa and Mozambique initiated the Maputo Corridor Development Programme. The programme aimed to increase commercial traffic flow through Maputo and to relieve congestion in the port of Durban. The main facet of this programme was the improvement of a 440 km road link (the N4) between Maputo and Johannesburg. Both governments agreed to rely on private capital for this programme, which was to deliver the first private toll road in SSA. The US$410m concession entails building, rehabilitation, operation, and maintenance of the entire road for a period of 30 years, before transferring the road to the two governments. The project was geared 80 percent debt and 20 percent equity. The sponsors include South Africa Infrastructure Fund - a private equity part-sponsored by the African Development Bank but founded by a foreign private equity. The project faced unique challenges. Its cross-border nature implied double country risks. Secondly, future traffic volume depended on improvements at the Maputo port. Despite these challenges, the preparation period was just 20 months. This efficiency is attributed to the creation of a bilateral implementation authority, bestowed with all the decision-making powers to develop a financially and technically optimal investment solution.

Source: Developed from World Bank PPI Dataroom

4.6 Benefits of Maturity: Lessons from the UK PFI Market

The UK PFI market is 15 years old. With age comes resilience. This axiom is manifested in the latest developments in this PFI market. The level of risk averseness has dropped amongst all stakeholders. Improved comfort with PFI projects in the UK should encourage emerging markets in SSA, and other parts of the world. Benefits have been reaped by equity investors, debt investors, and ultimately infrastructure authorities.

Equity investors in the UK PFI market currently enjoy the emergence of secondary markets. Previously, there was uncertainty about exit from PFI investments. That is no more. There is now an assured market for PFI equity investors to sell shares in successful PFI projects. Recent research (NAO, 2006) shows that 40 percent of projects have experienced a change in investor. Many of the new investors have refinanced the projects. Improved financial terms are available because of reduced risk perception of PFI schemes amongst lenders. Refinancing has mostly resulted in the acceleration of benefits to equity investors, and hence an increase in internal rate of return. Gains from refinancing are shared in equal proportions between the investors and public authorities. With respect to debt investors, the PFI market base has widened. Since debt finance typically comprises 80-90 percent of total project finance, an active PFI market is good for the lending business. To the users, all these developments mean better value for money.

5 CONCLUDING REMARKS

Sub-Saharan Africa should increase road spending three-fold; otherwise the network will continue to impede the attainment of MDG growth targets. However, the required increase in spending cannot be wholly supported by the public sector. Private sector finance, and management, is required. The main hindrance to private financing of roads in SSA, and the rest of the world, is the delusion that roads are a public good. This delusion should be dispelled.

Private infrastructure financing relies on thriving equity and debt markets. International debt markets are, however, hardly accessible to SSA primarily because of poor country risk ratings. That means a boost in domestic markets is crucial. Domestic markets in SSA - especially corporate bond markets - are weak but improving. Government policies supportive of the private sector, and international donor assistance, is required for the domestic markets to mature. Examples from Asia and South Africa illustrate that strong domestic markets play pronounced roles in financing road networks.

Private finance is not an immediate panacea for road network problems in SSA. Only the most heavily trafficked roads would attract private financing. Capturing private finance would, however, create fiscal space for the low volume roads. To sum up, roads should be subjected to market forces. Where demand is high, the roads should be packaged and taken to the marketplace.

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