

Review of Selected Railway Concessions in Sub-Saharan Africa

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Current Equivalents

(Exchange Rate Effective June 13, 2006)

Current Unit = CFAF

US\$ 1 = 523.03

FISCAL YEAR

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ACRONYMS AND ABBREVIATIONS

AFD	Agence Française de Développement
BOAD	Banque Ouest Africaine de Développement
CFCO	Chemin de Fer Congo Océan
EIB	European Investment Bank
ESW	Economic and Sector Work
FCFA	Franc CFA
ICTS	International Container Terminal Services
IDA	International Development Agency
IFI	International Financial Institution
KRC	Kenya Railway Corporation
SOE	State Owned Enterprises
SIR	Société Ivoirienne de Raffinage
SSA	Sub Saharan Africa
SSATP	Sub Saharan Africa Transport Program
TEU	Twenty Foot Equivalent Units
Tkm	Ton/kilometer
TRC	Tanzanian Railway Corporation
URC	Uganda Railway Corporation
USD	United States Dollar

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EXECUTIVE SUMMARY

Background and objective

1. The impact of the privatization of State-Owned Enterprises (SOEs) on the transport sector has become a widely debated topic among Governments, International Financial Institutions (IFIs) and Scholars. The World Bank has paid close attention to this debate as it seeks to continuously assess all economic, social, environmental and political repercussions linked to privatization in order to provide its clients with the most relevant policy advice.

2. The Africa Region undertook this Economic and Sector Work (ESW) in response to questions regarding perceived unrestrained monopolistic behavior by private sector operators in the port and rail sectors in Sub Saharan Africa (SSA). Indeed, *prima facie*, and for historical reasons, much of SSA's transport network is organized in multiple port/railway corridors that appear to favor potential monopolistic behavior. During the course of the analysis, it became evident that other equally important issues related to financial performance and attractiveness of concessions design needed to be addressed. Since the quantity and availability of data was found to be limited for port concessions, it was decided early in the process to concentrate the analysis on existing planned railway concessions.

Key findings

3. The ESW concludes that there is no clear evidence of market abuses, commonly referred to as monopolistic behavior, on the part of railway concessionaires. Indeed it observes that:

- There is no evidence of a clear link between tariffs and rail market share. Instead, the information gathered suggests that a strong correlation exists between tariff levels and commodity value.
- The threat of transport mode substitution (i.e., from rail to road) limits railway operators' ability to charge abusive tariffs to their customers, regardless of their market share.
- Increasing rail competitiveness appears to benefit transport users first and foremost through lower road rather than rail transport costs.
- The profitability results achieved by private rail operators in terms of net income, net cash flow and return on equity do not seem to support the idea of excessive profiteering.
- Concession contracts generally contain an array of clauses designed to protect rail users against excessive market/pricing power from rail operators. However, their enforceability remains questionable as information asymmetry between concessionaires and regulators and weak technical and financial capacity limit the latter's enforcement ability.

4. In addition the study highlights the following:
- Private investment in the transport sector remains weak with the sector attracting only 9.0% of total private funding for infrastructure in SSA from 1990 to 2002.
 - Even when the private sector does invest in transport projects, because of the investment climate and business parameters there is strong disincentive to assume risk. As a result, (a) governments have borne until now a large portion of the financial risks related to concession investment in railway operations in SSA and (b) there have been notably few companies that are willing to invest in African rail systems thus far.
 - Until recently, participation in railway concessions appears to have been driven more by the desire of firms to control logistical distribution chains or benefit financially from managing large investment programs rather than earning substantial direct return on their investment.
 - Actual railways financial performance has been disappointing so far. However, this seems to be more a result of poorly designed concession financial structures (i.e., unsustainable debt levels and concession fee payment requirements) than a lack of performance on the part of concessionaires.
 - Railways still offer the most economical solution to transporting non-time sensitive bulk freight on distances over 500 Km. As such, their revival through concessioning is warranted whenever adequate evidences exist that the business fundamentals supporting this decision are sound. At the same time better solutions must be devised to ensure that while host Governments continue to benefit from substantial economic rates of return from these concessions, private operators' financial returns are high enough to entice broader and more competitive investors' participation.
 - Finally, it should be noted that generalizing conclusions about rail concession performance in SSA is difficult because:
 - Only two have been in operation for more than five years;
 - Their operating environment is distorted by competition from the trucking industry which only pays a fraction of the cost of the infrastructure it uses; and
 - Their seemingly favorable debt structure has postponed to later years the true cost of railway track financing.

Key recommendations

5. In spite of the fact that monopolistic behavior was not identified in existing railway concessions, the analysis uncovered a set of problems which, if not dealt with properly, could further diminish private sector interest, and hence quality participation, in future concessions. In addition to the general weaknesses in investment climate including but not limited to inadequacies in the rule of law as well as business friendly, fair, and transparent regulations, several problems specific to the industry were identified. These problems along with their possible solutions are presented below.

- **Problem No. 1:** *Limited capacity and/or willingness of private operators to finance track renewal:*
 - **The true cost of track renewal needs to be acknowledged up front.** This cost should be carefully assessed to ensure full value extraction from the existing assets, and factored into the realities of the business. The fees for the concession should be modulated accordingly. Solutions that have the advantage of limiting up-front cost to Governments while keeping the financial liability of the planned investment squarely on private operators need to be explored and, if feasible, favored even at the expense of lower concession fees..

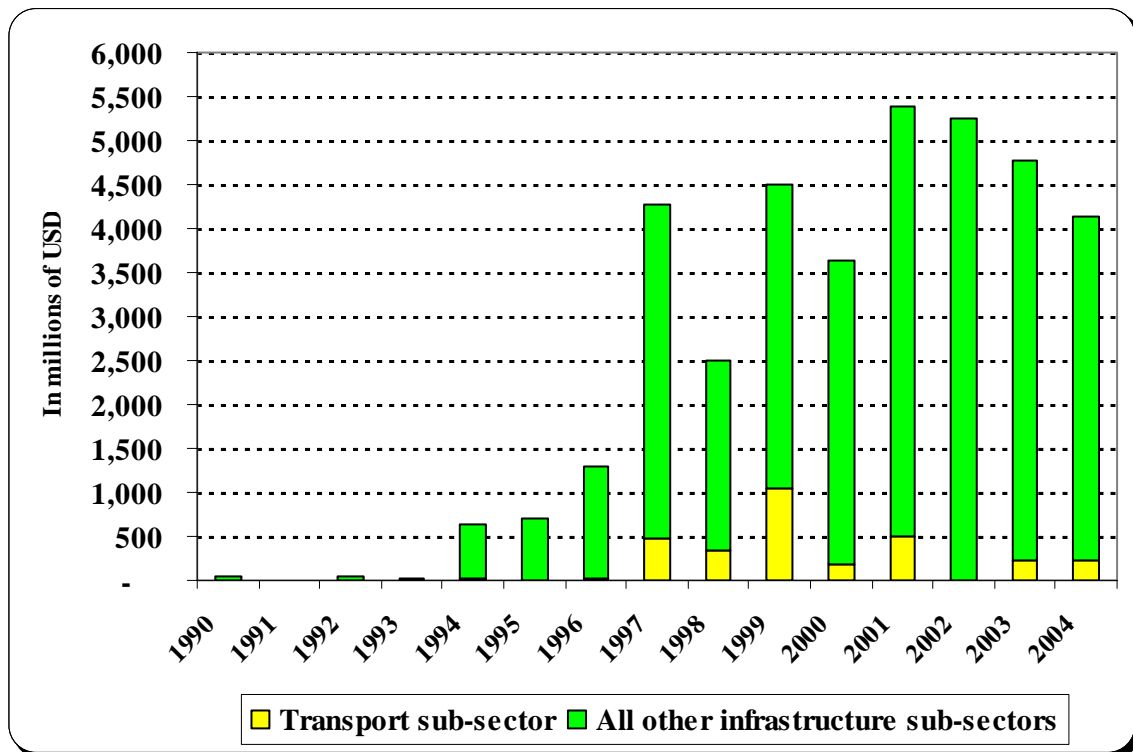
- **Problem No. 2:** *So far, railway concession financial returns have been low:*
 - **National transport policies that explicitly recognize the critical linkages between direct/indirect road user subsidies and railway concession financial returns need to be defined.** This could be done with the help of international donors and organizations such as the Sub Saharan Africa Transport Program (SSATP). Private operators also need to be realistically compensated for the financial risks associated with the operation of loss-making passenger trains as Governments often fail to honor their subsidies commitments to these operations.

- **Problem No. 3:** *Effective and efficient regulation of private rail operators is needed.*
 - **Better enforcement of concession contract rules by regulatory bodies is needed in order to make private rail operators more accountable.** This could be done by strengthening concessionaires' contractual, financial and operational information disclosure requirements, strengthening regulatory bodies' capacity as well as imposing annually independent financial and operational audits as part of concession contracts.

- **Problem No. 4:** *Governments' behavior vis-à-vis railway concessionaires needs to be more consistent, and in line with good business practices to promote efficiency and economies of scale.*
 - **Government-appointed oversight committees that are properly staffed, skilled and financed are necessary to ensure effective concessioning.** Such committees must be politically and legally robust to protect private railway operators from unpredictable and arbitrary changes in their business environment that are often sought by disparate Ministries and other agencies. The members of these committees should meet on a regular basis with their counterparts from other railway concessions in order to share ideas, experience and information.

I. Introduction

1. Since the early 1990s, Sub-Saharan Africa (SSA) Governments have been privatizing State owned and operated infrastructure. They have done so in part to respond to international donors' pressures but also in recognition of the fact that they simply do not have necessary fiscal resources to support infrastructure operations alone and see advantages in relying heavily on private operators who are often better able and suited than them at operating and financing infrastructure systems. Following the rapid growth of private sector financing of infrastructure projects in SSA (from virtually naught in the early 1990s to USD 4.3 billion in 1997 - see Figure 1), overall private investment in infrastructure in the region has hovered between USD 4 to USD 5 billion per year in the early 2000s. This leveling off of private investment partially reflects the sharp decrease of international investment in infrastructure worldwide since 1997 in reaction to the Asian, Brazilian, Argentine and Turkish financial crises. It also illustrates, however, the impact of the limited number of attractive infrastructure investment opportunities offered to private operators in SSA.



Source: see Annex A

Figure 1: Private financing of infrastructure projects in Sub Saharan Africa¹

2. Cumulatively between 1990 and 2004, only 9.0%, or USD 3.1 billion (see Figure 1), of total private financing directed at infrastructure projects in SSA went to the transport sector. During that same period, telecommunications and energy sectors

¹ The figures presented should be treated with caution as they include projects that have not necessarily materialized as well as financing provided by international donors which was on-lent by Governments to private operators. As such, they tend to overstate the true size of private financing in infrastructure.

attracted 73.0% and 14.8% of that same total, respectively. Within the transport sector, 60.7% of private investment was directed at roads, versus 16.28%, 12.9% and 9.6% at ports, railways and airports, respectively. At the country level, South Africa's (SA) economic dominance translated naturally into a 61.3% share of SSA private transport infrastructure investment, or USD 1.9 billion.

3. Private financing of railways became a reality in 1995² with the “affermage”³ of the railway operations between Abidjan and Ouagadougou (Côte d’Ivoire/Burkina Faso). This transaction has since then been followed by a series of railway concession agreements⁴ between the private and public sectors in countries such as Cameroon, Gabon, Madagascar, Zambia, Zimbabwe, Mozambique and Senegal/Mali. Meanwhile, additional concessions of railway systems are currently under consideration or underway in numerous countries, including Tanzania (TRC), Djibouti/Ethiopia, Kenya/Uganda (KRC/URC), Congo (CFCO) and Congo DRC (SNCC). Others are at an early review stage such as in Swaziland (Swazi Railways) and Tanzania-Zambia (TAZARA).

4. The extent to which private operators have been called upon to operate railways in Africa sharply contrasts, thus far, with their limited involvement in the financing and management of ports. Indeed, by some account, only 10% of SSA’s roughly ninety main ports boast privately owned and operated terminals. Historically, Governments have restricted private operators’ involvement in the port sector to stevedoring services. While this situation is rapidly changing as shown by the recent concessioning of the container and general cargo terminals of the ports of Dar Es Salaam, Douala, Lagos and Toamasina (Tanzania, Cameroon, Nigeria and Madagascar) as well as the concessions of Maputo, Beira, Nacala and Quelimane ports (Mozambique) in addition to the planned concessioning of terminal operations in South Africa, the Gambia, Cape Verde and Kenya, Governments’ past willingness to privatize ports was clearly not as strong as that exhibited for railways. This difference in attitude can be explained in part by: 1) the strategic role played by ports in each country’s transport network (in many cases, a single port handles the majority if not all of the country’s international exports/imports); 2) the importance of the hard currency business generated by port operations; 3) their perceived profitability⁵; 4) the vigorous volume growth they enjoyed⁶ (unlike railway activities

² Excluding railways built and operated by private companies for their exclusive needs. Examples of such railways are numerous in SSA and are usually linked to mineral extraction activities (e.g., Mauritania railway between Zouérat and Nouadhibou).

³ Type of concession contract in which the operator leases assets from the public authority, while the latter provides major investments (see P. Guislain, *The Privatization Challenge – World Bank Regional and Sectoral Studies Series*, 1997, Washington DC, USA).

⁴ In this report, the term concessioning will be used for leasing (affermage) as well as for concession contracts. A concession contract implies that the private sector carries both investment costs and commercial risks. The agreement covers the operation and/or construction or rehabilitation of rolling stock and/or infrastructure for a fixed period.

⁵ A lot of port operations in SSA display flattering, yet misleading, profit margins as their public operators are often exonerated from servicing the debt related to initial and subsequent port infrastructure investment costs.

⁶ This volume growth is especially strong for containerized traffic (private operators’ favorite stevedoring activity) where growth is sustained not only by increasing international trade flows in/out of Africa but also by the trend consisting in the containerization of existing non-bulk freight. The combination of these

before their privatization); and 5) their relatively limited needs for significant infrastructure investments.

5. Early results from privatization transactions in the railway and in the port sectors have so far been mixed. Given the weak investment and regulatory climate in many African countries, investment flows have been understandably limited in the first place. Additionally, the nature and size of the privatized transport operations and infrastructure have necessitated the abundant use of a range of incentives (financial, economic, commercial and regulatory) in order to secure private operators' interest. These practices have raised many questions about the actual viability of the completed transactions given the scope of the "financial sweeteners" granted to private operators to compensate for the weak investment climate.

6. In many instances, especially for the railway sector, the financial feasibility of the proposed concession contracts has relied primarily on the Governments' ability to secure extremely low debt financing terms⁷ on behalf of private operators from International Financial Institutions (IFIs) such as the World Bank⁸. This has resulted in a significant transfer of financial risks from the private to the public sector. For instance, in the case of the Sitarail rail concession in Côte d'Ivoire/Burkina Faso, 89.6% of private operator financing has come from Governments' sovereign debt issued by IFIs. Meanwhile, Sitarail private shareholders' financial exposure has remained minimal as the combined sum of their equity contribution to the Company and the level of debt financed from private lenders has amounted to a mere 19.7% of Sitarail's total debt. While this could be considered an extreme case as Sitarail was privatized as an affermage (i.e., the private operator pays for the maintenance and operating costs for the track and rolling stock whereas the State pays for track rehabilitation and rolling stock renewal), the same pattern holds true, albeit at a lower level, for those concessioned railways whose upfront infrastructure investments have translated into high debt burden (i.e., equivalent to one or more year of projected or actual average revenues for the first five years of the concession - see Chapter VII for more details).

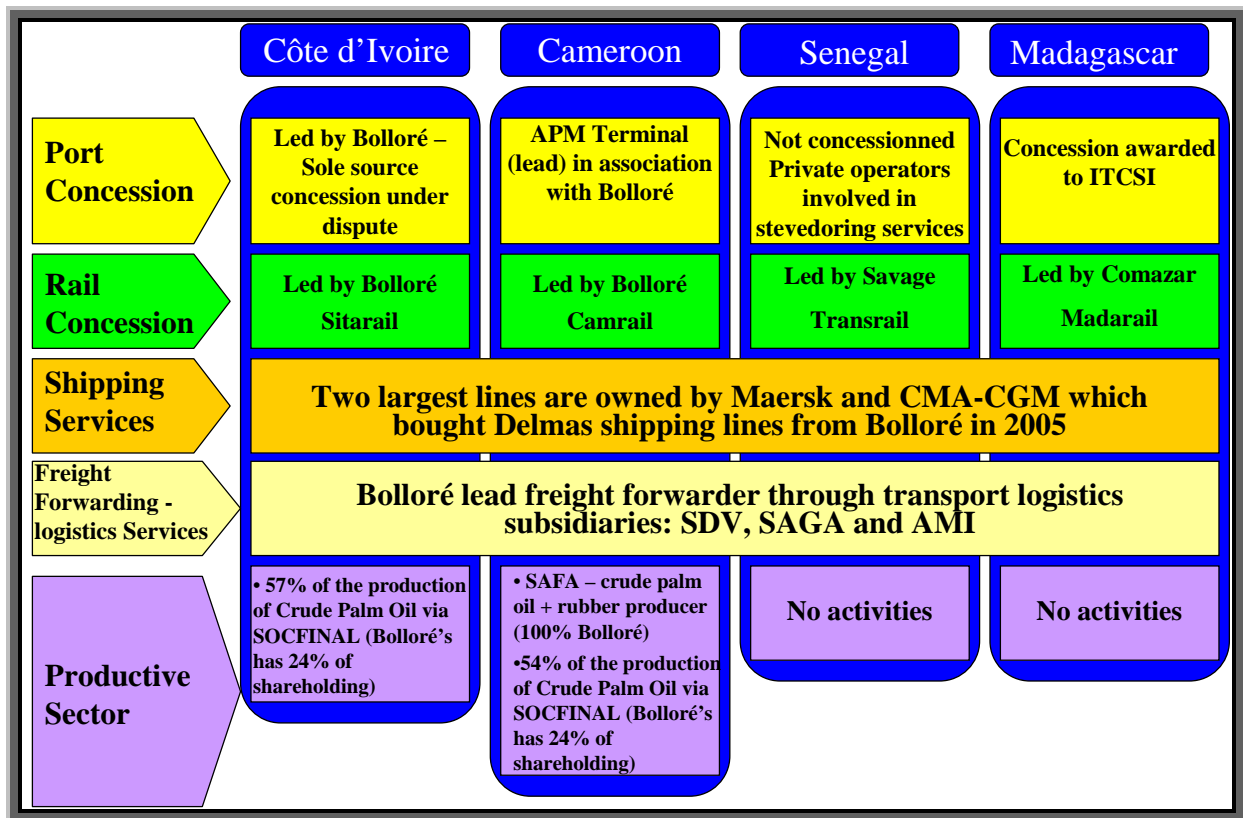
7. In spite of the limited exposure of private investors in railway and port concessions, growing evidence shows that concessions in SSA tend to attract a definite, yet limited, pool of mainly foreign and South African private operators. These operators fall within the following two distinct categories: 1) those which seem to favor vertical integration of the transport distribution chain through the acquisition of dominant positions in specific productive and transport sectors, and 2) those which specialize in a single transport activity (e.g., railways or ports). In the first case, it would appear that

growth factors has led to a yearly 9.6% volume growth in container traffic from 1992 through 2002 in SSA (from 3.2 million Twenty Foot Equivalent Units – TEU - in 1992 to 8.0 million TEU in 2002).

⁷ The usual scheme used in transport concession financing is based on the retrocession of Government sovereign loans contracted directly from IFIs. While in the mid 1990s, this type of retrocession was usually carried out at a premium (e.g., in the case of Sitarail in Côte d'Ivoire/Burkina, the spread between the IDA loan interest rate given to the Government and the private operator initially stood at 7.25% - (i.e., 0.75% versus 8.00%)), this premium has been slashed aggressively, sometimes to 0% (i.e., case of Madarail) in part in reaction to the worldwide slump in private investment financing.

⁸ In the case of the Madarail rail concession in Madagascar, the average interest of the operator's debt is only 1.73% with a 7 year debt principal repayment deferment and a 25 year debt repayment time frame.

these operators are ready to endure less than adequate rates of return from one or several of the distribution chain activities they operate (i.e., especially railway ones) as long as their control of a significant part of the distribution chain yields sufficient overall benefits. A prime example of this type of operator is the Bolloré group whose business footprint in various port/railway corridors is presented in Figure 2. As can be seen, Bolloré is the lead or the second largest shareholder in several railway and port concessions in SSA countries, where it also has business interests via its freight forwarders and agricultural production subsidiaries. This situation, which is not uncommon in other economic sectors in SSA (e.g., telecommunications) raises the issue of potential undue market/pricing power in the transport logistic chain as well as of profit transfers from one group subsidiary to another (e.g., in Cameroon, in 2003, 30.5% of Camrail rail concession revenues were generated by companies affiliated with the rail operator's owner). The same concern could apply to companies like Maersk which combine extensive port and shipping lines operations in SSA.



Source: see Annex A

Figure 2: Footprint of major groups in transport and productive sectors in selected countries

8. The second category of operators, among whom the most prominent ones are RITES from India in the railway sector and ITCSI from the Philippines⁹ in the port sector, is characterized by an investment focus on rail and port operations only; thus suggesting that these operations can be sufficiently profitable to attract non-vertically

⁹ Although ITCSI is a Philippino-based company, its primary shareholder since 2001 is Hutchinson Holding, a Hong Kong-based port operator.

integrated private operators. There are some concerns, however, that since the business case for these limited investment ventures is often weak, especially in the rail sector¹⁰, the companies that go after these concessions might be driven, in part, by the financial benefits that can be extracted from managing large investment plans financed for the most part from Governments rather than from business cash flows.

9. With these concerns in mind, the Africa Region elected to carry out this Economic and Sector Work (ESW) whose initially stated objectives were: 1) to identify undue market/pricing power risks associated with the concessioning of ports and railways in SSA; and 2) to recommend, if necessary, measures to mitigate these risks. The first objective was later revised to only include railways once it became apparent that good quality information was missing on the financial and traffic activities of ports. This problem arose primarily for two reasons: 1) Dar Es Salaam and Douala ports had the only operating concessions at the time of the study which drastically limited the value of any comparative analysis of costs and service quality between each port, and 2) port operations, unlike railway freight operations, include a host of activities that remain outside the port concessionaire's control (e.g., piloting, docking, bulk cargo handling, Ro/Ro traffic, dredging, etc.), thus making it extremely difficult to ascertain the impact of a concessionaire's services pricing policy on total port users' costs (including that of shipping lines which might be controlled by the port concessionaire's parent company). Additionally, a third objective was added to the study, namely, the analysis of the financial issues related to the various concessioning structures used in railway privatization in SSA, in order to provide Governments with guidance on the most desirable ways to secure financing for railway infrastructure rehabilitation.

II. Scope and approach

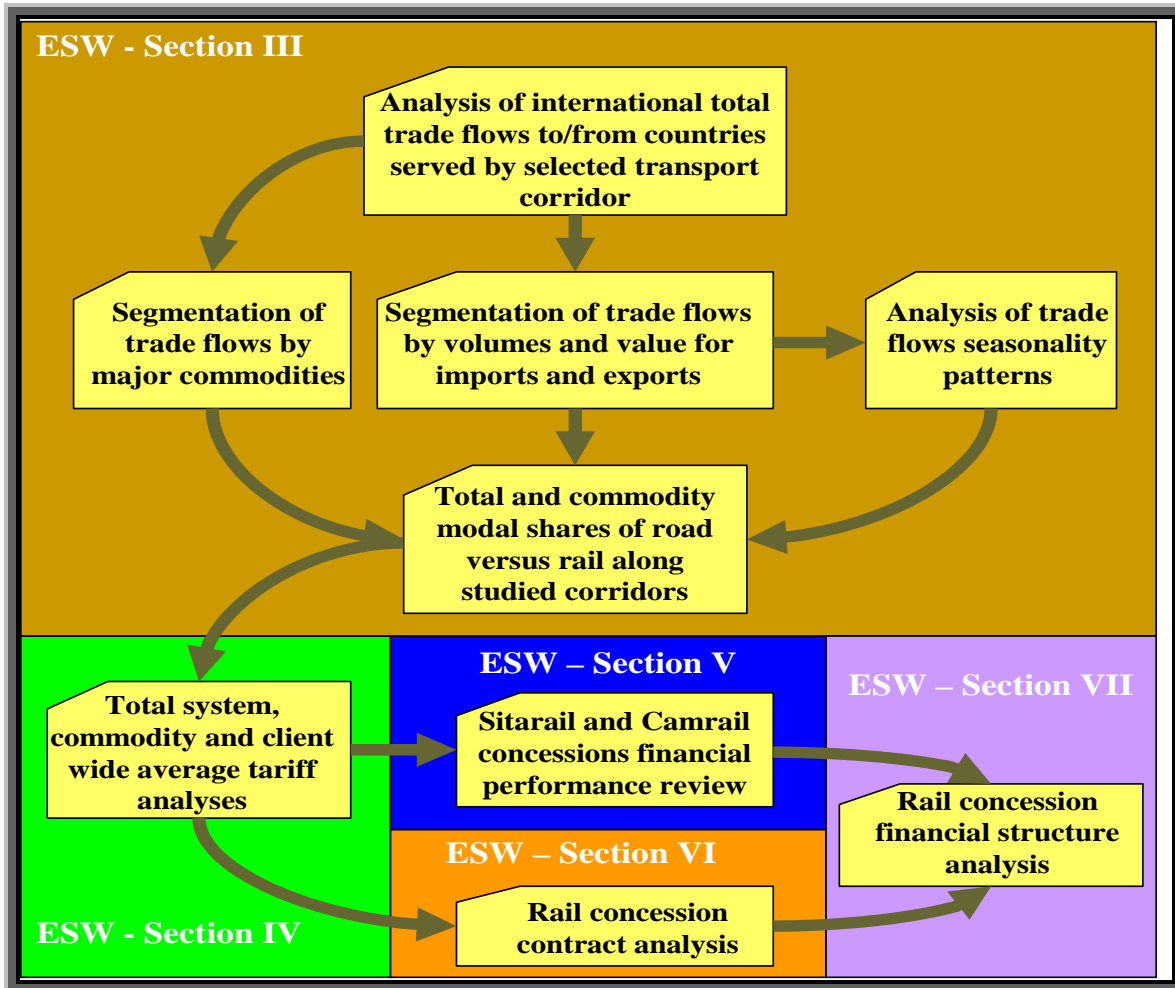
10. The ESW is organized in the following eight sections:

- Section I: Introduction
- Section II: Scope and approach
- Section III: Market analysis of railway concessions
- Section IV: Tariff analysis of railway concessions
- Section V: Financial performance analysis of railway concessions
- Section VI: Contract review of railway concessions
- Section VII: Railway concessions financial structure analysis
- Section VIII: Conclusions and recommendations

11. Following the introduction (i.e., Section I), Section II defines the nature of the monopolistic risks associated with railway concessions and presents the scope and approach used to identify them. Section III then elaborates on the characteristics of the transport corridors served by each railway in order to ascertain what market shares they have achieved with a view to evaluating their respective competitive strengths as a proxy

¹⁰ In the case of Beira railway concession in Mozambique which was awarded to RITES in 2004, one of the bidder (i.e., a Chinese consortium) presented financial proposals wherein calculated return on equity was only 2%.

to their potential ability to exercise monopolistic powers (see Figure 3). This analysis is followed in Section IV by a review of the relationship, or lack thereof, which exists between market share and tariff levels in this sector as well as the impact that intermodal competition with trucks can have on railway tariff setting policies. Building on the findings from sections III and IV, Section V details the financial performances of the two oldest railway concessions in Africa (i.e., Camrail and Sitarail) to see if either one of them displays profitability levels that could imply monopolistic powers. Meanwhile Section VI presents an in-depth analysis of railway concession contracts to see if any of their clauses provide rail operators with opportunities to exercise monopolistic powers vis-à-vis their Conceding Authorities (i.e., the Government), clients or competitors. Section VII expands on the study’s earlier findings to review how railway size, requirement for investment and financial prospects are useful indicators for Government to devise the most appropriate railway concession structure. Finally, Section VIII presents a set of conclusions and recommendations aimed at underscoring issues and potential solutions to existing railway concession structure, operations and regulations challenges.



Source: see Annex A

Figure 3: Economic and sector work top/down analytical approach

12. Strictly defined, a monopoly exists in a market in which a single seller offers a service or a good for which no other substitute exists and into which other sellers are restricted or prohibited from entering. The monopolist's ability to price his services or products is constrained by their price elasticity. Accordingly, a monopolist will seek to establish a price that will maximize his total profits by taking into consideration his production costs for various levels of outputs. In contrast, in a competitive environment, price levels will tend to be mostly dictated by the intensity level of the competition that prevails, and gravitate toward marginal cost. Thus, a number of factors other than the seller's costs will influence how prices will be set by sellers in such an environment. This differing approach to pricing constitutes one of the most fundamental distinctions that exist between a monopolistic market and a competitive market. Indeed, by sole virtue of the degree of control that he has over the price and production decision in his industry and/or service, a monopolist is considered to have market power. Therefore, in the absence of strict and enforced regulations, it is possible that a monopolist may be able to earn relatively high profits by pricing substantially above his variable costs.

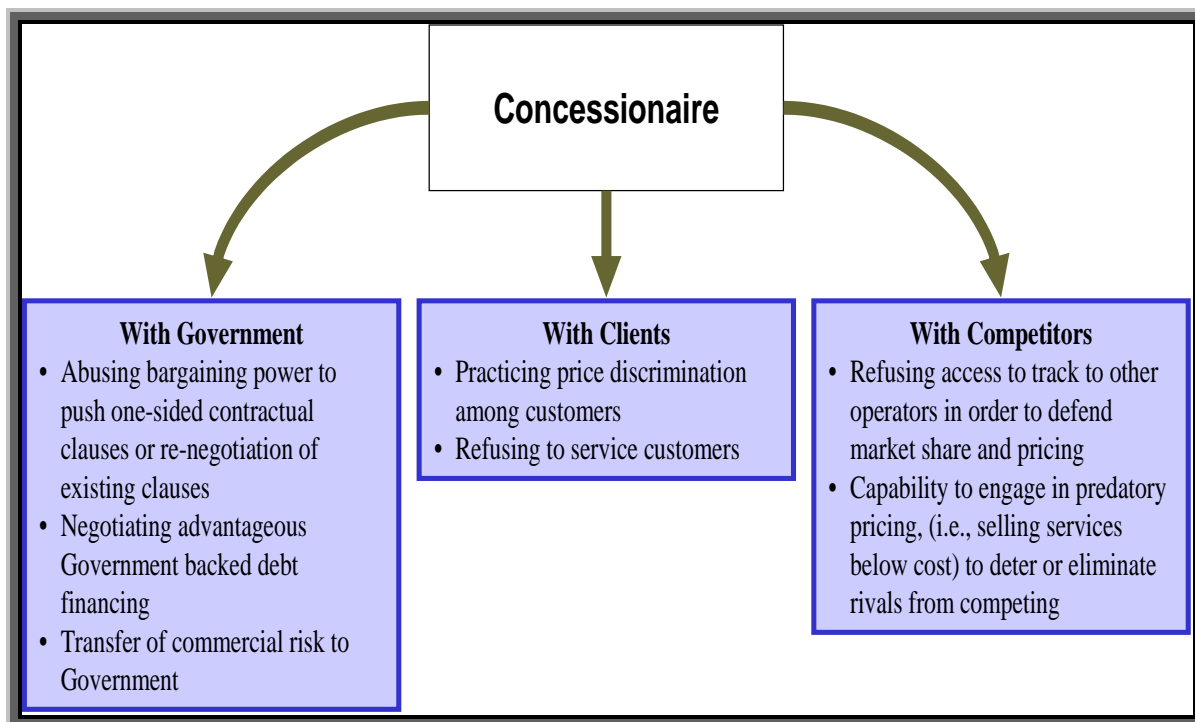
13. Since all the existing concessioned railways in SSA are subject to some sort of intermodal competition along some or all of the routes they serve, the analysis of monopolistic risks in railway concessions focuses first and foremost on the level of market power that each rail operator can exercise. Market power in this case is not only defined in terms of market shares, tariff levels and, ultimately, financial profitability but also in terms of the Government's regulation of rail operations (i.e., via the concession contract or otherwise) as well as its implicit/explicit support to a concessionaire. Moreover, market power is analyzed with consideration on how it affects Governments, concessionaires' clients and competitors (see Figure 4) while keeping in mind that, although significant information exists on the contractual and financial relations between concessionaires and Governments, and concessionaires and their clients, far fewer data are available on competitors. In this latter case, the difficulty of obtaining quality information is particularly hard to overcome as railway operators in SSA compete, for the most part, with hundreds of informal truck companies for which financial and operating statistics are scarce.

14. Five transport corridors involving either a port, or a railway concession, or both, are studied in this ESW. These are:

- Dakar / Bamako (Senegal and Mali);
- Abidjan / Ouagadougou (Côte d'Ivoire and Burkina Faso);
- Douala / Ngaoundéré (Cameroun);
- Toamasina /Antananarivo (Madagascar); and
- Dar es Salaam / Mwanza & Kigoma (Tanzania).

15. In the case of the Dakar/Bamako transport corridor, the railway freight operations were taken over by a Canadian led private consortium (i.e., CANAC-GETMA) in late 2003 under a 25 year concession agreement (see Figure 5). Subsequently, CANAC-GETMA was acquired in 2005 by the American firm Savage Services Corporation. Meanwhile, the activities of the Port of Dakar have remained under Government control

through a State owned port authority, although all stevedoring activities are carried out by private operators under separate licensing agreements.



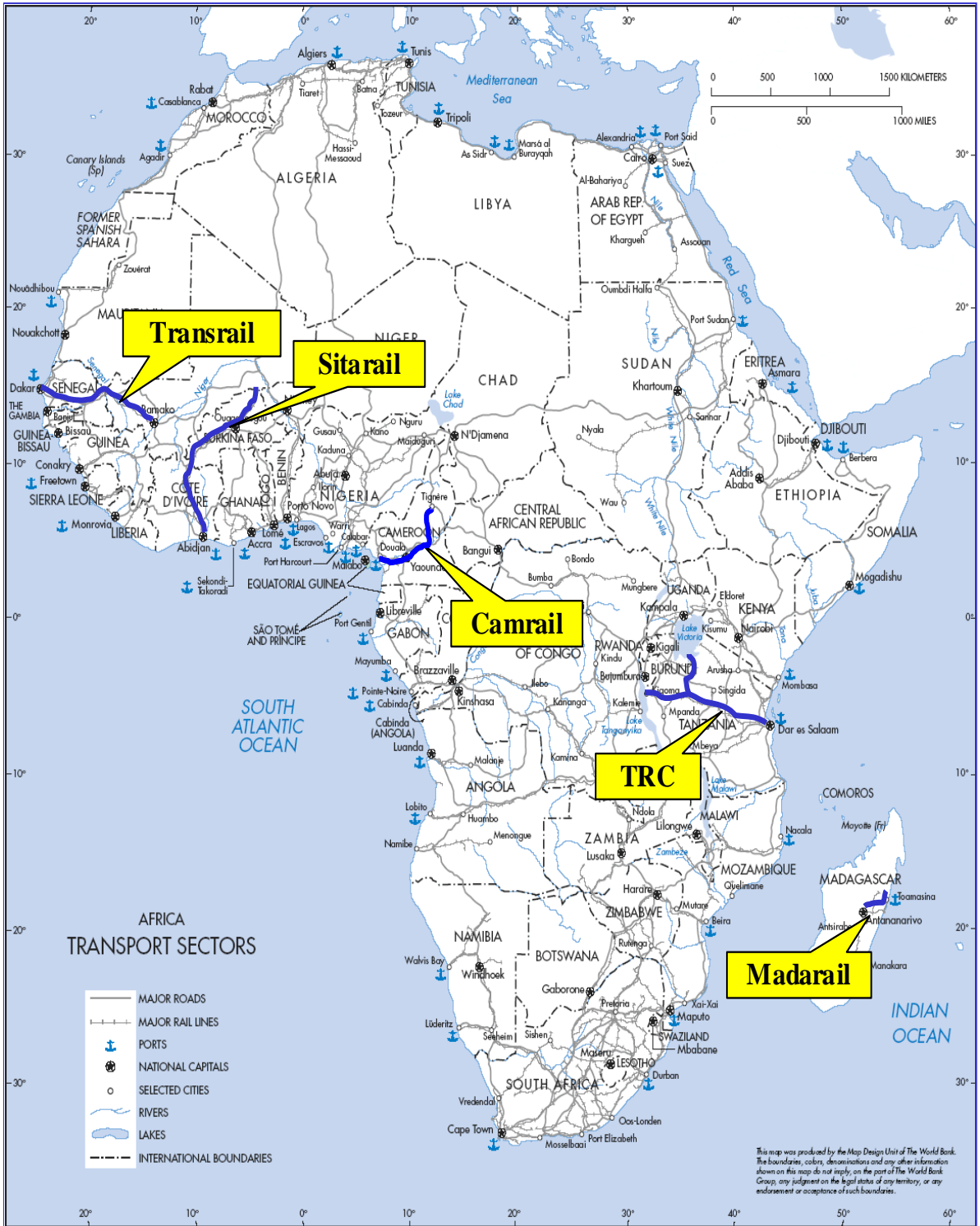
Source: see Annex A

Figure 4: Types of excessive market/pricing power possibilities

16. The Abidjan/Ouagadougou transport corridor boasts the oldest railway concession in Africa (i.e., Sitarail) which has been in operation since late 1995 and whose primary shareholder is the Bolloré group via its SAGA/SDV subsidiary. In 2004, the same group was awarded the concession to operate the container terminal of the port of Abidjan (the largest of its kind in West-Africa) temporarily (and controversially), on a sole source basis. At this time, a more formal and permanent concession through a transparent award process has yet to be implemented.

17. The Douala/Yaoundé transport corridor is the only one among the five studied corridors where both the railway and the port (i.e., the terminal container only) have been concessioned. In the case of the rail activities, this process took place in 1999 when a private consortium led by Bolloré was awarded a 20-year concession for the railway. This rail line, like that between Dar es Salaam and Mwanza, is unique as it operates as part of an international intermodal corridor where rail traffic to Chad and the Central African Republic is unloaded onto trucks at its northern end in Ngaoundéré before reaching both countries. At the southern end of the line lays the port of Douala whose container terminal was concessioned in mid 2004¹¹. This concession was awarded to a consortium led by APM terminal, a subsidiary of Maersk, with Bolloré as its second largest shareholder.

¹¹ Following the creation of the Port Autonome de Douala in 1998, its container terminal management was awarded to a group of stevedoring companies under a management contract in 2001.



Source: see Annex A

Figure 5 : Footprint of selected rail corridors in Africa

18. The Toamasina/Antananarivo transport corridor is Madagascar’s primary import/export corridor. It links Madagascar’s capital city, Antananarivo, with the country’s largest port (i.e., Toamasina). Following a call for bids, its container terminal

activities were concessioned to International Container Terminal Services (ICTS) in June 2005. Likewise, the railway along this corridor was concessioned to a private operator (i.e., Madarail) in October 2003 whose main shareholder is Comazar itself a subsidiary of the South African's firm Sheltam which was awarded the Kenya/Uganda railway concession in mid-2006.

19. The last corridor studied in this note - Dar es Salaam/Mwanza & Kigoma - is the only one where the operations of the Tanzania Railway Corporation (TRC) have yet to be taken over by a private operator although the tendering process has now been completed and RITES has been designated as the preferred bidder¹². Likewise, it is the only other corridor with an operating port concession. This concession was awarded to ICTS in 2000 for a length of 10 years.

III. Market analysis of railway concessions

Corridor trade flows

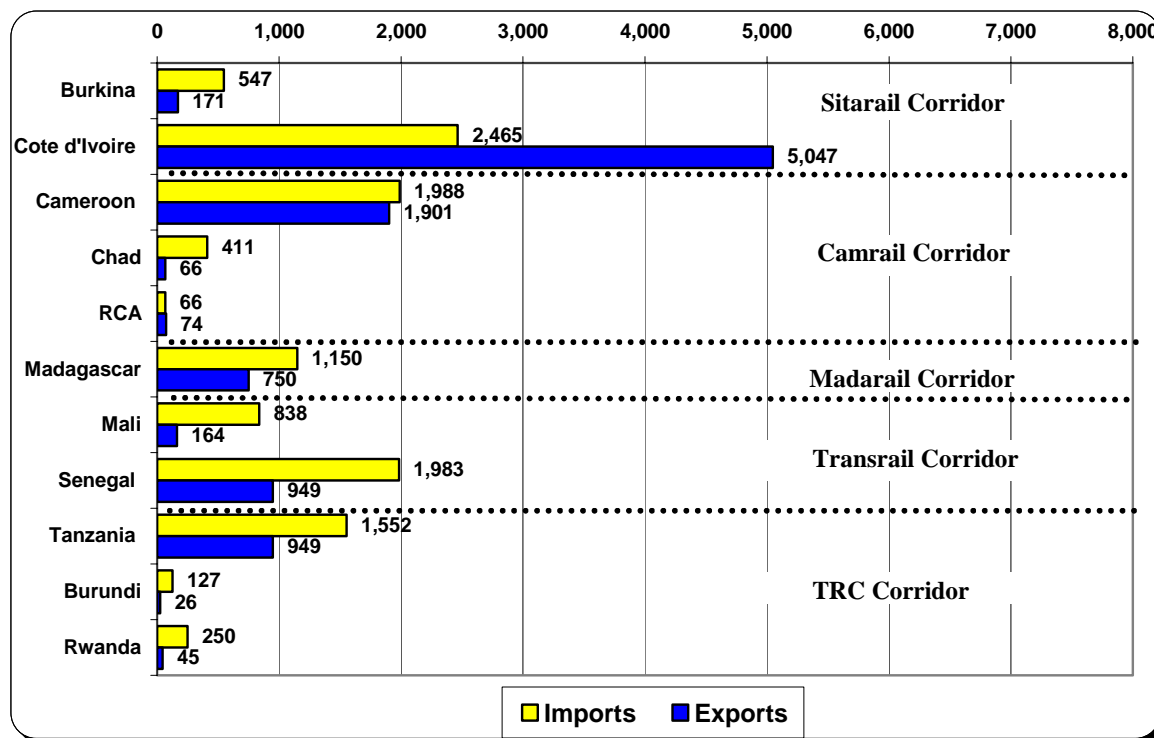
20. Trade flows in SSA are highly unbalanced, both in volumes and in values. Although value and volume measures tend to be correlated, it is useful to differentiate them as both volumes and values drive commercial tariff settings for goods. In the case of the corridors researched in this ESW, international exports and imports were analyzed not only for the countries where the railways are located but also for those countries that, through intermodal services, are served by railway services (e.g., Chad and Central African Republic - CAR - in the case of Camrail, see Figure 5). Domestic as well as regional trades information were also taken into account if relevant data existed and when it was clear that a significant portion of a rail operator's revenues were derived from either or both types of trade.

21. As shown in Figure 6, total international trade values in all five corridors varied considerably in 2002 from a high point of US 8.6 billion in the case of the Sitarail corridor to a low point of USD 1.9 billion in the case of the Madarail corridor¹³. Although informative, these figures can be misleading since only a portion of international trade is serviceable by railway operators. Indeed, truck transportation is usually cheaper on distances of less than 500 kilometers (in the case of Côte d'Ivoire, the lion's share of the goods imported for local consumption is distributed within the greater Abidjan metropolitan area) as well as more flexible in the case of low volume/high value goods (e.g., electronic equipment). Furthermore, train operators, like their truck counterparts, must wrestle constantly with the negative financial impact that the lopsided relationship between imports and exports volumes/values imposes on them (i.e., they cannot achieve high system wide loading factors as transport capacity used for transporting imported

¹² Comazar was the other bidder for TRC.

¹³ One should note that the Sitarail and Transrail corridors are the only ones where potentially each railway operator, through intermodal services, could expand its services to areas directly served by its competitors. Indeed, Sitarail had started to serve the Malian market before the political troubles in Côte d'Ivoire that forced it to shutdown its activities for nine months between 2002 and 2003. In its existing recovering plan, Sitarail is also planning to build a dry port in Burkina Faso in order to be able to offer services to Malian exporters/importers.

goods exceeds significantly export transport demand). In fact, in all cases but one (i.e., Sitarail corridor), total imports were found to exceed significantly total exports with ratios of imports value over exports value ranging from 2.5 for the Transrail corridor to 1.2 for the Camrail corridor.



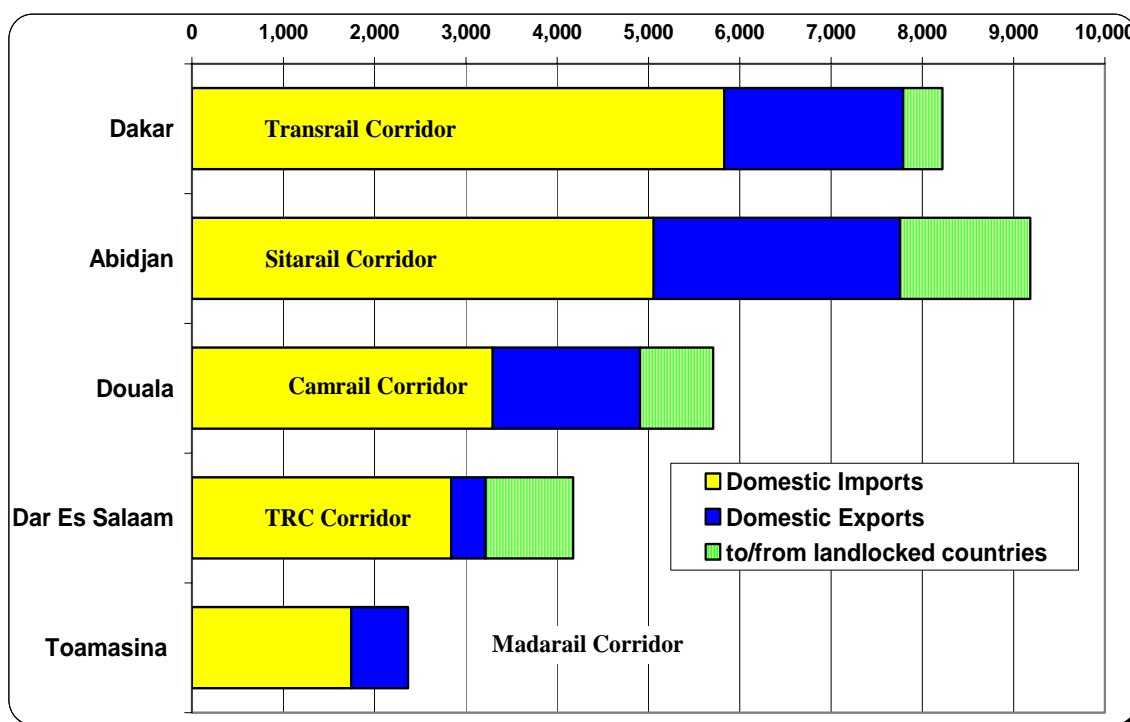
Source: see Annex A

Figure 6: Value of international imports and exports for selected SSA countries in 2002 (USD Millions)

22. In the absence of reliable data, a proxy of the total volume of cargo transported on each corridor was obtained by measuring total imports and exports moving through each corridor's primary port of entry (see Figure 7). While this way of measuring cargo volume is far from perfect, it does give a good idea of the respective magnitude of the merchandise traffic that could be served by each railway. Specifically, traffic to landlocked countries as well as long haul domestic traffic represent the backbone of each railway freight market. In this regard, while both Sitarail and Transrail benefit from the significant size of the cargo volumes generated by the three landlocked countries they compete to serve (i.e., namely Mali, Burkina Faso and Niger for a total of 1.8 million tons in 2001 – See figure 7), they are both handicapped by the limited size of the domestic traffic they can have access to¹⁴ (only a very small portion of domestic

¹⁴ This fact is especially true for Senegal where most of the country's economic activity and population centers are located on a North/South corridor parallel to the Atlantic Coast while the railway line was designed specifically to connect Dakar to Bamako along an East/West corridor. For Côte d'Ivoire, it is worth noting that about a 1/3 of the volume recorded at the port of Abidjan as domestic imports/exports is made of petroleum products that get imported as crude oil and re-exported as refined oil by the Société Invoirienne de Raffinage (SIR). Thus, this volume does not generate any transport activities whatsoever.

imports/exports are serviceable by train). On the other hand, both TRC and Camrail can take advantage of the fact that their domestic markets offer significant long haul rail transport potential due to the favorable location of their respective economic centers and non-negligible international traffic to landlocked countries (i.e., 959,000 tons for TRC and 802,000 tons for Camrail). In contrast, Madarail appears to be the operator facing the least favorable freight market environment since it does not boast landlocked country traffic and must compete for most of its freight on the short 375 kilometer stretch that links the port of Toamasina to Madagascar’s capital, Antananarivo.



Source: see Annex A

Figure 7: Volume of international imports and exports (in 000s tons) for selected feeder ports in 2001 (excluding transit traffic)

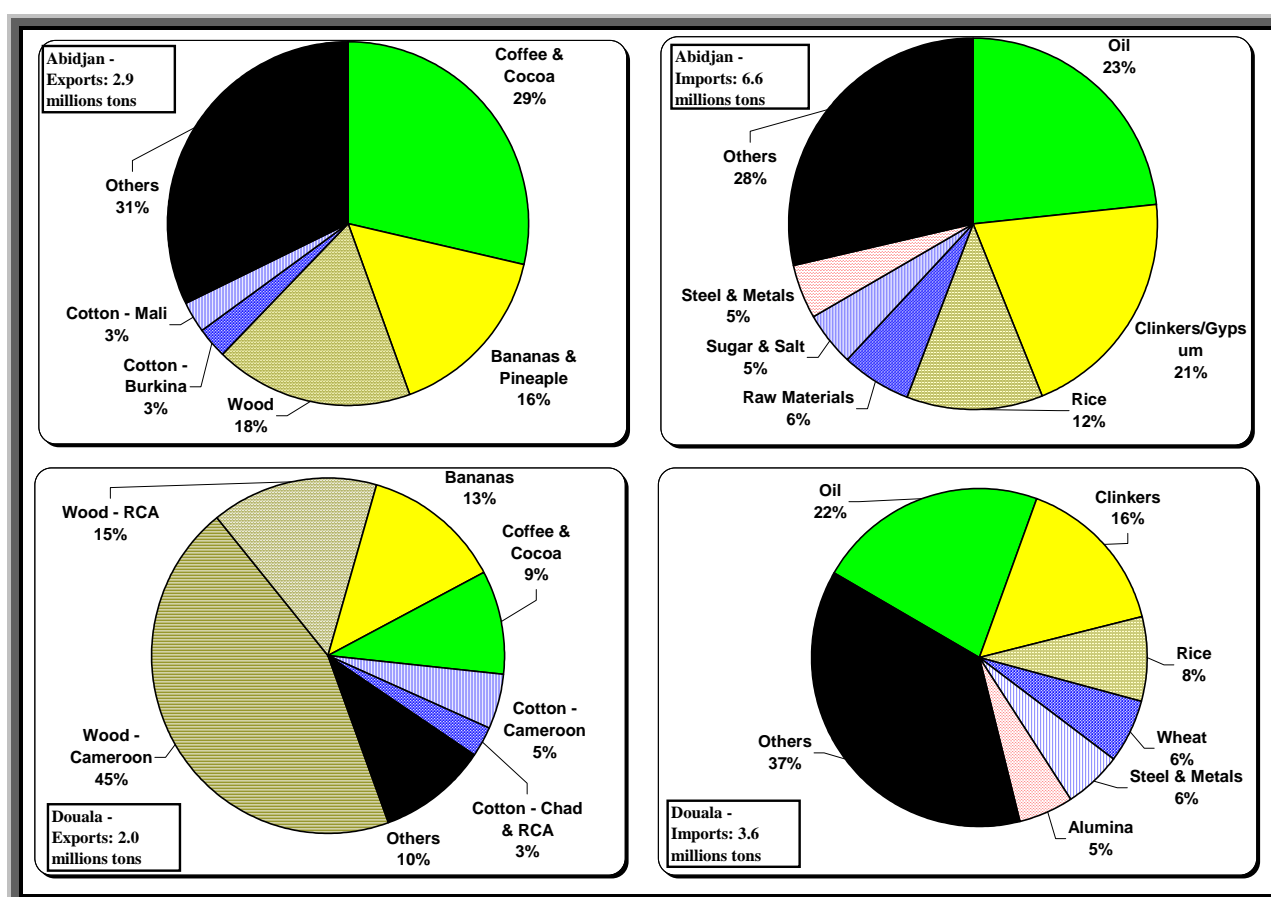
23. Looking forward, all freight markets served by all five railways should benefit, however, from the continuous growth in international trade volumes and values. International trade statistics show that, in all the countries served by these railways, total trade grew from 2 to 8% per year between 1992 and 2003 with averages of 6 to 8% for those countries which were not affected by political upheavals (e.g., Tanzania, Mali).

Corridor Trade Flow Segmentation

24. The analysis of freight segmentation is important for two primary reasons. First it helps identify the freight segments where rail operators are likely to be at a competitive advantage (e.g., traditionally liquid and dry bulk such as petroleum products and grain). Second, it provides a clear indication of which market segment is likely to sustain undue market/pricing power. Indeed, the overall market share achieved by a railway operator in

a corridor is usually not a good indicator of its market pricing power since it does not account for differences in market shares from one freight segment to another.

25. An analysis of the import and export volumes of the ports of Douala and Abidjan shows that strong and distinct transport demand patterns exist in the trade corridors served by these two ports (see Figure 8). On the import side, both corridors' top three products are the same (i.e., Oil, Clinker and Rice – see Figure 8) and represent, respectively, 56 and 46% of total import volumes for Abidjan and Douala ports. On the export side, the same patterns of volume concentration around a few goods emerge with 69 and 90% of Abidjan and Douala exports represented by only four products (i.e., cocoa & coffee, wood, cotton and fruits), respectively. In both cases, the structure of imports seems favorable to rail operators as it involves large quantities of non time-sensitive bulk goods for which transport is cheaper if the distance is greater than 500 kilometers.



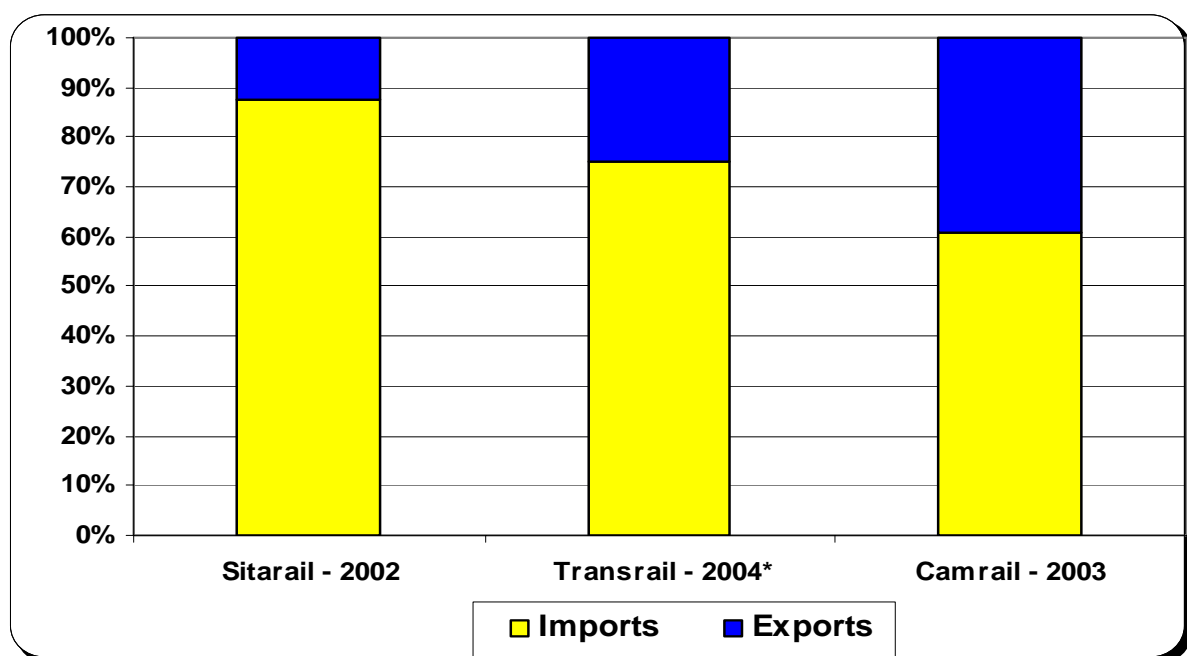
Source: see Annex A

Figure 8: Breakdown of exports and imports volumes for Abidjan and Douala ports in 2001

Corridor trade flow seasonality

26. One of the main issues facing rail operators worldwide is their ability to adjust their transport supply throughout the year in order to respond to trade flow seasonality patterns. This is an especially hard exercise in SSA as seasonality patterns in Africa are exacerbated by the nature of the goods transported. Indeed, as shown in Figure 8, exports

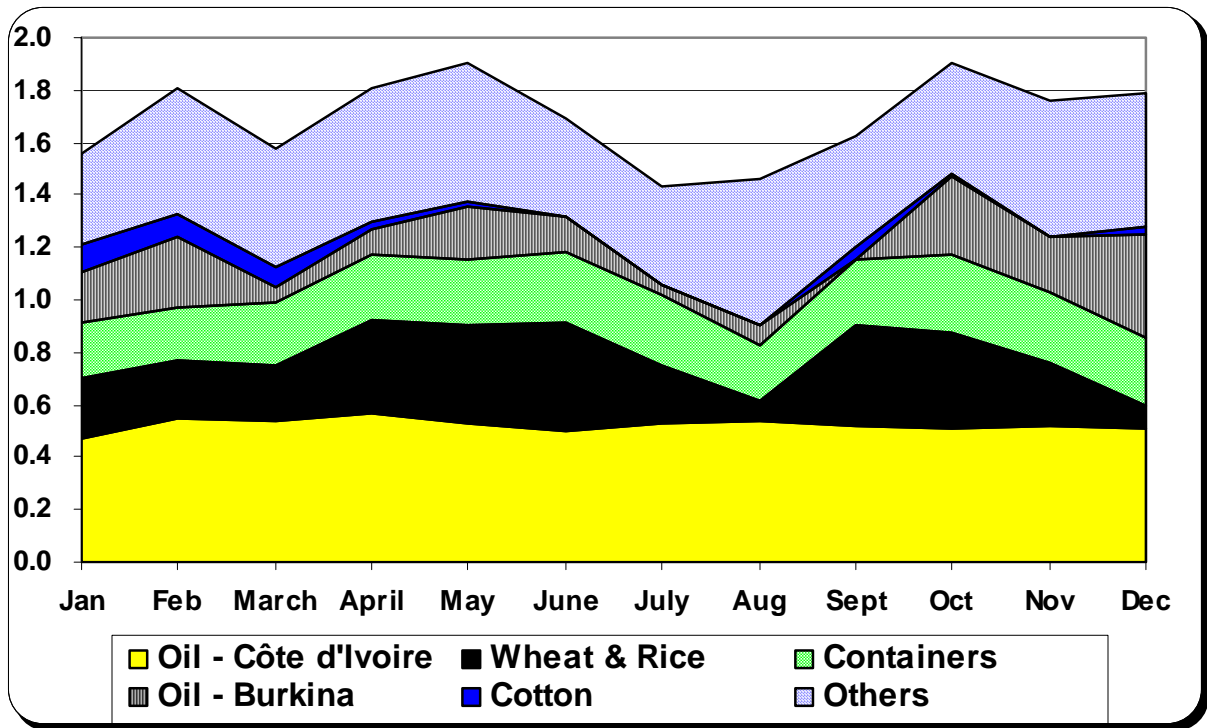
out of SSA tend to consist primarily of agricultural products whose yearly production naturally follows specific harvest cycles. Furthermore, unlike imports which arrive for the most part at the same location continuously (at the primary port of entry) and tend to be consumed and distributed at/from major urban centers connected to a rail line, exports are often generated from hundreds of dispersed production centers which are rarely located near a rail line. In order to service the export market, rail operators must therefore rely on a web of feeder trucks which require the development of complex and reliable intermodal services. As these services are not commonly found in SSA, it is not surprising that most rail operators' freight volumes are generated by imports. As illustrated in Figure 9, imported goods account anywhere from 61 to 88% of Sitarail, Transrail and Camrail total freight volumes.



* Transrail's figures are based on first 10 months of 2004 - Source: see Annex A

Figure 9: Breakdown of traffic volumes measured in ton/kilometers between imports and exports for selected railways

27. The structure of rail operator freight markets is dominated by imported goods that favor stability in rail transport volumes. However, since detailed and reliable data on monthly volume patterns do not exist, month-to-month freight revenues were used instead to illustrate this finding. For instance, Sitarail's monthly revenues in 2001 varied between a low point of Francs CFA (FCFA) 1.43 billion in July to a peak of FCFA 1.91 billion in May, or a variation of 32.7% between both months (see Figure 10). This significant difference resulted into a maximum variation of monthly revenues of only +/- 15% when considering average monthly revenues as a reference, thus suggesting a fairly stable year round activity level for this rail operator.



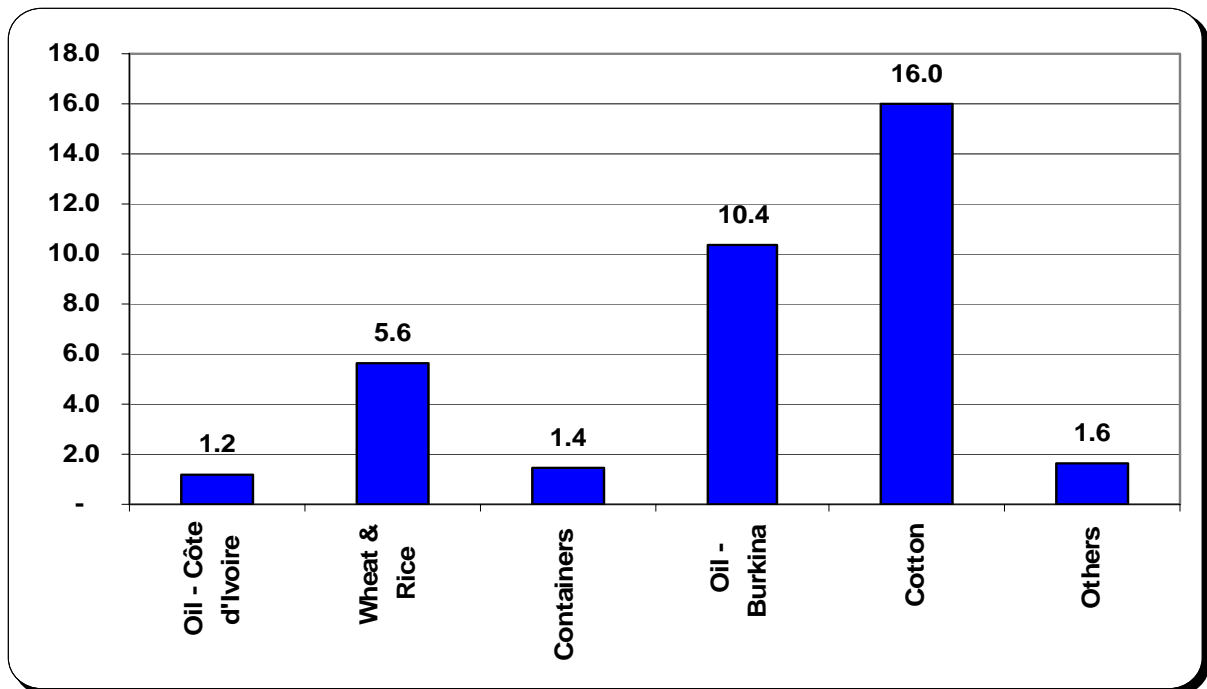
Source: see Annex A

Figure 10: Variations in monthly freight revenues for Sitarail in 2001 (in billions of FCFA)

28. Among the main product types transported by Sitarail, cotton, which is exported from Burkina Faso displayed the highest volatility index in 2001 with a calculated 16 fold difference between the highest and lowest month of activities (see Figure 11). This level of volatility exceeded by far that of any other type of goods transported by the rail operator. Its impact on Sitarail business, however, was minimal as cotton represented, in 2001, only 3.3% of Sitarail traffic in Ton-kilometer (Tkm) and 2.5% of its revenues.

Railway market share analysis

29. All five railway corridors studied in this ESW are subject to road competition. Furthermore, three of them are in a situation of rail-to-rail competition. These are: 1) the corridors served by Sitarail and Transrail (see Figure 5) which are both competing for a share of the Malian import/export market (estimated at more than 1 million tons in 2003) and, 2) TRC which is vying with the Kenyan/Ugandan railways for a share of the Ugandan and Burundi/Rwanda import/export market (i.e., estimated, respectively, at 2,000,000 and 960,000 tons in 2004 and 2003).



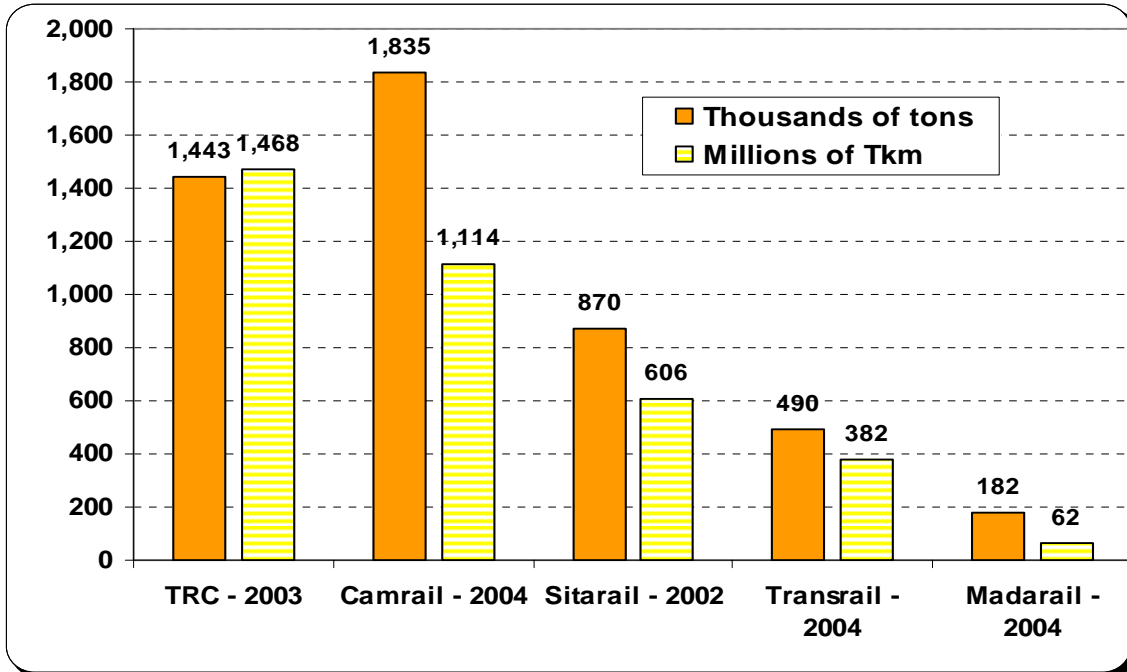
Source: see Annex A

Figure 11: Transport activity volatility index by type of goods- Sitarail in 2001¹⁵

30. The market share analysis of the rail operators along these corridors did not take into account rail-to-rail competition, due to lack of data. Furthermore, in order to truly reflect the competitive positioning of each rail operator, only domestic and international freight estimated to be transported along these corridors was analyzed. Figures 12, 13, 14, 15 and 16 present an overview of:

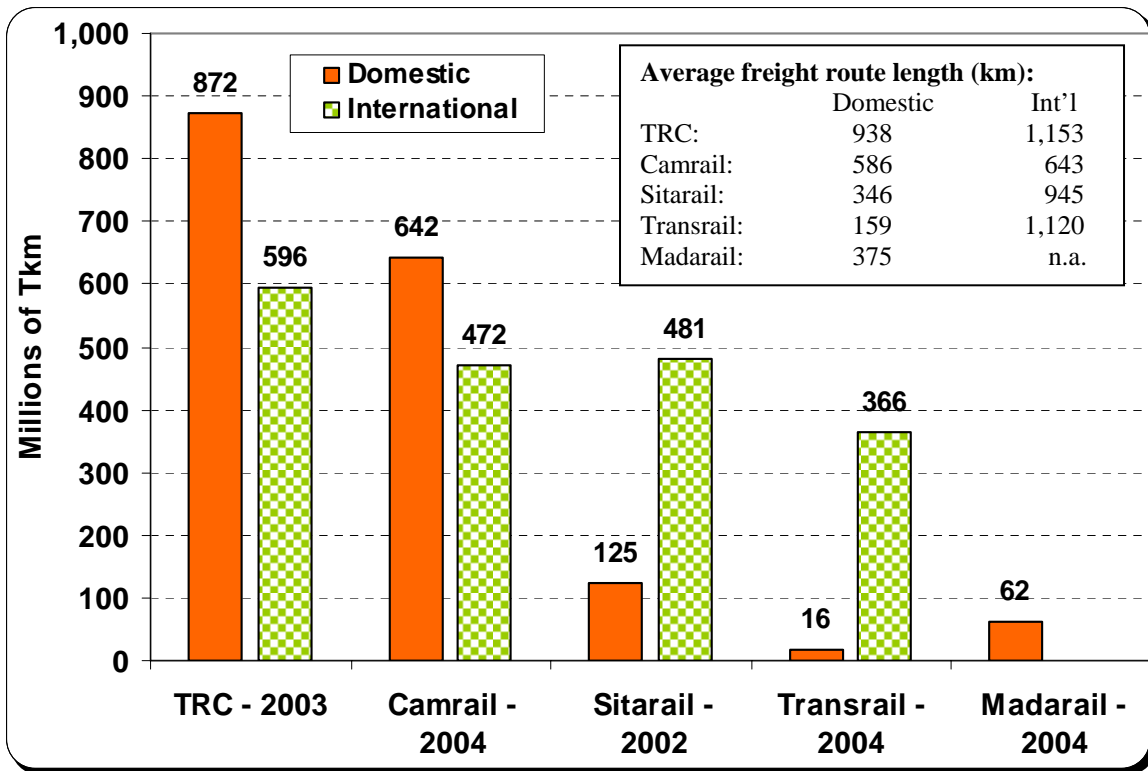
- The level of freight carried by each rail operator (see Figure 12),
- The distribution of freight volumes between domestic and international markets for these operators (see Figure 13),
- The estimated market share of each rail operator in their respective domestic and international markets (see Figure 14),
- The average revenue per Tkm transported for all five rail operators with the addition of a sixth one (namely the Chemin de Fer du Congo Ocean – CFCO - see Figure 15) for benchmarking purpose, and
- An analysis of the relationship, or lack thereof, between market share and average revenues for TRC (see Figure 16).

¹⁵ Index calculation excludes months during which no activities were recorded for any type of goods and is based on monthly generated revenues.



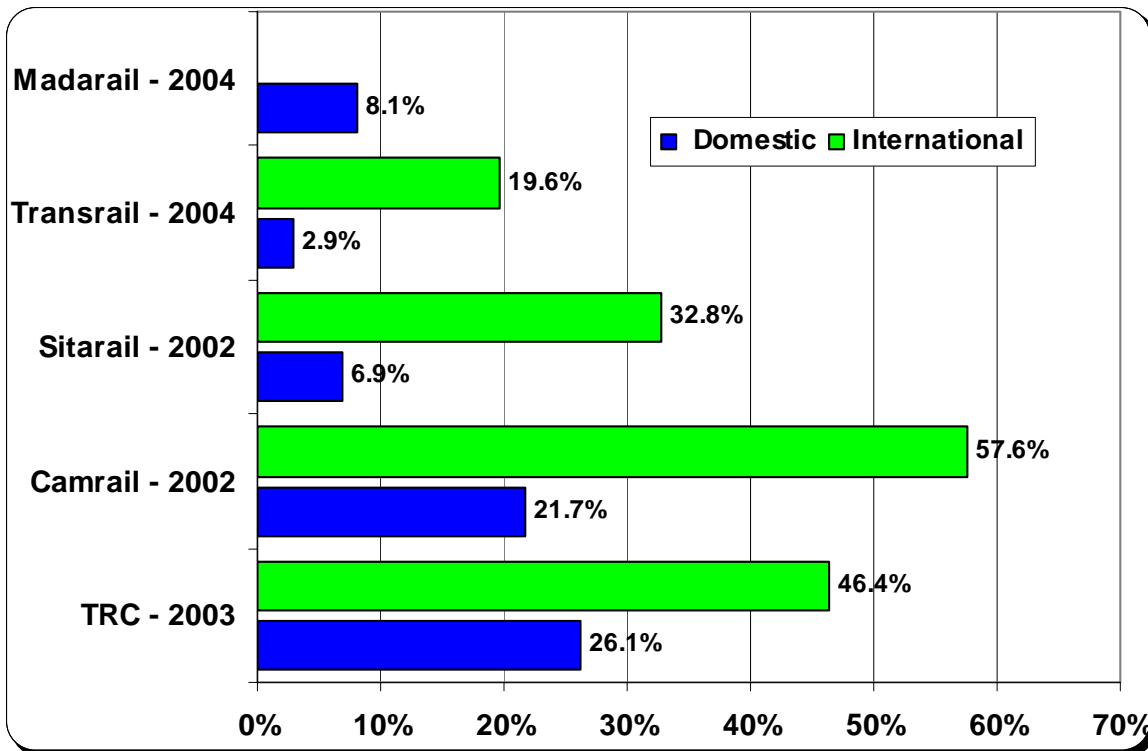
Source: see Annex A

Figure 12: Railway operators freight transport activity levels



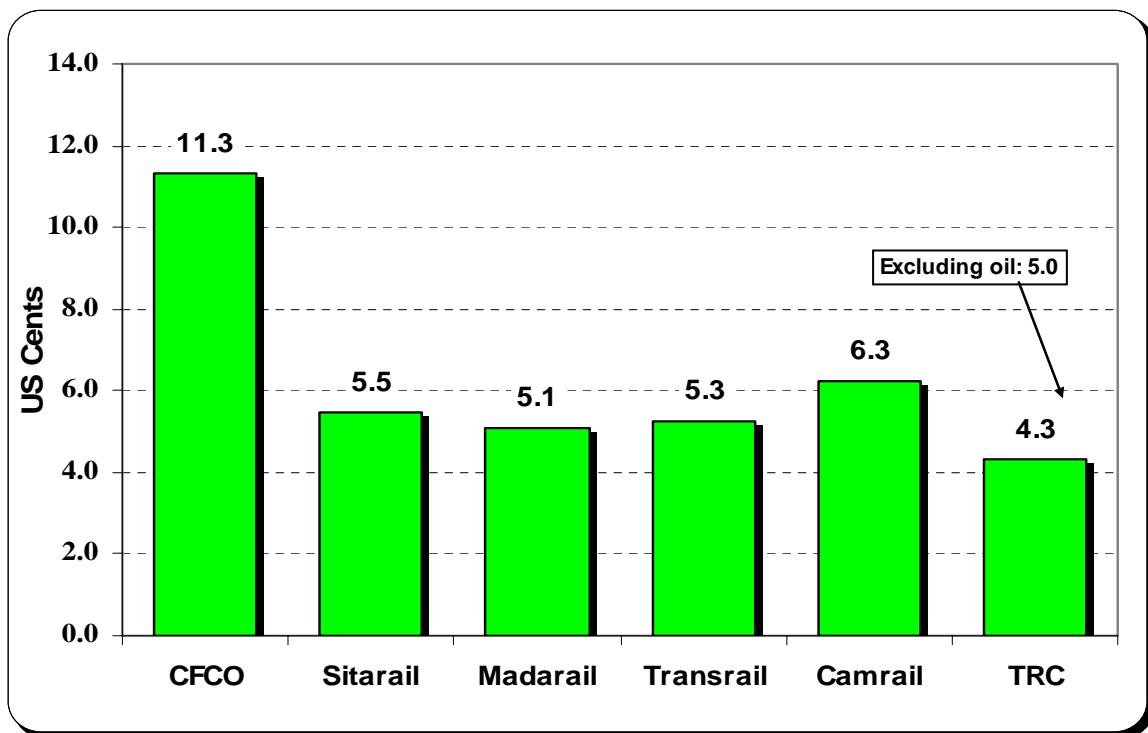
Source: see Annex A

Figure 13: Railway operators' freight transport activity levels by market



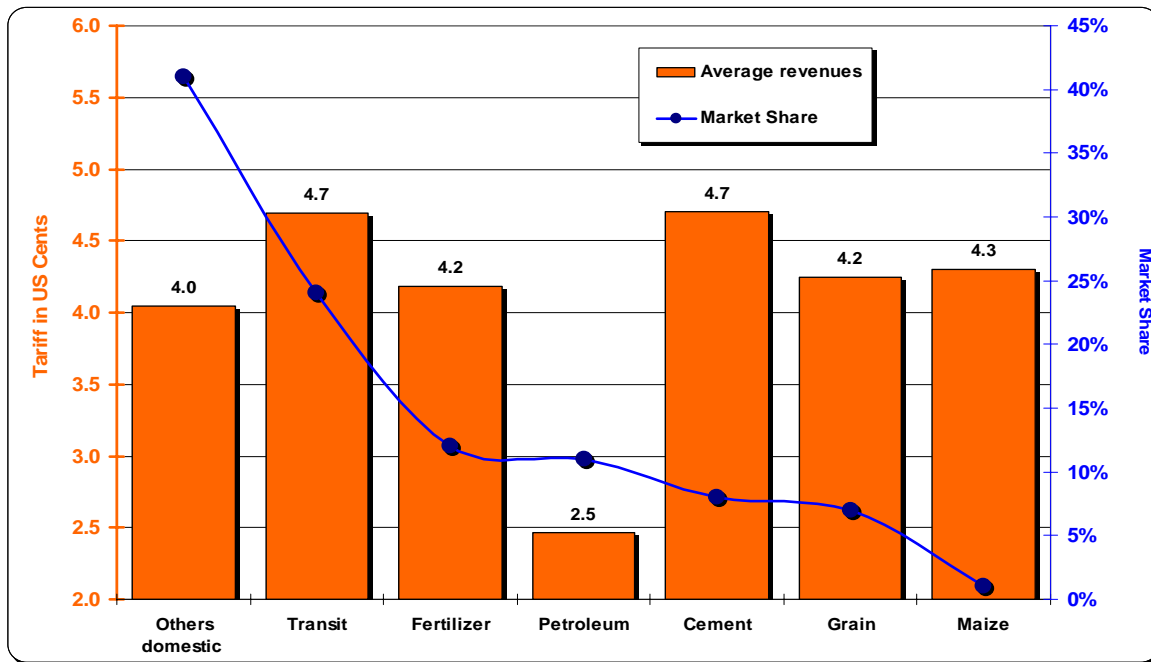
Source: see Annex A

Figure 14: Railway operators estimated corridor freight market share



Source: see Annex A

Figure 15: Railway operators' average revenues per Tkm in 2003/2004



Source: see Annex A

Figure 16: TRC market share and revenue analysis per type of goods – 2003¹⁶

31. From the review of the information contained in these figures several noteworthy patterns emerge:

- There is a strong correlation between average freight hauling distance and rail market share:** As shown in figures 13 and 14, the longer the average freight route, the stronger a rail operator's market share. This fact is exemplified by Camrail, Sitarail and TRC which all enjoy significantly higher market shares on their international versus domestic networks. Furthermore, all three show that differences in market shares can be closely related to increases in average freight hauling distances. Indeed, as presented in Table 1, Sitarail, Camrail and TRC's estimated international market shares are 1.77 to 4.75 times higher than their domestic market shares. At the same time, the average length of their international freight routes is anywhere from 1.10 to 2.73 times greater than their domestic freight routes. Such findings are consistent with current knowledge regarding rail competitiveness vis-à-vis road transport whereas it is a well established fact that rail becomes more competitive as journey length increases.

¹⁶ The commodities listed on this graph represented 64% of TRC total Tkm traffic in 2003. Accordingly, TRC enjoyed then higher market shares on the remaining commodities transported such as a 43% market share on livestock, 27% on gypsum, 56% on coffee and 56% on cotton.

	A	B	C = A/B
	Market share multiple (international over domestic)	Freight hauling distance multiple (international over domestic)	Market share/distance correlation ratio
Camrail	2.65	1.10	2.41
Sitarail	4.75	2.73	1.73
TRC	1.77	1.22	1.45

Source: World Bank, 2006

Table 1: Correlation of railway market shares and average freight hauling distance

- **A higher market share does not appear to translate automatically into greater pricing power:** As shown in Figure 15, all five rail operators generate average revenue per Tkm ranging from a minimum of US Cents 4.3 for TRC to a maximum of US Cents 6.3 for Camrail. If we remove from the calculation of TRC’s average revenue its abnormally low oil tariff¹⁷ (see Figures 15 and 16), all railway operators have then average revenues per Tkm within 26% of each other (i.e., from US Cents 5.0 to US Cents 6.3). This relative homogeneity in revenues (used in this case as a proxy for freight tariffs) is noteworthy as all five rail operators benefit from vastly different market shares in their respective domestic and international markets (i.e., as low as 6.9% domestically for Sitarail and as high as 56.1% internationally for Camrail). This finding suggests that when it comes to pricing power, market share levels, except in cases of near monopoly (i.e., example of the CFCO in the Congo – see Figure 15), do not appear to exert much influence on rail tariffs as long as potential road transport alternatives do exist. This conclusion is reinforced by the information obtained on TRC which shows that transit and commingled domestic traffic (i.e., referred as “other domestic” in Figure 16) does not yield average revenues greater than that of cement (i.e., US cent 4.7/Tkm) although it benefits from a market share four times higher than that of the latter¹⁸.

IV. Tariff analysis of railway concessions

32. Financial information obtained about all five railways did not provide tariff related data per-se but rather total as well as average revenues for each type of transported good. Accordingly, this data was used as a proxy to estimate the level of tariffs actually charged by these operators. Furthermore, in some cases, available information allowed to review tariff practices by customer class as well as analyze the difference as well as the inherent relation linking road to rail tariffs.

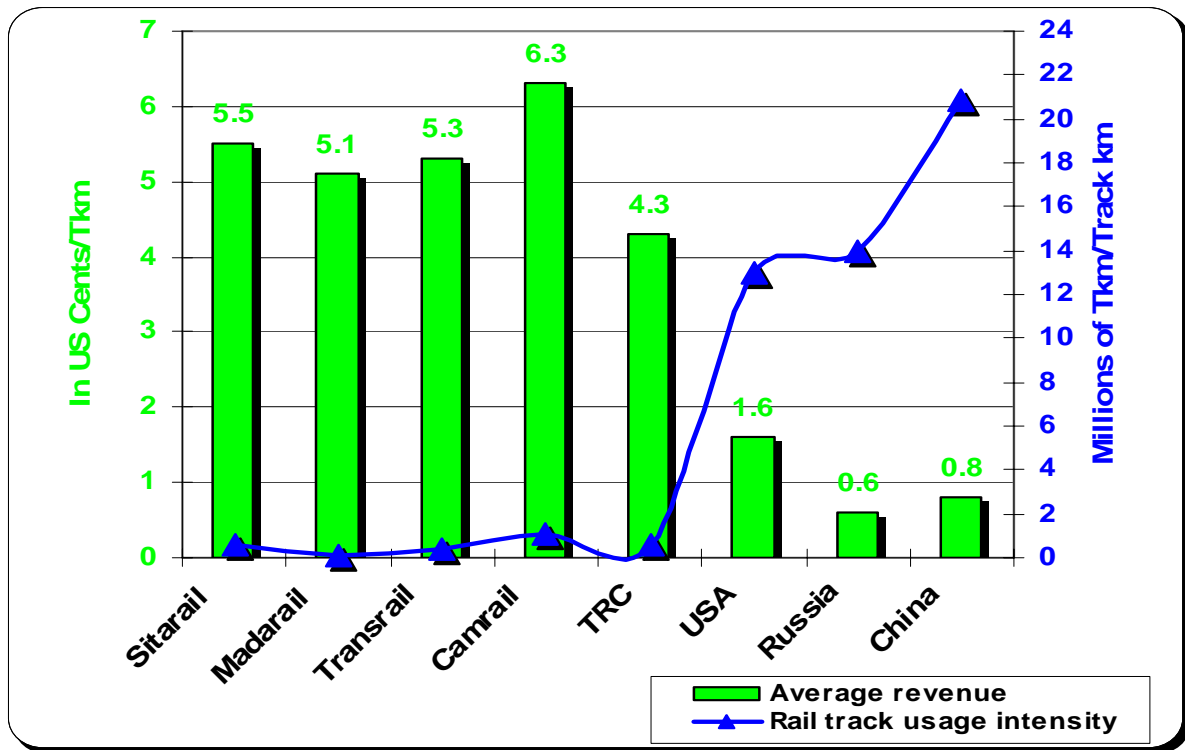
¹⁷ At 2.5 US Cents per Tkm, oil tariff for TRC does not reflect any cost of transportation reality and is driven uniquely by the desire of Government (the current owner of TRC) to subsidize the overall cost of this commodity to consumers.

¹⁸ Similar market share information on distinct types of goods was not available at the time this study was conducted. However, tariff information from the other four rail operators do show that market shares do not have a major impact on tariffs as long as a near market monopoly situation on a freight sub-segment does not exist.

International railway tariff comparison

33. For several reasons African transport systems are among the costliest to operate. One factor that stands out in this regard is the sparse use of transport infrastructure assets. In the case of the five rail operators studied herein, underutilization of fixed infrastructure assets means that for each Tkm transported, the level of fixed operating costs that must be paid by users will tend to be higher than for a railway that benefits from greater traffic volumes.

34. Figure 17 presents empirical, yet admittedly crude, evidence of the cost problem faced by African railway operators by correlating the intensity of fixed infrastructure assets use (defined in this case as the level of Tkm transported per km of track installed) with the average revenues derived from freight operations. As shown, the African railway operators benefit from average revenues per Tkm 2.7 to 10.5 times higher than those of their US, Russian and Chinese counterparts. They are, however, penalized by fixed infrastructure usage ratios 12 to 209 times lower than those of other railway operators. Accordingly, international benchmarking of African railway tariffs alone cannot be used to identify excessive market/pricing power on their part as higher than worldwide average revenues appear to be related, in part, to unfavorable cost structure.



Source: see Annex A

Figure 17: Average revenues and intensity of fixed infrastructure use for selected railways

Road versus rail tariffs

35. The data presented in the rail market analysis section of this ESW strongly suggest that the actual or potential competition from road operators drastically limits railway pricing power, even in situations where they do enjoy commanding market shares (see Figure 16). The impact of road/rail competition appears, nevertheless, to differ noticeably from one corridor to another (see Table 2) as the spread between average road and rail tariffs varied in 2003 from a low point of 44% (i.e., Sitarail) to a high point of 213% (i.e., TRC). Interestingly, 74% of the modal difference in transport tariffs on all corridors appears attributable to variation in road tariffs as rail operators charged average tariffs to their customers within a maximum range of US Cents 2.0 of each other¹⁹ versus US Cents 5.6 for their truck transport counterparts. Such findings seems to indicate that when it comes to road/rail competition, increase in rail competitiveness benefits transport users primarily through lower road rather than rail transport costs²⁰.

Corridor	Rail operator	Average tariffs per Tkm (in US Cents)		Road vs. rail price surcharge
		Road	Rail	
Senegal – Mali	Transrail	7.9	5.3	+ 49%
Côte d’Ivoire – Burkina/Mali	Sitarail	7.9	5.5	+ 44%
Cameroon – Chad	Camrail	11.2	6.3	+81%
Mozambique	CCFB/CFM	10.0	5.5	+82%
Tanzania-Great lakes	TRC	13.5	4.3	+213%

Source: World Bank, 2006

Table 2: Road versus rail tariffs along selected railway corridors – 2003

36. One fundamental aspect of road/rail competition that impacts tariff differences between these two modes relates to Government’s existing policies toward road users. While it is not the intent of this ESW to address this issue, it is critical to underscore that long standing Governments’ policy to provide road infrastructure to users at less than full recovery costs is creating serious competition imbalances in the transport sector. For instance, in Mali in 2002, total estimated yearly needs for routine and periodic road maintenance stood at FCFA 25 billion versus FCFA 16 billion actually earmarked to it, or a 64% cost coverage ratio²¹. Furthermore, none of this money was actually collected as users’ fees. Instead it was all financed through the Government’s general budget implying significant cross-subsidies from non-road to road users. Moreover, none of the road construction money was funded by road users as it partially originated from budget

¹⁹ This difference drops to US Cents 1.2, or 24%, if you compute TRC’s tariffs without fuel traffic.

²⁰ The information provided in Table 2 also allows comparing the pricing competitive situation of three privately operated railways with one state-owned railway (i.e., TRC). In this latter case, one would have expected that TRC would have enjoyed significantly higher market shares on its corridor than Camrail as it benefited in 2003 from a much larger modal cost advantage than the other rail operators. Clearly, TRC’s failure to take advantage of this positive environment highlights both its marketing and service transport capacity problems. As a state-owned enterprise, TRC seems to have been unable to rapidly adjust its tariffs upward in an environment of transport capacity shortages (unlike its trucking company counterparts). Instead, it has maintained non-market driven tariffs in order to continue its fierce competition for the transit traffic with the Kenyan railway state-owned operator whose tariffs are also set artificially low.

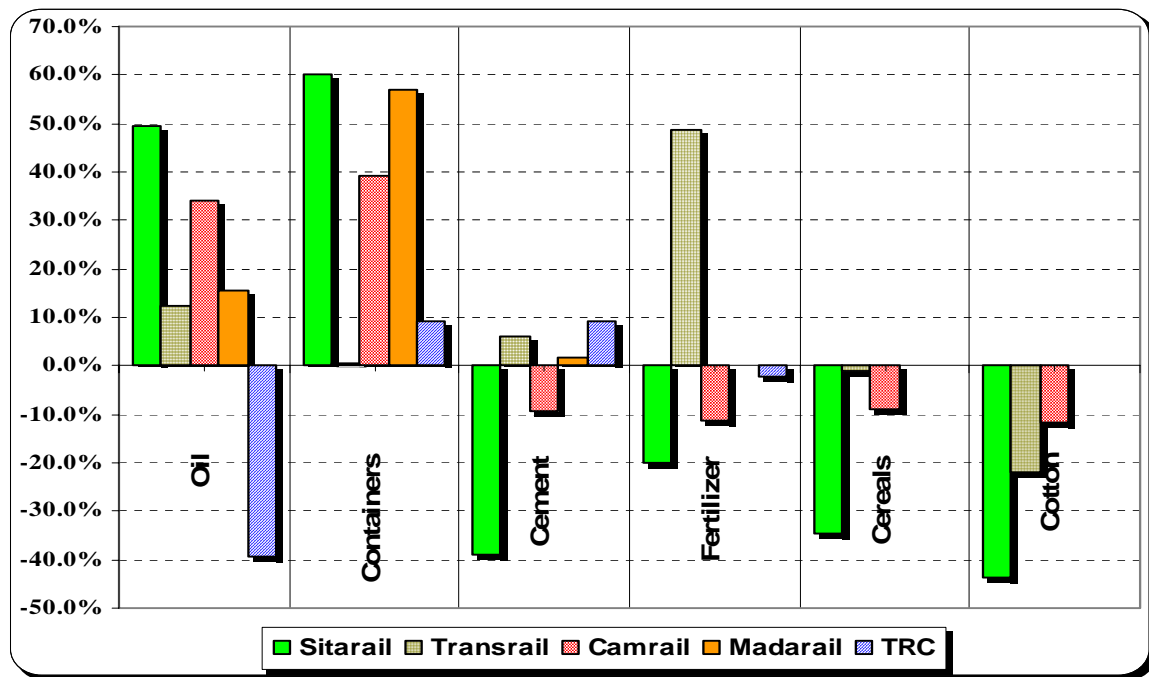
²¹ Source: Republic of Mali - Transport Support to Sustainable Economic Growth, June 25th, 2004, the World Bank.

resources but mostly from external financing (i.e., IFIs), thus leaving only a fraction of total road costs to be financed by road users.

37. While some progress is being made in SSA to get road users to finance a greater portion of the costs they generate through the implementation of road funds, it is obvious that an important users' financing gap will continue to exist in this sub-sector for decades to come. Although this fact may not have mattered in the past as railways were owned and operated by Governments (i.e., total Governments subsidies for both modes remained roughly the same), the introduction of private operators which are expected to fully cover their infrastructure maintenance and rehabilitation costs through users' fees should alter significantly Governments' thinking in this area. Indeed, this is an area that would benefit greatly from further study as there is limited literature currently addressing it.

Rail commodity tariff analysis

38. While overall differences in tariffs between rail and road operators along the same corridor can be important, at the commodity level rail operators' tariffs tend also to differ significantly. Figure 18 presents an analysis of the variations in commodity tariff levels for all five rail operators. It shows that, when comparing individual commodity tariffs with average tariffs charged by each railway²², certain commodities appear to be systematically priced higher or lower than others. More specifically, high value ones such as oil and containers enjoy tariffs anywhere from 10 to 60% higher than average (in the case of Camrail, Sitarail and Madarail) while others, mainly low value agricultural ones, are priced well below average (anywhere from 10 to 40% less).

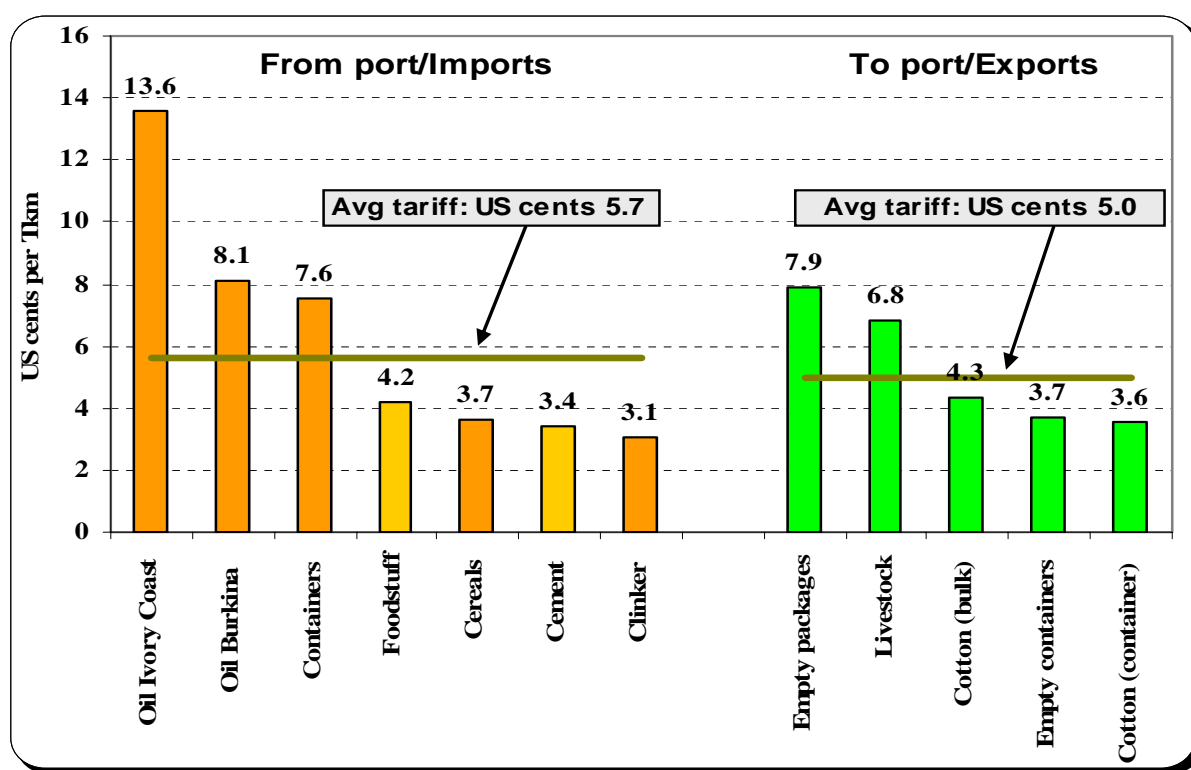


Source: see Annex A

Figure 18: Spread between individual tariffs and total average tariffs for selected railways

²² Average tariffs are calculated as: total revenues/total Tkm for each railway.

39. Although some rail operators' tariff structure seem to differ from these trends (i.e., TRC's pricing structure does not reflect either the commodity value or the rail competitive situation – see footnote 16), the data presented in Figure 18 provides ample evidences that a stronger correlation exists between commodity value and tariff levels than railway commodity market shares and tariff levels. Furthermore, in the case of African railways, chronic imbalance between import and export volumes (i.e., see Figure 9) reinforces operators' pricing power when it comes to high value commodities as these are imported within an environment of tight transport supply. The opposite finding applies to low value exported commodities whose railway and truck tariffs are further depressed by the less favorable balance that exists between transport demand and supply on the export market. For instance, in the case of Sitarail, in 2001, the difference between average import and export commodity tariffs reached US Cents 0.7/Tkm or 14% (see Figure 19).



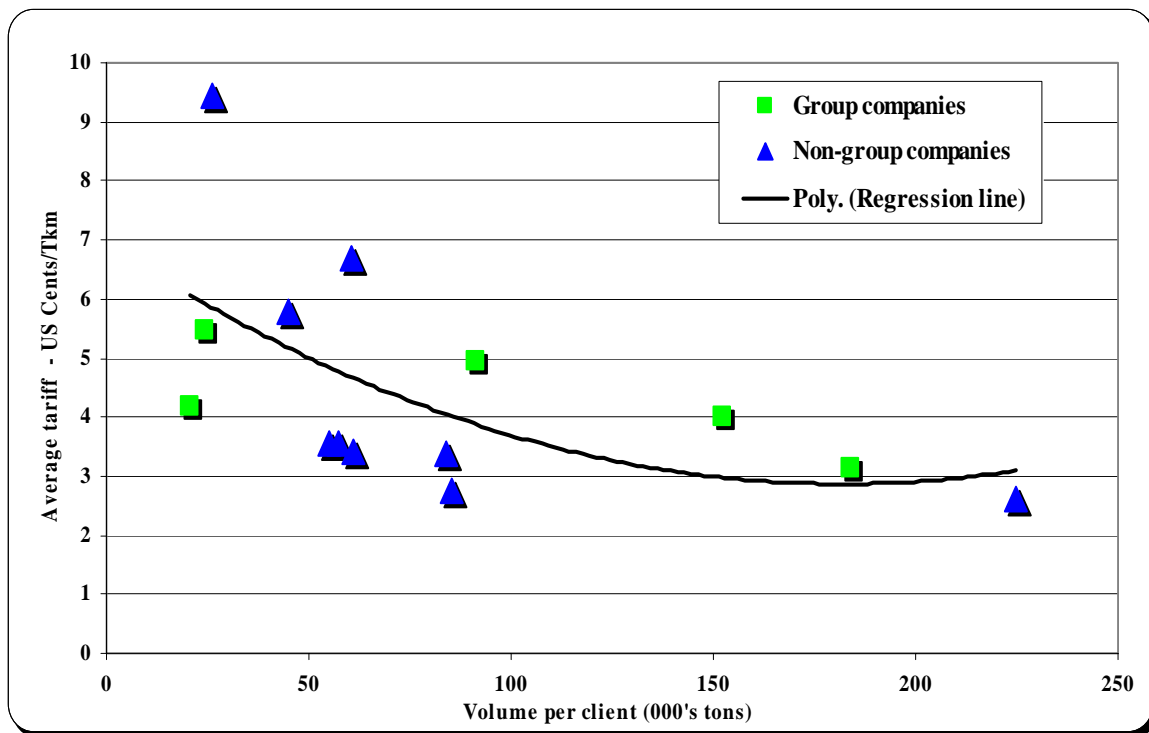
Source: see Annex A
 Note: Tariffs for oil transported within Côte d'Ivoire are regulated by the Government

Figure 19: Commodity tariffs – Sitarail 2001

Volume based tariff analysis

40. Another possible way to look at rail operator tariff practices for evidence of excessive market/pricing power rests on analyzing the level of tariffs applied to individual freight clients. Although this information rarely exists since it is considered proprietary by rail operators, it was made available by Camrail management as part of its 2003 operational audit. Results of this audit are presented in Figure 20, below. As expected, they show that the tariff paid by a client is indirectly proportional to the level of

freight it contracts for. In the case of Camrail, this means that large clients' tariffs range from US Cents 9.5/Tkm for 26,000 tons of freight to US Cents 2.6/Tkm for 225,000 tons of freight. More interestingly, if one differentiates the tariffs paid by those clients that are affiliated with the rail operator (i.e., group companies such as freight forwarding and transit companies owned by the Bolloré Group) with those clients which are financially unrelated to Camrail (i.e., non-group companies), no significant differences in tariff levels can be found as shown in Figure 20. This finding stands even if one takes the discounts that Camrail awards to its group companies' clients into account.



Source: see Annex A

Figure 20: Camrail 2003 tariffs per client

41. According to some estimates, the average value of the discounts offered hovers around 7% of the freight tariffs charged. While such practices can be considered discriminatory if they are not applied equally to other clients whose transported volumes are similar to those of the group-companies, their amount, which represented about 2.1% of Camrail freight revenues in 2003, does not appear to be significant enough to provide notable market advantages to the beneficiary companies²³. Its financial impact on Camrail was, nevertheless, disproportionately important as the operator only achieved a 1.7% net income margin in 2003²⁴.

²³ In 2003, Bolloré group's companies accounted for about 30% of Camrail's total revenues.

²⁴ This pricing practice has now been abandoned by Camrail in order to protect the company's bottom line.

V. Financial performance review of Sitarail and Camrail concessions

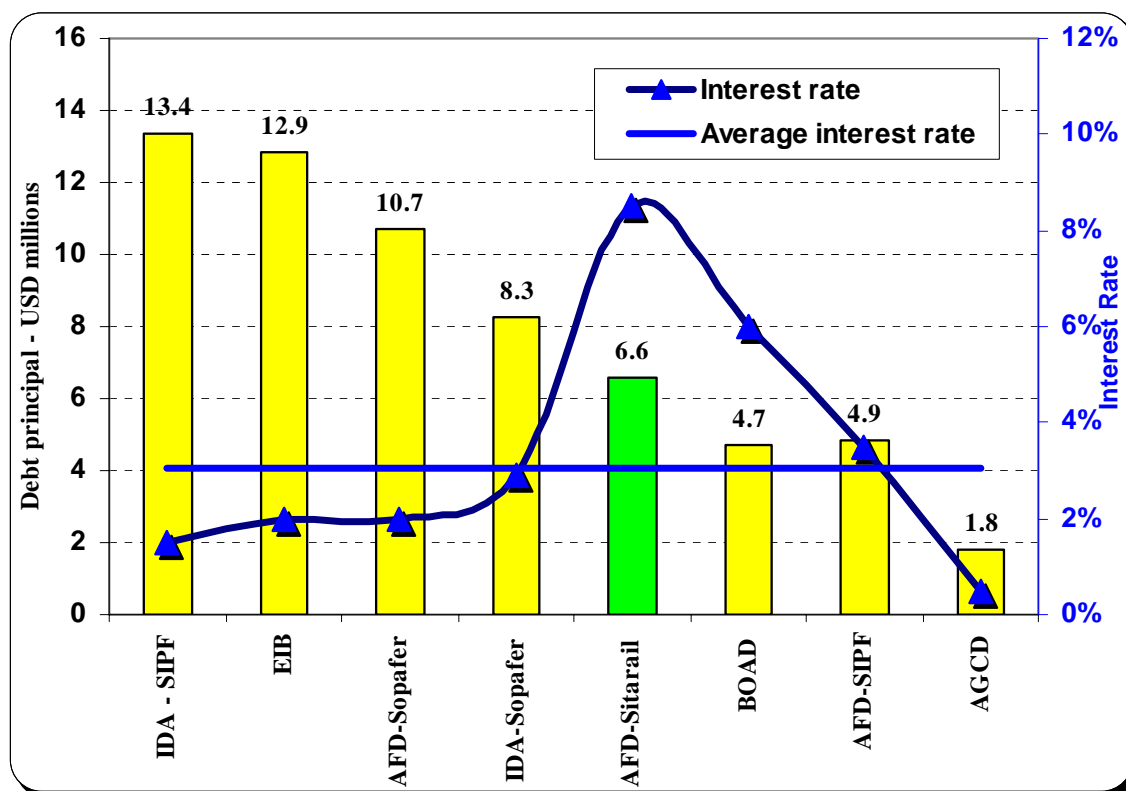
42. While information on railway concessions' financial performances is abundant, the relative newness of concessions in the region limit its relevance. Only two of the railway concessions currently in operation in SSA have been in operation for five or more years; namely Sitarail (10 years) and Camrail (6 years). The other concessions (Transrail and Madarail) have been in operation for a little more than two years and their early financial results are not sufficient to determine whether their profitability or lack thereof can be interpreted as sign of excessive market/pricing power.

43. In all four rail concessions, the investment financing scheme adopted to attract private operators relied heavily upon the on-lending of Government's concessionary loans obtained from international donors like the World Bank or the European Investment Bank (EIB). Consequently, all four private operators benefited from a combination of below market borrowing costs (i.e., anywhere from a low of 1.73% average debt interest rate for Madarail to a high of 5.80% for Camrail) and lengthy capital repayment deferment periods (at least five years in all cases). These favorable financing schemes have or will somewhat distort the financial results of each private operator during the initial years of their concession since they have or will enable(d) them to carry out important investments with limited impact on their respective companies' cash flow (i.e., no capital and limited interest repayment obligations during the first five years), albeit not on their balance sheet and equity requirement. Such public-private partnership is nevertheless required to enable private participation in what is otherwise generally a public sector arena so as to enable injection of better management, efficiency and innovation. For this to happen, however, one must acknowledge the need for sharing the risks and providing adequate incentives (including concessionary capital) to the private sector. Accordingly, these rail concessions tend to display "inflated" financial results during their early years that require cautious analysis when looking for evidence of excessive profiteering²⁵. The examples of Sitarail and Camrail perfectly illustrate this common phenomenon.

44. Sitarail's total initial borrowing amounted to USD 63.3 million with only USD 6.6 million directly borrowed by the Concessionaire from the Agence Française de Développement (AFD - see Figure 21). The rest of the financing, or USD 56.7 million, was borrowed by two state holding companies (also called Compagnies de Patrimoine from Burkina Faso and Côte d'Ivoire) which, in turn, made it available to Sitarail for the purpose of funding both track and rolling stock investments. Under the terms of the concession contract signed, although each holding company's financing was not on-lent to Sitarail, the private operator was nevertheless obligated to pay them a fee covering the servicing cost of their borrowing. This financing scheme proved beneficial to Sitarail since it enabled it to record only USD 6.6 million of debt on its balance sheet, thus

²⁵ In many ways, this problem is similar to that of companies who are able to use a one time extraordinary losses (e.g., goodwill write-off of the Internet boom years) to limit their taxation rate for several fiscal years in a row, thus producing above average returns in the years that followed it, although this did not reflect the underlying strength of their business model.

lowering significantly its initial capital requirement and, consequently, making its privatization much more attractive to prospective private operators²⁶.

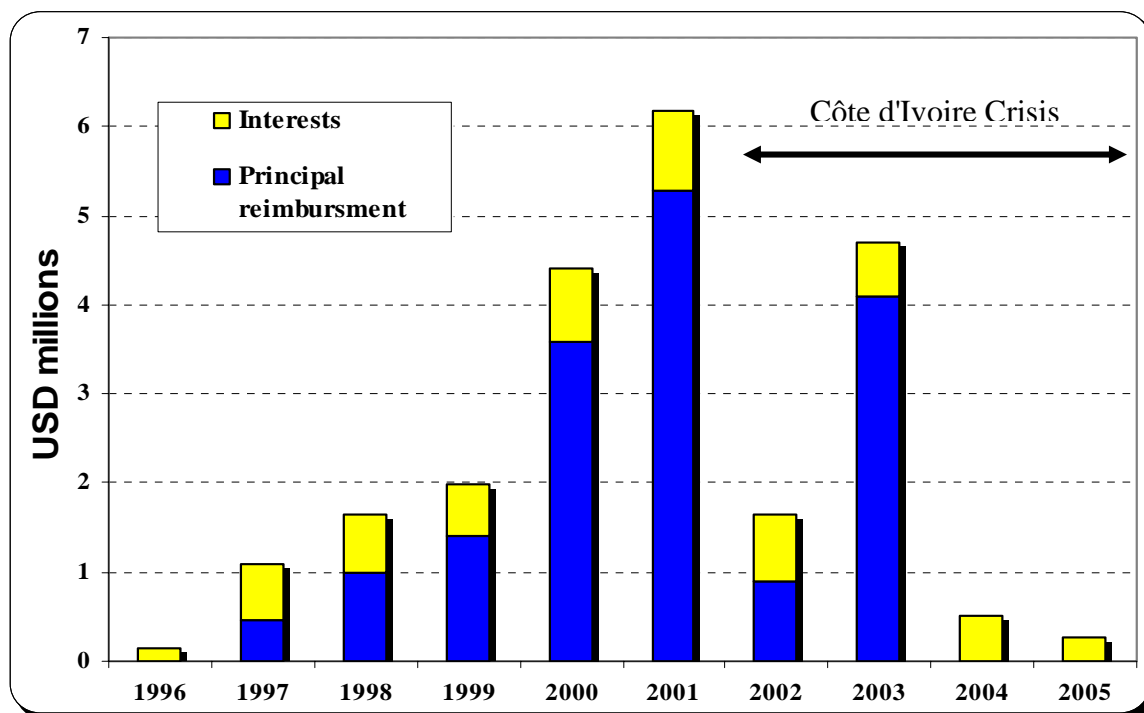


Note: Bar chart in darker color represents a loan directly contracted by Sitarail (i.e., sub-sovereign loans)
 Source: see Annex A

Figure 21: Sitarail's debt structure at the end of 2003

45. As shown in Figure 21, the average interest rate for Sitarail's debt, including the portion borrowed by the states' holding companies is a modest 3.1%. In addition, debt reimbursement conditions are favorable since a five year minimum grace period applies to principal repayment of 82% of its value or USD 52.0 million. Accordingly, Sitarail was able to enjoy a low debt repayment burden during the first four years of operation with average yearly debt expenses (including payment made to the holding companies to cover their debt servicing costs) from 1996 to 1999 totaling only USD 1.2 million or about 3.9% of the operator's annual revenues (see Figure 22). By 2001, however, this figure had increased more than fivefold (i.e., to more than USD 6 million per year, or about 13.7% of annual revenues) as Sitarail was no longer benefiting from the grace period applicable to both holding companies' debt principal repayment. This rapid increase in debt service would have continued for another two years and reached about USD 9 million a year, or about 20% of projected revenues, if it had not been for the disruption in rail traffic caused by the deteriorating political situation in Côte d'Ivoire starting in 2000 which led Sitarail to suspend most debt repayments after 2001.

²⁶ See Section VI, "Railways contract analysis" for more detailed information on the contractual arrangement between Sitarail and the Burkinabé and Ivorian holding companies.



Source: see Annex A

Figure 22: Sitarail debt repayment schedule at the end of 2003

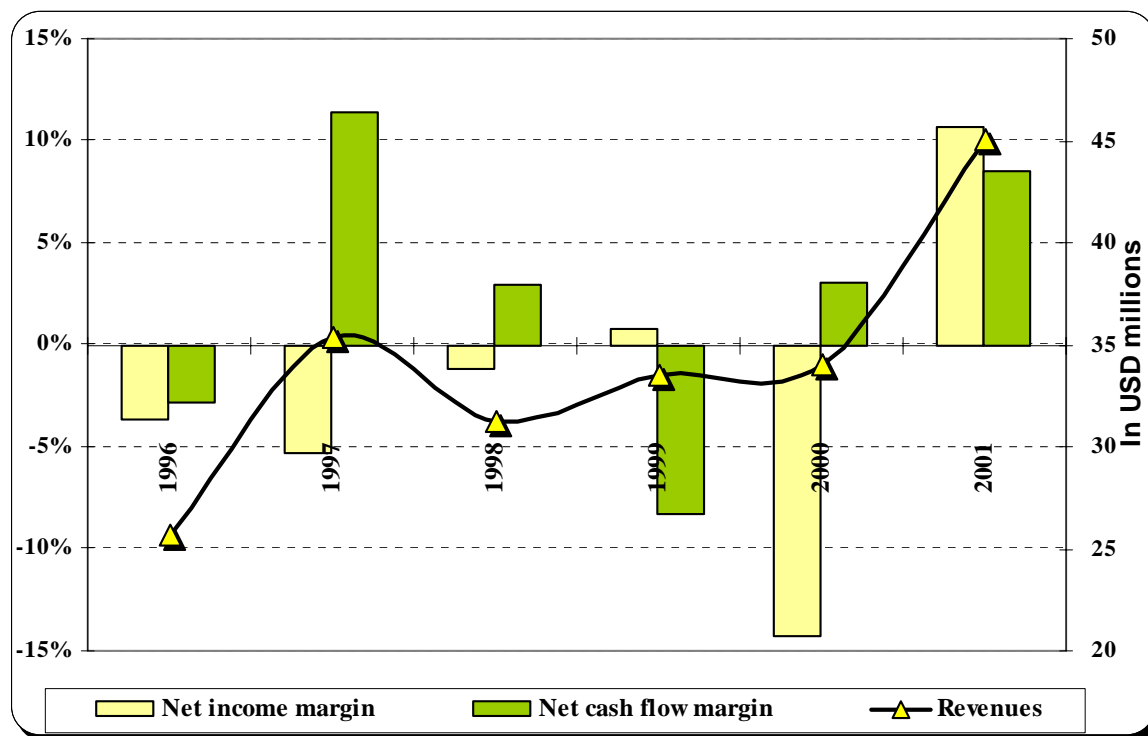
46. In spite of a favorable debt structure, Sitarail never achieved high net profit margins during normal operating years (i.e., 1996-2001), however. As shown in Figure 23, its overall net income margin remained mostly negative until 2001, averaging a disappointing - 1.6% of revenues, although it peaked to a high 10.6% of revenues that year. This latter result reflected mostly the combined impact of a robust increase in freight volumes and revenues over 2000 with, respectively, +28.3 and +32.4%²⁷, as well as lower labor costs which decreased from 40 to 28% of total operating costs. Meanwhile during the 1996-2001 period, Sitarail's net cash flow performance²⁸ was better than its net income one with a net margin of +3.1% of revenues. This positive outcome, however, likely underestimated Sitarail's true cash flow performance since it was reduced by five percentage points (i.e., 3.1% versus 8.1%) by the cumulative costs from 1996 to 2001 of the technical assistance provided to Sitarail's by its main shareholder: Bolloré.

47. While technical assistance costs are legitimate, they usually account for less than 1% of a railway company's turnover and tend to decline quickly overtime as the transfer of skills between expatriate and local staff of a concessioned company occurs. Accordingly, in Sitarail's case, the 5% figure seems unusually high and thus, it could be viewed as a partial, albeit legal, transfer of cash to the main shareholder whose impact

²⁷ 62.7% of the revenues growth achieved by Sitarail in 2001 over 2000 was attributable to increase in cereal, cement and fertilizer imports to Burkina Faso reflecting both market share gains on the corridor between Abidjan and Ouagadougou as well as strong growth in demand for these commodities.

²⁸ Net cash flow was computed as follows: Net income + depreciation – debt capital reimbursement +/- change in the level of receivables. Self-financed investment was excluded from this computation as goods acquired were treated as tradable assets whose non-depreciated value could be recovered by the operator.

would have been to actually boost Sitarail's overall profitability. The importance of looking carefully at such possibility is underscored by the difference in calculated rate of return on equity²⁹ that the inclusion or exclusion of technical assistance costs makes in Sitarail's case. Indeed, including technical assistance costs, Sitarail's average annual rate of return on equity is only 9.2%, or USD 0.87 million/year,³⁰ while it increases to 31.0%, or USD 2.94 million/year, if one treats these costs as profits. While this latter approach is "extreme", there is little doubt that technical assistance costs include a very healthy share of profits that would have likely increased substantially Sitarail's calculated 9.2% rate of return on equity.



Source: see Annex A

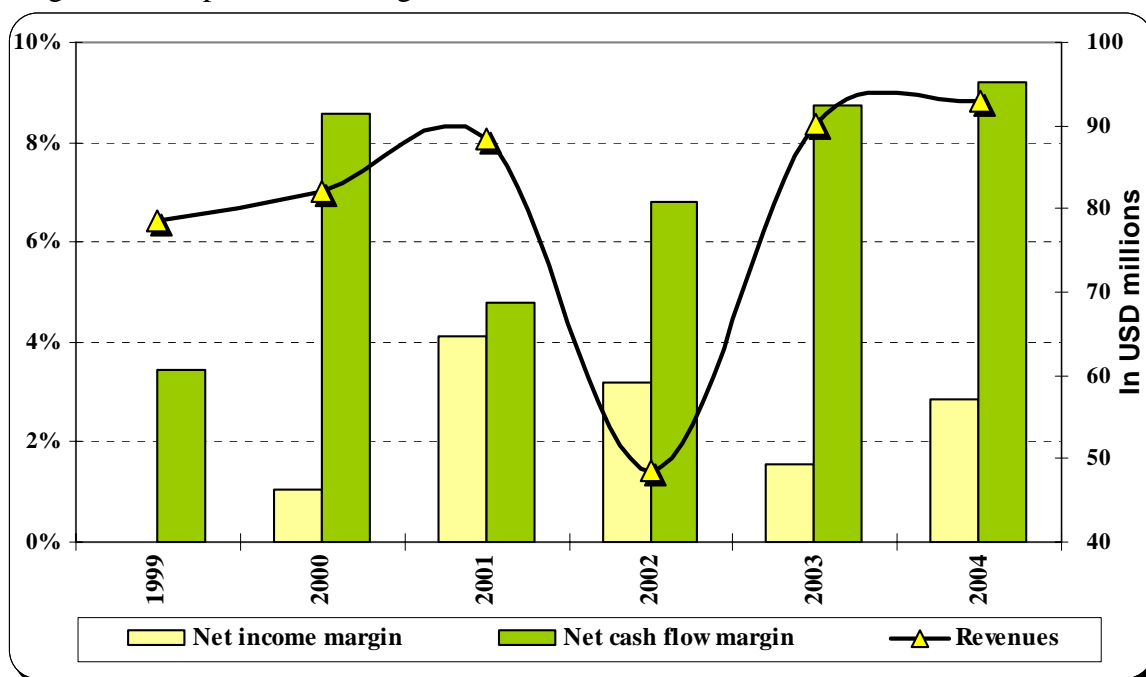
Figure 23: Sitarail's financial performance from 1996 through 2001

48. Fairly similar conclusions are reached when analyzing Camrail's 1999-2004 financial results. As shown in Figure 24, Camrail's overall financial performance since 1999 has been adequate. In some ways, it has mirrored its positive operational performance since Camrail, both in terms of transport volumes and personnel productivity reached its initial goals (see Annex B). Compared with Sitarail, Camrail has done better both in term of net income margins (average of 2.1% versus - 1.6%), and net cash flow margin (7.0% versus 3.1%). This latter number is inflated, however, as it treats Government's payment arrears for public passenger services subsidies owed to Camrail as cash revenues on the basis of their recoverability. If one excludes these arrears which

²⁹ Calculated as discounted rate necessary to zero out Sitarail's net cash flow stream between 1996 and 2001 from which is subtracted the equity contribution made (twice in the case of Sitarail with a contribution of FCFA 3.75 billion in 1995 and FCFA 1.625 billion in 1997).

³⁰ Figure calculated based on a USD 9.5 million, or FCFA 5.375 billion, equity value.

had reached USD 11.1 million at the end of 2004, Camrail's average net cash flow margin then drops to 4.7%, a figure closer to Sitarail's 3.1%.

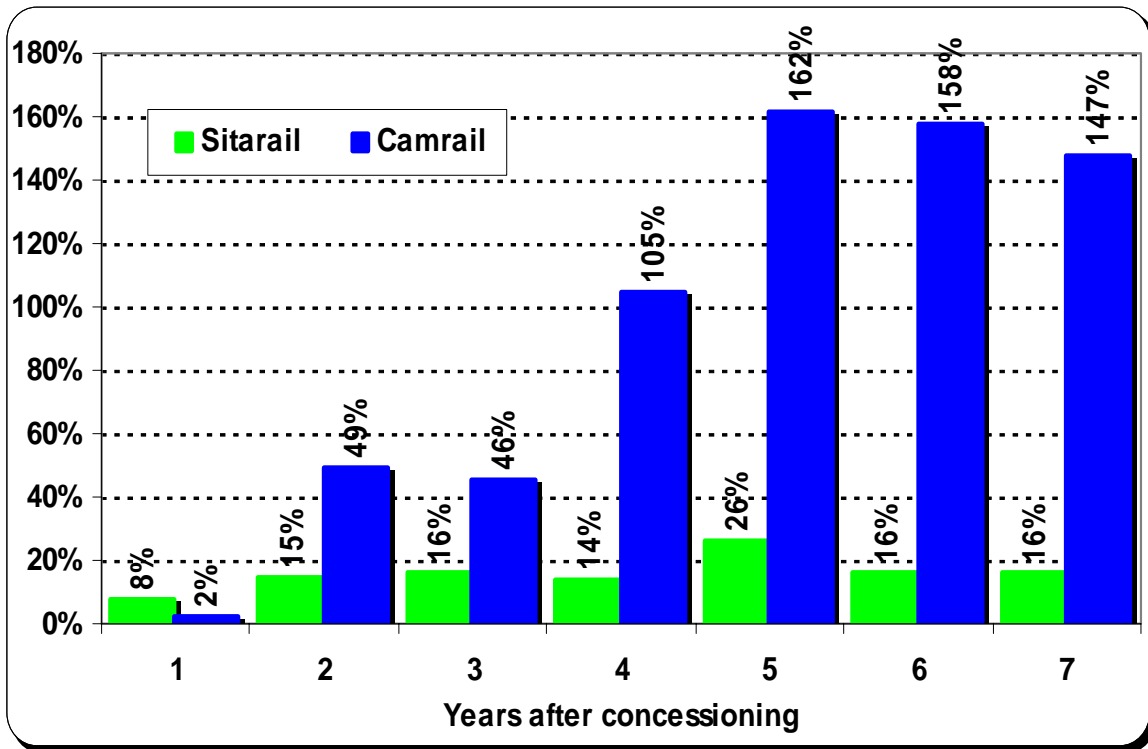


Source: see Annex A

Figure 24: Camrail's financial performance from 1999 through 2004³¹

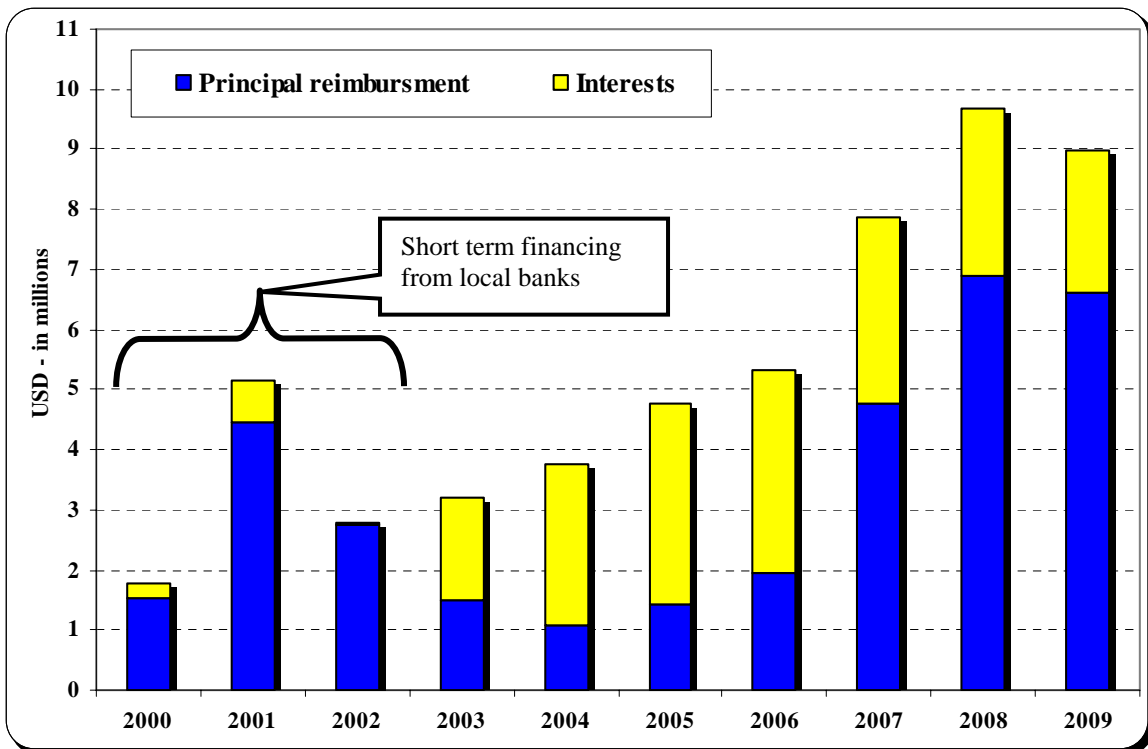
49. Unlike Sitarail, Camrail's initial concession contract requires that it fund track and rolling stock renewal beyond the initial 5-year investment plan. Practically, this means that Camrail's financial structure has been from the onset far more leveraged than that of Sitarail (i.e., six times more by the fifth year of its concession contract – see Figure 25) with all the added risks that this situation entails. For instance, between 1999 and 2002, Camrail had to finance through local banks, and on a short term basis, the majority of its initial investment as Government concessionary financing (on-lent from international donors) was not yet available. This resulted in an outflow of almost USD 8 million in debt principal repayments between 2001 and 2002 (see Figure 26) which could have been, otherwise, avoided. Additionally, Camrail had to self-finance through the end of 2004 USD 55.2 million in investment which left it with a cumulative net cash flow margin of - 4.5% by the end of 2004. In this context, Camrail's shareholders did not receive any dividends although, by some estimates, they managed to earn a fair return on their equity with a calculated return ranging from 14.0 to 22.0%, or anywhere from USD 3.01 to USD 4.73 million/year, depending on the assumptions made in terms of the level of revenues generated by: a) technical assistance contracts signed between Camrail and its primary shareholder Bolloré, b) tariff discounts awarded to rail users affiliated with Bolloré and, c) transfer of cash through an agreement between Camrail and a Bolloré subsidiary regarding centralized purchasing of railways goods.

³¹ The results shown for the years 2001 and 2002 are for 18 months in 2001 and 6 months in 2002, thus the apparent discrepancies in revenues variations from year-to-year.



Note: for Camrail, years 6 and 7 represent projections
Source: see Annex A

Figure 25: Comparative analysis of Camrail and Sitarail long term debt to revenue ratios



Source: see Annex A

Figure 26: Camrail debt repayment schedule at the end of 2004

50. From a purely legal standpoint, the legitimacy of these transfers is not an issue. The lack of clarity that accompanies their amount and occurrences tends, however, to impact negatively the nature of the dialogue between the Concessionaire and the Government and the Concessionaire and the IFIs. The issue in this case is one of differing perception regarding the Concession's financial profitability (depending on what financial indicator is used) that becomes especially acute when all parties discuss the sharing of financial responsibilities related to track maintenance and rehabilitation. While there is not a single formula to solve this problem, future concession contracts should endeavor to seek the disclosure, under a pre-agreed format, of financial information necessary not only to calculate the concession's rate of return on equity but also the Government's own return on fixed assets (i.e., based on yearly track depreciation value in relation to concession/usage fee received) as well as the economic rate of return generated by the Concession. This approach would go a long way towards providing a more balanced view of the respective benefits generated in favor of a private operator and the Government by a railway concession³².

VI. Contract analysis of railway concessions

51. Annex C presents a detailed analysis of the contractual clauses for all four railway concessions reviewed in the previous sections. It seeks to identify any such clause that could be construed as providing the private operator with an opportunity to exercise undue market/pricing power vis-à-vis the Concessions Authority (i.e., Governments), its clients or its competitors (see Figure 4).

52. Among all four contracts reviewed, only one (i.e., Sitarail) does not incorporate a clause that defines what constitutes evidence of undue market/pricing power. All three remaining contracts define such undue power in the following similar manner:

- When the tariffs applied by the operator are over twice as high as the level of all charges incurred (including the depreciation and capital costs associated with the operation of the rolling stock);
- When an operator openly discriminates against a client in terms of the transport conditions offered; and
- When an operator refuses to provide services to a client.

While these various ways of asserting excessive powers are broad in nature and should, in theory, be sufficient to combat the most glaring examples of market failures, one must note that these concession contracts, at least from a financial monitoring standpoint, fail to stipulate what information a Concessionaire must provide a Regulator in order to enable it to enforce contractual clauses. Indeed, even in the best of circumstances, information asymmetry between the Concessionaire and the Regulator creates recurrent oversight problems that are often made worse by weak institutional capacity.

³² In the case of Camrail, one should consider the fact that the likely rate of return on equity of 14 to 22% achieved from 1999 through 2004 translated into an annual cash flow for the Bolloré group of USD 3.0 to 4.7 million/year versus USD 8.8 million paid by Camrail in income taxes and concession fee to the Government in 2004 alone.

Tariff setting mechanism clauses

53. All the analyzed contracts stipulate that the Concessionaire is free to set tariffs for services other than public services (see Annex C). In the rail sector, this notion usually amounts to a clear distinction between freight tariffs whose setting mechanisms are, for the most part, unregulated and passenger tariffs that tend to be controlled by the State. In this latter case, regulated services are often managed using pre-agreed subsidy schemes under which operators find themselves eligible for financial compensation whenever the tariffs imposed by the State do not cover their operating costs. Practically, these schemes have failed to protect private operators from incurring financial losses associated with passenger train operations, as Governments often have not honored their subsidy commitments.

54. Following a similar principle, all four concession contracts preclude rail operators from using promotional tariffs for more than a year if it has been established that these tariffs do not cover their operating costs. The problem with this minimum cost recovery tariff approach lies, however, with the definition of what constitutes operating costs. Although concession contracts define these costs broadly (i.e., including depreciation and capital costs), operators tend to compute these costs differently depending on their respective situation. For instance, an operator can easily argue that it needs some of its clients to set tariffs that cover only its marginal costs since these clients are intensely sought after by the trucking industry while, for other clients, it can charge tariffs that cover both its fixed and variable costs as market conditions are more favorable. Ultimately, rail operators can justifiably claim that they must be allowed to show great flexibility in their tariff structure so as to respond to their market's needs as long as, overall, the tariffs they use enable them to cover both their fixed and variable costs (see Figure 19). As such, the enforceability of the contract clause regarding the requirement to set tariffs above full operating cost at all times seems doubtful and its necessity is debatable.

55. Practically, the concept of free tariff setting can also be quite misleading in terms of its potential monopolistic implications, since it does not account for some unavoidable market realities. For one, some railway clients operate in regulated markets (e.g., the petroleum sector) which limit operators' ability to set commercially based tariffs at all times since their clients themselves might not be able to fully reflect total transport charges in the prices they ask their customers to pay. Secondly, rail operators must account for the fact that their relative capacity to freely set tariffs also depends heavily on the relative market strength they can exercise vis-à-vis their clients. In this case, one should consider that for most railways few customers represent a disproportionate percentage of their revenues and traffic (e.g., Camrail's top five clients accounted for 39.7% of its traffic in 2003) and that the mere possibility of substitute transport alternatives limits significantly one's pricing power (see Section IV for more details).

Third party access to track clauses

56. One obvious measure of monopolistic power is the ability of an operator to undividedly control a service that it only can provide, thus creating a high level of

dependency for its customers. In the case of the four railways studied, the transport service provided by these operators is not unique as road transport alternatives exist along each corridor. Furthermore, all but one railway concession contract includes an anti-monopolistic clause that clearly limits the pricing power of the operator. Accordingly, it could be argued that these contracts' third party access clauses represent an additional layer of protection against excessive market/pricing power in the event that the designated rail operator unduly refuses to provide service to a customer.

57. Both Camrail and Sitarail concession contracts contain a track usage exclusivity period of five and seven years, respectively, during which no other rail operator can operate trains on the track network concessioned to both companies. A similar exclusivity period does not exist, however, in the Madarail or Transrail concession contracts. This difference in contractual approach reflects the structure of the market served by each railway at the time of their concessioning. Back then, neither Camrail nor Sitarail rail networks were servicing existing mining activities (i.e., unlike Madarail and Transrail) nor had to cope with operating passenger services (i.e., Dakar's commuter train for Transrail) that were not to be incorporated in the scope of the concession. Accordingly, the provision of a time bound exclusivity period was more than likely designed to protect Camrail and Sitarail's limited market from additional competition, maybe with the view from the Government side to maximize the value of the concession transaction, in an environment where neither operators were thought to be able to exercise undue pricing power due to vibrant road competition.

Financing of track and rolling stock clauses

58. With the exception of Sitarail which is an affermage, Madarail, Transrail and Camrail concession contracts clearly put the responsibility of financing track maintenance and renewal on private operators³³. Likewise, all rolling stock financing has also been left to each individual concessionaire under each contract. One could conclude, therefore, that in all four cases, the concessioning authorities (i.e., the Governments) have been freed of all financial obligations vis-à-vis the privatized railways. This could not be further from the truth, however, as in all cases anywhere from 40 to 80% of all the initial financing raised by the private operators to fund the first five year investment program has come from Governments in the form of on-lent money borrowed from IFIs. Accordingly, Governments have de-facto taken on an important fiduciary responsibility under each concession by offering below market rate financing conditions so as to make them more attractive to private operators. In turn, this situation has put them in the unfavorable position of financier of last resort³⁴ with the underlying conflict of interest that this role can create. Indeed, it seems legitimate to wonder how these Governments

³³ In practice, however, Sitarail has also found itself financing track renewal as it has had to service the debt linked to it.

³⁴ This risk was recently demonstrated when the Malagasy Government found itself obligated to transform what was going to be initially a public loan to Madarail to finance track rehabilitation works into a grant to avoid the collapse of the concession only one and half year after it had started operations. Although this "transfer" of financial risks from the private operator to the public authority was largely the result of unforeseen events (i.e., currency devaluation, economic recession, etc.) at the time of the railway concessioning, it does highlight the real financial risk that Governments can incur when concessioning railway assets.

would be able to enforce some of the concession contract clauses (e.g., third party access right to track) when they know that it could negatively affect a Concessionaire's finances; thus increasing their own financial risk. Finally, in the cases like Sitarail, where the regulatory structure is funded through a share of revenues rather than a flat fee scheme, there is also a strong incentive for the regulator to "protect" its own revenue source by overlooking issues which could impact it.

End of contract for no-cause clauses

59. End of contract clauses are important to examine within the context of this study as they clearly define the financial nature of the "exit barriers" that a Concessions Authority would have to face were it to choose to terminate a concession contract before its end for no cause. Accordingly, these clauses provide a useful glimpse of the relative negotiating strengths of the selected bidder and the Concessions Authority at the time of contract negotiations. They might also reflect the influence of the IFIs in the concession process as these institutions have sought to ensure that the important financing they provided as part of the concessions process would not easily revert in Government's hands through unilateral cancellations, for no cause, of existing concession contracts.

60. All four concession contracts' termination clauses reviewed provide a certain level of protection to the private operator in the form of an obligation for the Concessions Authority to minimally purchase and/or service the debt related to the equipment and/or track it has financed. Additionally, two of these contracts (i.e., Transrail and Camrail – See Annex C) stipulate that the Concessions Authority would be liable in the case of early termination for the projected benefits³⁵ that each concession could generate for the remainder of the contract. Lastly, in the case of Transrail, the Concessions Authority would have to make a one time payment equivalent to 5% of the prior year operator's revenues.

61. These last two conditions (i.e., benefits and revenues payments) clearly raise the cost of early contract termination to a Government, although maybe not to the point that could be considered sufficient to deter any early reversal in its privatization policy. In the case of Camrail, for instance, on the basis of 2003 and 2004 net benefits, the calculated cost to the Government that would be associated with the termination of the contract in 2005 would be: a) USD 9 million in annual debt repayment based on about USD 132 million in equipment and track investment outstanding debt and principal by the end of 2004, and, b) a one time net benefits compensation payment of USD 18 million. The total estimated cost of USD 27 million would, indeed, be unlikely to stop a resolute Government. The indirect cost of such a decision vis-à-vis the IFIs which have participated in the financing of the concession and the private investor community would, however, be far greater; thus representing a more potent "exit barrier" to the Government than any of the clauses embedded in the concession contract.

³⁵ These benefits would be computed based on the average benefits earned over the prior three years by the operator.

VII. Railway concessions financial structure analysis

62. The evidence presented in this study leads one to the conclusion that existing rail concession contracts are unlikely to foster the growth of private monopolies. They suggest, however, that the financial structure of the concessions already in operations present some basic flaws that overly optimistic traffic and cost (including investments) projections did not reveal at the time of their development. Among them, the most important ones are:

- **Weak debt to equity ratio** that highlights a fundamental disequilibrium between the levels of debt and equity that these concessions were built upon with the associated results, in the most extreme case, of an important transfer of financial risks from the private to the public sector through government subsidized loans, in addition to serious liquidity risks;
- **Misplaced focus of Governments on concession fees** rather than income taxes that can increase significantly the financial default risk of the concessionaire as these fees are linked solely to revenues rather than actual profitability; and
- **Failure to recognize that the business fundamentals of each concession (i.e., relationship between projected revenues, profitability and debt) can impose limitations on the sharing of track investment responsibilities between the private and the public sectors.**

63. To corroborate the validity of these findings which are based primarily on Camrail and Sitarail's multi-year experience, a broader sample of railway concessions, either with fewer years of operating experience or still on the drawing board, was considered. These additional concessions are Transrail and Madarail, the Zambia and Beira concessions (i.e., RSZ and CCFB) which started operations, respectively, in 2002 and 2004 as well as the Kenya (KRC), Uganda (URC) and Tanzania (TRC) concessions which are all in the final phase of negotiations with selected bidders. Annex D presents a compilation of basic operational and financial data that were used to conduct this analysis for the nine concessions.

Debt-to-Equity issues

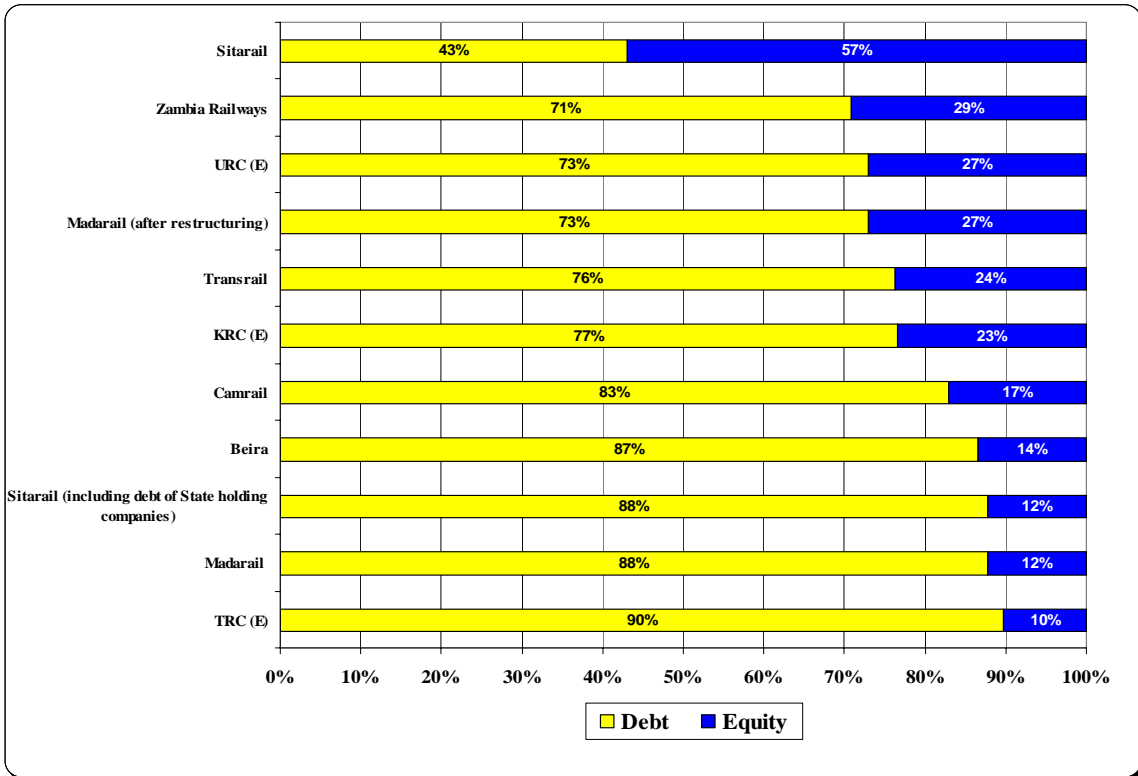
64. A debt-to-equity analysis of the nine concessions (See Figure 27) underscores the fact that, notwithstanding the special cases of Madarail and Sitarail³⁶, six of the nine rail concessions reviewed had, from the start of their operations, an actual or projected debt-to-equity ratio greater than 80/20. Since this latter ratio is widely considered as the higher end of what is deemed desirable for any financial venture, it is not surprising that higher

³⁶ In the case of Madarail, Figure 27 shows the debt-to-equity ratio before and after Madarail concession restructuring which took place in September 2005, while the concession itself started operations in late 2003. The primary consequence of this restructuring was to transform what was originally a Euro 21 million loan from the Government to Madarail into a grant, thus lowering significantly Madarail debt-to-equity ratio. For Sitarail, as the concession contract is technically speaking an affermage, Sitarail does not carry on its books the debt contracted by the State holding companies to finance the majority of the initial investment plan (i.e., USD 56.7 out of 63.6 million). Nevertheless, since Sitarail is obligated per its contract to pay for that debt service, it seems fair to include it in the computation of its debt-to-equity ratio.

debt-to-equity ratios almost systematically translated into a reduction of the share of privately financed investment. Indeed, Figure 28 shows that in four out of five cases considered, concessions with debt-to-equity ratios greater than 80/20 saw the share of their investment privately financed fall below the 50% mark. Moreover, detailed analysis of the numbers presented in Figure 27 actually revealed that the level of equity reported by each concessionaire tended to be exaggerated as Governments' share of that equity usually involved in-kind contributions (e.g., rolling stock, spare parts or buildings) which only had a limited cash value. In turn, these means that:

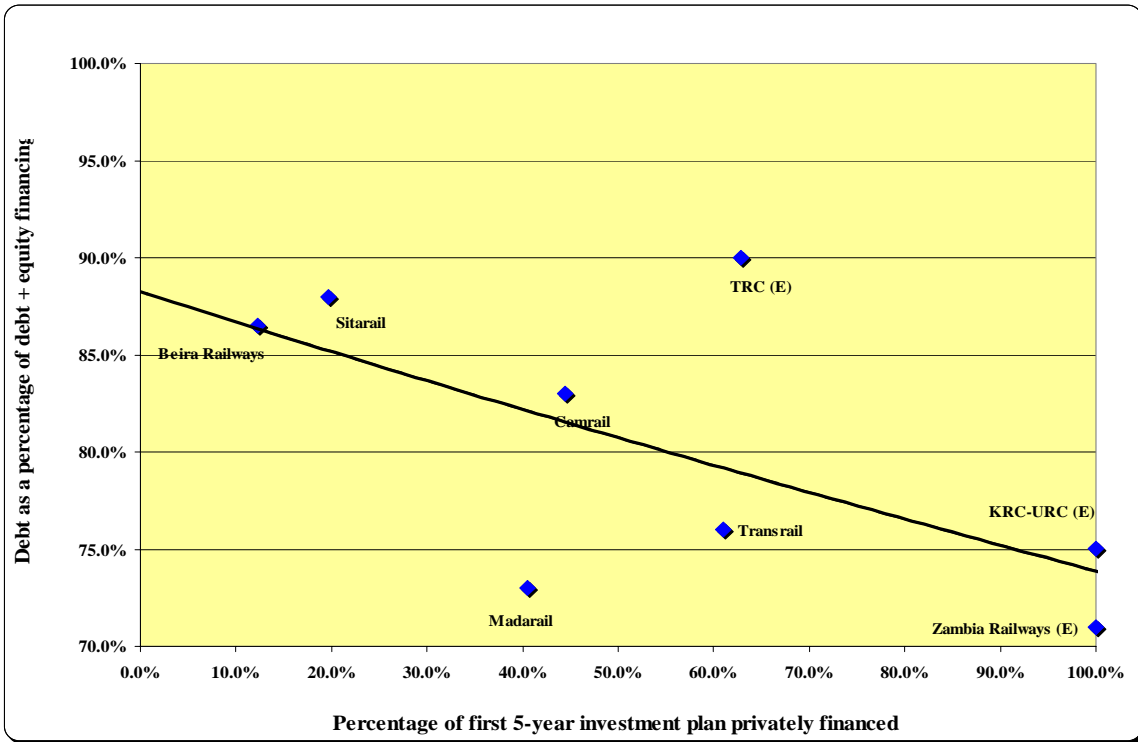
- In the event that initial concession operations were not to yield the level of expected profitability, a very likely scenario in most cases as financial projections produced during the concession bidding process often overstated revenues and understated costs, concessionaires could find themselves easily caught into a liquidity trap. This risk was amply illustrated by Madarail which suffered during the first 18 months of its operations from a combination of much lower revenues and higher costs due to unfavorable economic and political conditions (i.e., currency devaluation, economic recession and social disturbances) that translated into a liquidity crunch. This situation forced the private operator to ask for a thorough restructuring of its concession contract terms under which two third of the initial USD 40.1 million five-year investment program ended up being financed and its associated debt serviced by the Malagasy Government (see footnote 35).
- Even when initial traffic and revenue projections are achieved, limited liquidity means that any unforeseen increase in investments needs, delays in loan money availability or non-payment of government subsidies associated with passenger service obligations could quickly trigger a liquidity crisis. Camrail suffered from such a combination of events during its first five years of operations (see Section V) that forced it to borrow additional money from local banks on a short term basis. In turn, that supplemental borrowing resulted in a sharp deterioration of Camrail's debt-to-equity ratio. Transrail, currently is its third year of operations, is suffering from similar problems as, for example, track usage charges owed by parastatal train operators from Senegal reached the equivalent of 15% of its annual operating revenues by the end of 2005.

It seems important, therefore, for Governments and IFIs alike to pay attention to the debt-to-equity ratio during concession preparation as well as implementation as railways are highly cash sensitive businesses. Indeed, one should remember that the only real solution to a less than adequate debt-to-equity ratio are thorough changes to a concession financial structure either through a lowering of the actual debt burden and/or the concession fee burden in addition to an eventual rise of the initial equity level as depicted in Figure 29, below.



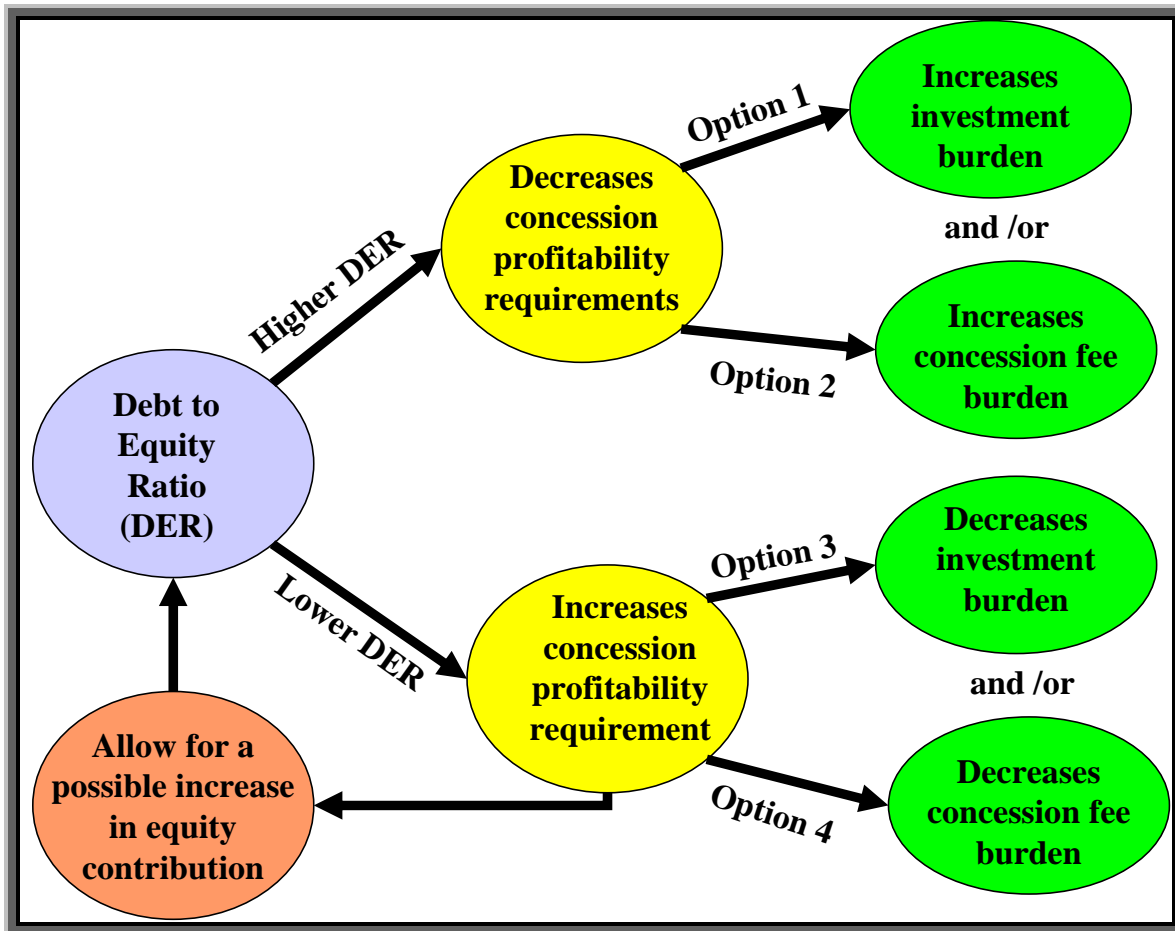
Source: see Annex A

Figure 27: Debt-to-Equity ratios for selected railway concessions



Source: see Annex A

Figure 28: Correlation between debt level as a percentage of total investment financing and the proportion of debt privately financed



Source: see Annex A

Figure 29: Basic options affecting a concession Debt-to-Equity ratio

Concession fees issues

65. Concession fees play a critical role in any railway concession financial construct. Usually, their levels are set to represent the cost to the Concessioneering Authority of providing assets (e.g., rolling stock, tracks, equipment) to a Concessionaire in order for the latter to operate its railway. Accordingly, concession fees are often computed to reflect the costs to the Government of the annual wear and tear of these assets as there are being utilized by the private operator (i.e., resemble a leasing agreement). Additionally, concession fees are also used to guarantee that Governments share with private operators the projected financial benefits generated by their businesses. Accordingly, concession fees are often divided between a fixed and a variable component (i.e., computed most of the time as a percentage of net revenues) to address both needs³⁷. While this approach makes sense theoretically, it fails to acknowledge that concession fees are only one of many ways that Governments benefit financially from successful railway concessions. Indeed, a careful analysis of any railway concession's financial accounts shows that the total amount of money, outside of concession fees, paid out by a Concessionaire to a

³⁷ See Annex D for detailed percentage of fixed and variable concession fees for the sample concessions.

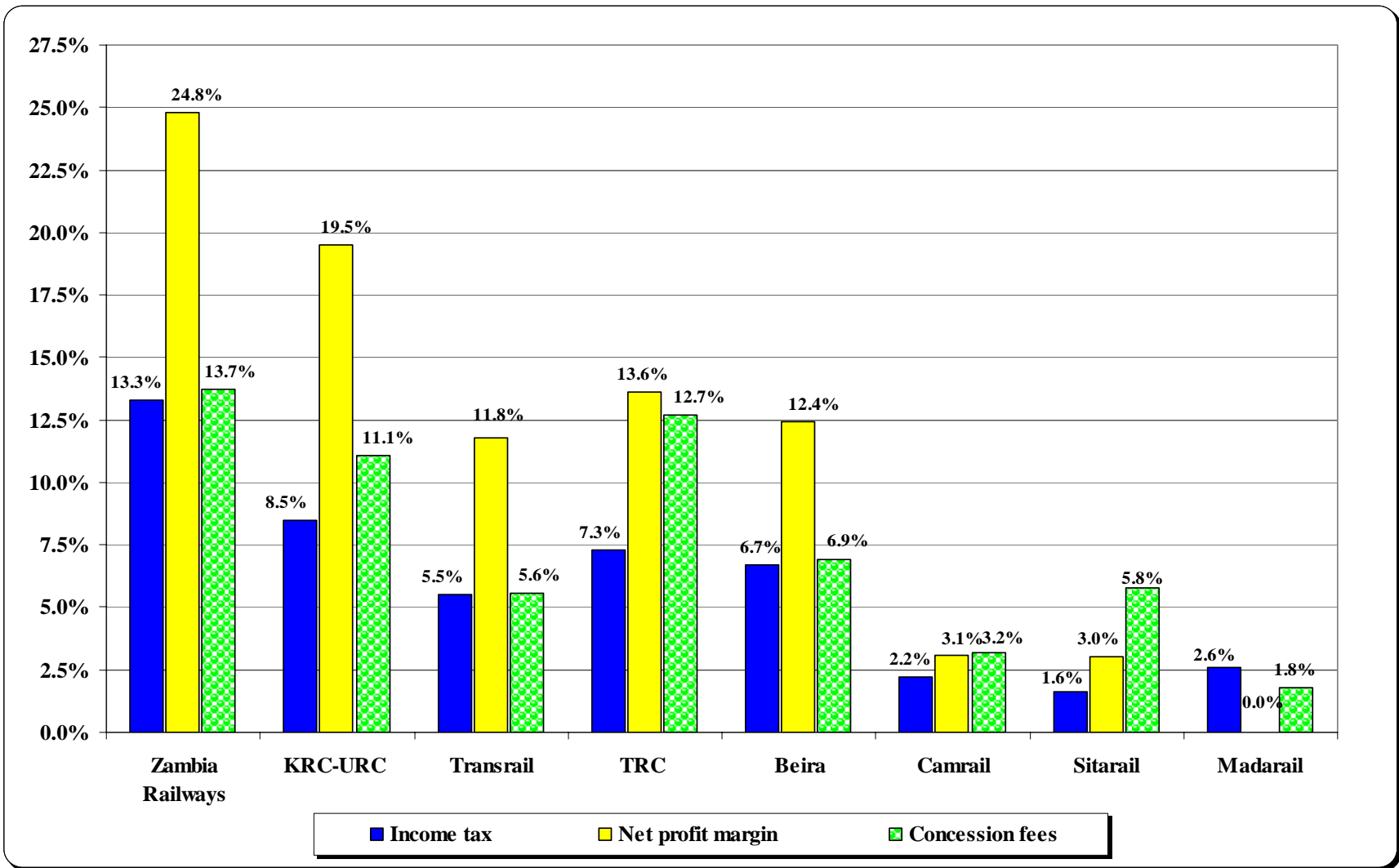
Government (e.g., value added tax, personnel social taxes, income tax) usually exceeds that of the fees itself over the projected lifespan of a concession.

66. Since it is difficult to correctly identify from a Concessionaire's financial accounts all the taxes paid out to a Government, income tax projections were used in this study as a proxy to estimating the true weight of taxes versus concession fees paid out to each Government. Figure 30 presents an estimate of the projected concession fees, income tax and net profit margins as a percentage of net revenues for the eight surveyed concessions³⁸ over their projected operational lifetime (i.e., 20 to 25 years). As shown, concession fees should account anywhere from 1.8 to 13.7% of net revenues while income tax should range from 1.6 to 13.3% of those same revenues, or roughly a similar level. Meanwhile, net profit margins³⁹ for these concessions should vary from 0.0 (i.e., Madarail) to 24.8% of net revenues. From these various figures, it can be inferred that:

- Concessions with several years of operations have seen their earlier financial projection results significantly downgraded to a point where projected profit margins are now likely to be lower than concession fees. This is the case for Sitarail, Camrail and Madarail whose profit margins are now projected to be, respectively, 3.0, 3.1 and 0.0% of net revenues versus concession fees of 5.8, 3.2 and 1.8% of net revenues (see Figure 30). Although this downward revision in financial results reflects more the inability of both Sitarail and Camrail to achieve projected reduction in operational costs due to higher than planned maintenance and rehabilitation costs rather than lower revenues, it is clear that the level of concession fees both operators must now bear seems excessive in relation to their expected profitability.
- Several concessions among the eight reviewed such as Zambia Railways and KRC/URC, appear most exposed to the consequences of lower than anticipated profit margins as their concession fees should absorb 13.7 and 11.1% of net revenues, respectively. Furthermore, since more than 40% of these fees will be fixed (i.e., unaffected by any fluctuations in revenues), lower revenues as well as higher costs, separately or jointly, could impact significantly these concessions' future profitability levels. However, one must assume that since some of these concession fee levels were offered by the winning concession bidders (e.g., KRC/URC) rather than imposed by each Concessions Authority (i.e., in the KRC/URC case, minimum concession fee level demanded was 5% of net annual revenues versus the 11.1% offered by the winning bid), they were deemed manageable by these private operators.
- With the exception of Sitarail, income taxes should represent anywhere from half (i.e., Camrail and TRC) to twice (i.e., Transrail) the amount of projected concession fees that will be collected by Governments over the lifetime of each rail concession (see Figure 30). As such, income taxes should attract as much attention from Governments as concession fees do; especially since, unlike concession fees, they have little impact on private operators' risk perception.

³⁸ Although technically URC and KRC will be operated under two separate concession contracts, these contracts will be awarded to a single bidder who will control both companies through a holding companies.

³⁹ Defined as total operating revenues minus total operating costs minus depreciation and interest on debt capital minus taxable income.



Source: see Annex A

Figure 30: Projected income tax, net profit margin and concession fees as a percentage of net revenues

Track financing issues

67. An important debate exists between railway operators and Governments regarding their respective equipment and track financing responsibilities. For most private operators, track rehabilitation and, especially, track renewal should be financed by Governments as the long life expectancy of these assets (i.e., 40 to 50 years) often makes the operators unable to pay for the cost of private capital necessary to finance them. One of Governments' first priorities when privatizing railways, however, is specifically to garner private financing to rehabilitate dilapidated track infrastructure. It is not surprising, therefore, that ongoing and planned railway concessions offer varying solutions to this financing dilemma. These solutions, although they are all different, seem broadly to be structured around the following two general approaches:

- **Governments subsidize initial track rehabilitation and renewal costs:** under this approach Governments often agree to play the role of financing outfit by securing advantageous loan conditions from IFIs to finance track rehabilitation and renewal costs. These loans which are on-lent to private operators tend to only cover the initial five-year investment plan in the hope that they will suffice to propel each concessionaire's traffic to a level that will enable it to self-finance afterwards the future track investments (e.g., Madarail and Beira Railways – see Figure 27). This approach is commonly used for railways for which the ratio of the initial track investment plan over revenues is considered too high to mobilize sufficient private financing and, thus, needs to be complemented at different levels by publicly backed financing. (i.e., see Figure 28 and Annex D).
- **Governments do not finance initial track renewal but commit to compensate concessionaires for their investment by the end of the concession:** whenever Governments elect not to finance initial track investments (i.e., KRC/URC, TRC and Zambia railways), it is usually because the initial amount to be invested is relatively small in relation to expected revenues (i.e., case of Zambia Railways – see Annex D) and, thus, it is assumed that private operators will be able to secure private financing based on the sole business merits of their concession.

68. Under both approaches, Governments usually have agreed to purchase from the private operators the non-amortized portion of the tracks they will have financed by the end of their concessions (e.g., KRC/URC, Camrail, Transrail, Madarail and TRC). The real impact of this contractual commitment on the level of privately financed track works has yet to be ascertained as each Government's ability to actually pay for the non-amortized value of tracks will mostly depend on the final amount that will have to be reimbursed to the Concessionaire. Accordingly, depending on the perceived payment capacity of a Government, one could expect to see in some cases a significant slowdown in privately financed track rehabilitation work towards the end of a concession which would only be detrimental to the future of the railways. To mitigate this problem which is not unique to railway concessions (i.e., same problem exists for all infrastructure financed projects), both Uganda and Kenya within the framework of the KRC/URC concession have contracted a Partial Risk Guarantee (PRG) from the World Bank to securitize their payment obligations to the Concessionaire up to a maximum of USD 40

million⁴⁰. Although this solution strengthens considerably Governments' track reimbursement commitment, it does remain that the surest way for a Government to secure privately financed track investment is by: 1) ensuring that the business fundamentals behind the proposed investment are sound (i.e., that the Concession is a good business proposition), 2) that the non-amortized value of the assets owed to the Concessionaire by Government remains reasonable at the end of the concession period; and, 3) that the concession agreement allows for possible extension of the concession period.

69. Regardless of the approach adopted for track financing, however, Governments must recognize that their concessioning strategies will always be constrained by the business fundamentals of the proposed railway privatization deal. Indeed, it is of utmost importance that they realize this as choices made during the development of a railway privatization strategy are invariably subjected to a zero-sum game whereby for any level of projected traffic, revenues and profits, a Concessionaire will only be able to bear a definite amount of charges; irrespective of the nature of these charges (i.e., concession fees, borrowing costs, rolling stock acquisition costs, etc.). This essential fact is illustrated in Figure 31 through the correlation of the level of projected or actual debt borne by an operator⁴¹ by the end of the fifth year of concession operations⁴² with the level of concession fees⁴³ that it will be able to service. As shown, aside from Beira Railways and Sitarail whose concession fee levels do not seem tied to their respective debt levels due to special circumstances⁴⁴, the remaining concessions' financial structures display clear linkages between debt and concession fee levels. Indeed, one could argue that in the case of Madarail and Camrail, both companies' debt-to-concession fee ratios

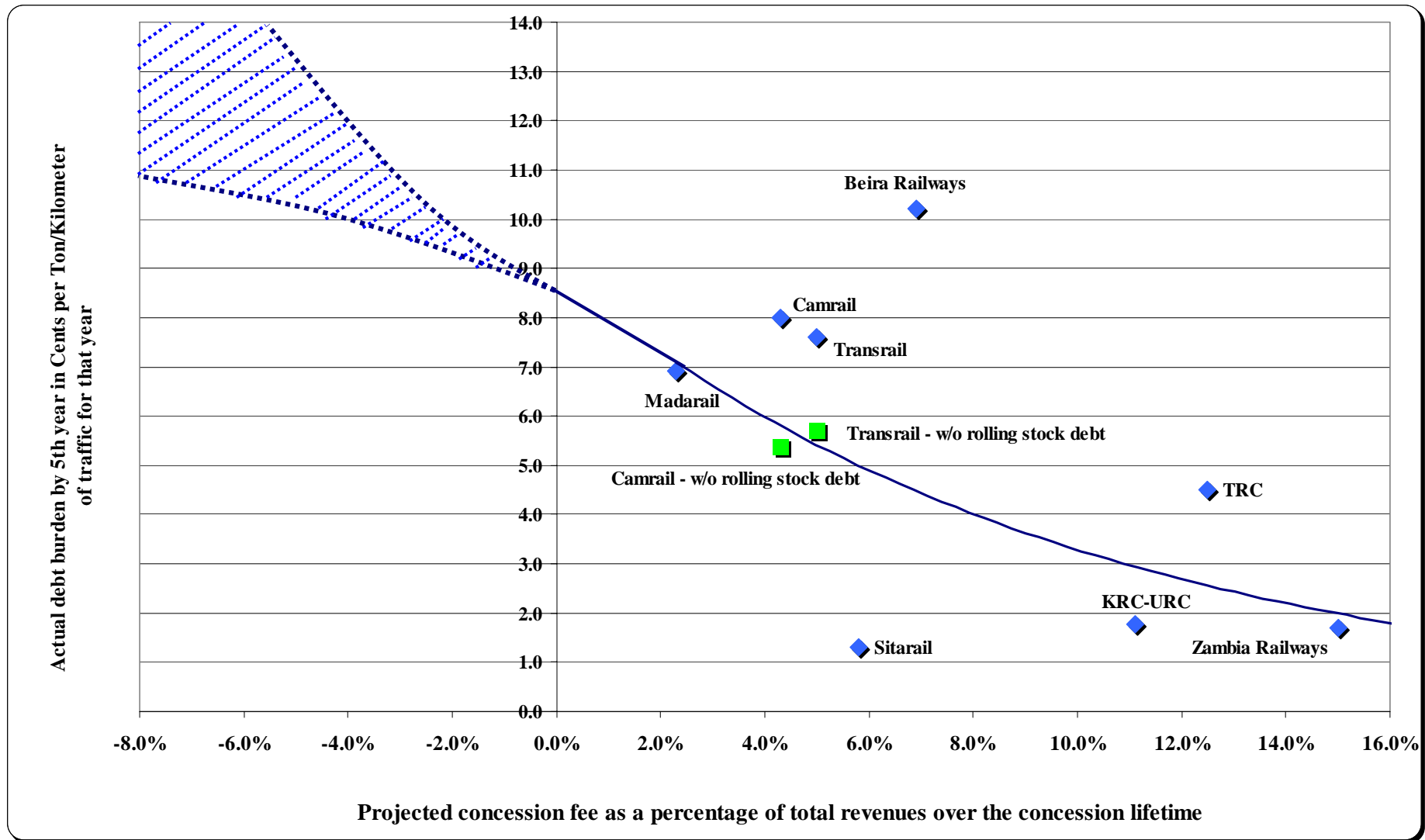
⁴⁰ In the KRC/URC case, each Government has agreed to provide for free at the beginning of the concession both rolling stock and tracks. Accordingly, they have devised a mechanisms whereby an amortization account will exist for both KRC and URC whereby assets transferred from each Government to the Concessionaire will be amortized as a liability from the Concessionaire to them while newly acquired rolling stock and track financed by the Concessionaire will be also amortized under the same account but will be counted as a credit to the Concessionaire.

⁴¹ Expressed in cents per Tkm realized that year.

⁴² The end of the fifth year for each concession was selected for two reasons: 1) it is for all concessions the end of the initial investment plan agreed upon with the Concessioning Authorities beyond which is it assumed that most new investment will be financed through operating cash flow (i.e., will not increase existing debt load), and 2) it accounts for most of the traffic growth that will be achieved by the private operator. A survey of all nine (9) concessions traffic projections show that over the lifetime of the concession, more than 2/3 of all traffic growth is forecasted to occur by the end of the fifth year of operations.

⁴³ Expressed as a calculated average of the percentage of net revenues over the concession life-span.

⁴⁴ In the case of Sitarail, this specific circumstance is tied to the nature of Sitarail concession contract (i.e., it is an affermage) whereas Sitarail does bear the cost of initial rolling stock and track investment through the payment of an asset financing fee but does not carry on its balance sheet that investment as it has been assigned by the State asset holding companies of Burkina Faso and Côte d'Ivoire (i.e., Compagnie de Patrimoine). Accordingly, Sitarail's balance sheet reflects only about 1/10 of the actual debt contracted to rehabilitate its track and rolling stock, or about USD 6.6 million out of a total of USD 56.7 million (see Annex D). In the case of Beira Railways, the skewed picture provide by Figure 31 comes from the fact that fifth year traffic was used as a reference to relate debt burden to traffic revenues. However, since Beira Railways had seized operating the section of the track where most of the investment is to be made, the impact in term of traffic volumes of the projected investment will not start to be seen until after year 6, thus pushing Beira Railways lower on the graph towards the drawn curve.



Note: For Sitarail, the numbers presented only account for the debt shown on Sitarail’s books, or USD 6.6 million versus a total debt of USD 63.3 million. Under its affermage contract Sitarail must, however, service the debt contracted by the holding companies. Inclusion of the entire debt would thus increase Sitarail “real” debt burden and bring it debt burden around 9 cents per Tkm. Likewise for TRC, the level of concession fees to be paid is estimated based on the concession financial model developed prior to the bidding process. For Zambia Railways, the concession fee level shown includes the impact of the initial “entry ticket fee”, thus raising the total from 13.7% to 15.0% of total revenues. Finally, for Madarail, the ratio shown accounts for Madarail recent debt restructuring that reduced its debt by 2/3.

Source: see Annex A

Figure 31: Correlation between rail operators’ concession fee burden and debt burden

could have been used to predict accurately things to come at the time of their concessioning.

70. In the case of Madarail, initial investment plan would have translated into a debt of no less than 18 cents per Tkm transported by the fifth year of operations (i.e., by 2008). As suggested by the correlation curve in Figure 31, such level of debt in relation to traffic should have resulted into a negative concession fee to the Government (i.e., a Government's subsidy) rather than the agreed upon 2%+ concession fee. This fact became clear when in June 2005, after less than 2 years of operations, the Malagasy Government agreed to take over 2/3 of Madarail's debt in order to reduce its debt to a sustainable level (see Figure 31). Likewise, in the case of Camrail, fifth year debt load stood at about 8 cents/Tkm, a level that proved incompatible (see Figure 31) with the level of concession fees to be paid by the operator. Consequently, Camrail's and the Government agreed on a concession contract amendment in June 2005 whose primary effect was to lower the company's debt burden by transferring, through 2015, the cost of future track financing to the Governments while at the same time capping the concession fee to less than 4% of net revenues⁴⁵. It is expected that the combined impact of the two measures will restore Camrail's future ability to service its debt while underscoring the fact that the initial rolling stock acquisition cost (i.e., equivalent to about 2.5 cents per Tkm or USD 42.4 million by year 5 of operations) was simply too high when combined with the imposed five-year investment plan burden.

VII. Conclusions and recommendations

71. Many of the concerns regarding railway concessioning in Sub-Saharan Africa are based on the assumption that there is little guarantee that private operators will not take advantage, or even reinforce, the monopolistic qualities of the state-owned enterprises they have taken over. Indeed, the corridor-like structure of the transport network served by these railways seems to create a propitious environment for monopolies to thrive. The findings presented in this ESW, however, do not support the idea that SSA private rail operators are in a position to exert undue market/pricing power vis-à-vis the sector's main stakeholders (i.e., Governments, customers and competitors). On the contrary, these show that rail operators are generally in a weak position when it comes to raising existing tariffs and that, even in the cases when they enjoy a sizeable market share, their shipping clients, including the smaller ones, have ample leverage to resist increased tariffs because of robust and heavily government-subsidized truck competition. While this should be considered as a positive finding, issues surrounding the implementation, monitoring and financial structuring of planned or existing railway concessions cannot be ignored if rail concessions are to thrive in SSA. Providing satisfactory solutions to these issues is thus vital to the economic development of the countries served by these railways as there is little doubt that for distances over 500 Km, railways still offer the most economical solution to transporting non-time sensitive bulk freight.

⁴⁵ This reduction will be initially limited to the following 5 years (i.e., 2005-2009) and will represent a decrease in concession fee level of 35% over what was previously agreed (i.e., 5.4% of net revenues).

72. The issues raised by this ESW and their associated possible answers/solutions are:

- **Limited capacity and/or willingness of private operators to finance track renewal:** even with public-backed debt financing instruments at their disposal, private operators may often find themselves unable to generate sufficient cash-flow to service the cost associated with track renewal in addition to paying significant entry ticket and concession fees. While this problem occurs mostly when a concession's business fundamentals are weak (i.e., is subjected to a non-favorable ratio of investment burden over revenues), it does underscore design problems pertaining to concession strategies that make the level of concession fee offered by a Concessionaire and/or its rolling stock purchasing proposal the ultimate measure of a deal success

Possible solutions/answers: when privatizing a railway, a Government should always remember that a private operator's financial commitment is inevitably constrained by a host of factors among which the most important are: a) required internal rate of return on equity, b) operations cash flow generation potential, and c) political and commercial risks level. Accordingly, when deciding on the most appropriate financial structure for a concession a Government should: a) factor the above mentioned key factors in order to determine what privatization strategy will ultimately yield the most positive impact on its economy while generating the highest possible level of interest among probable investors and, b) remember that payments and investment of any sort made by a Concessionaire are limited by the business fundamentals of the proposed concession. Consequently, Governments should be ready whenever necessary to surrender higher concession fees for more investment or, in the most extreme cases, agree to implement a negative concession fee that will allow them to get the investment in track and rolling stock they seek while limiting their up-front financial exposure.

- **Limited financial prospects of existing rail concessions, in part, due to the current nature of intermodal competition:** it is becoming clear that classic concession schemes (i.e., those that require the private operator to take on a significant debt burden in relation to revenues) in SSA are unlikely to produce the kind of profits that will make them attractive to bidders other than those which can secure financial gains not directly linked to the railway operations (e.g., through control of the entire distribution chain or supply of equipment). Consequently, unless the financial structure of certain existing or planned rail concessions is changed and the market environment in which they operate is favorably altered (i.e., trucking activities are less subsidized by Government), one would expect that the current limited interest shown by private operators in the railway concessioning market in SSA will continue. Furthermore, definite financial protection should be offered by Government to concessionaires when they impose on them the operation of loss making passenger train services.

Possible solutions/answers: one effective way to boost the financial prospects of rail concessions is to require Governments to be more realistic in terms of what can be expected from private operators by improving the bankability of existing

and proposed concessions (see prior recommendation). Another important possible solution relies on developing new national transport policies that recognize the critical linkages between direct and indirect road user subsidies and railway concession's financial prospects. Since very little knowledge exists on this critical issue, it would be essential that empirical evidence on these linkages be gathered and studied in order to develop adequate national transport policies. In this respect, donor organizations or the Sub Saharan Africa Transport Program (SSATP) could be called upon to spearhead this analytical work with a view to helping Governments integrate their results quickly into their national transport policies. In the case of the World Bank, this would mean launching an ESW on this very matter as well as on the issue of affordable and sustainable public passenger services.

- **Governments' inability to efficiently regulate private operators:** this ESW clearly shows the difficulties that Governments encounter in regulating private railway operators. Although the analyzed concession contracts seem to provide a comprehensive array of tools for Governments to monitor rail concession operations, either directly or through regulators, one must note that the monitoring approaches currently utilized seem to fall short of expectations. This situation primarily stems from recurring deficiencies in the technical capacity of existing regulatory bodies, lack of detailed reporting requirements by railway operators regarding key operational and financial ratios, and the absence of efforts to gather information from freight users to verify tariff and service quality information.

***Possible solutions/answers:** since the challenge of proper technical oversight is a recurrent one for all concessions in all sectors of the economy, it is important that existing or pending railway concession contracts be strengthened considerably to force operators to provide very detailed financial and operational information to Governments and regulators in order for Governments not only to calculate independently a Concession's yearly rate of return on equity and fixed assets but also its economic rate of return. Specific attention should also be given to financing, as part of these concession contracts, yearly independent audits of the concessionaire's financial and operational performance. Indeed, it would be advisable to ensure that the terms of reference for these audits are spelled-out in each of these contracts Likewise, considerable effort and time should be devoted by regulators to gather information from freight users both in terms of tariffs and service quality as well as inter-modal competition.*

- **Governments' erratic behavior vis-à-vis railway concessionaires:** the performance of existing concessions has been negatively affected by uncoordinated actions from various ministries within a Government. Examples of these actions range from administratively imposed salary increases to access restrictions of container facilities or unfunded public service requirements imposed on rail operators. Most of these actions could have been averted, however, would it have been for the existence of an effective public concession oversight body.

Possible solutions/answers: *experience shows that most of the adverse actions taken by ministries within a Government could have been avoided if a properly staffed, funded and authoritative oversight body had existed. Accordingly, it would behoove Governments to seriously review the current or planned role of such bodies to ensure that they have the necessary political and technical clout to discipline Governments' actions towards private rail operators. Practically, this means that these bodies should meet frequently (at least once a month) to discuss with the concessionaire any pending issues. Likewise, they should be composed of at least a permanent railway technical expert, a railway financial expert and a lead whose sole work should be to monitor the railway concession. These individuals should be appointed directly by the highest level of Government and report directly to at least the transport, finance and prime ministers. Finally, their tenure should be limited to a single five year mandate to preserve their independence both vis-à-vis the Government and the Concessionaire.*

Annex A

Sources for report's figures

- Figure 1:** World Bank – Private Participation in Infrastructure Database, 2005
- Figure 2:** World Bank, 2005
- Figure 3:** World Bank, 2005
- Figure 4:** World Bank, 2005
- Figure 5:** World Bank, 2005
- Figure 6:** African Development Indicators, World Bank, 2005
- Figure 7:** International Trade Center, UNCTAD/WTO, 2004
- Figure 8:** Port Autonome d'Abidjan's Website, Port de Douala's Annual 2001 report
- Figure 9:** Sitarail, Transrail et Camrail audited accounts for 2002, 2004 and 2003, respectively
- Figure 10:** Sitarail audited account for 2001
- Figure 11:** World Bank, 2005
- Figure 12:** Sitarail, Camrail, Transrail and Madarail audited accounts for 2002, 2003 and 2004, respectively.
- Figure 13:** Ibid.
- Figure 14:** Madarail's market share computed based on import/export volume at the port of Toamasina for 2004 vs. Madarail traffic from Toamasina to Antananarivo. Transrail's market share computed based on total trade information provided in 2004 ESW Republic of Mali: Transport Support to Sustainable Economic Growth vs. Transrail recorded freight volumes in 2004 per company's operational report. Sitarail's market share obtained from company's annual report. Camrail's market share computed based on port of Douala's freight volumes in 2003 vs. Camrail transported cargo volumes. TRC's market share information obtained from CPCS Transcom's Market Study and Financial Modeling, Transaction support for the concessioning of Tanzania Railways Corporation, November, 2004.
- Figure 15:** Audited accounts 2003/2004 for Sitarail, Madarail, Transrail and Camrail. Financial model prepared by CPCS Transcom for TRC in November 2004 in support of its concessioning and financial projections produced by the Bolloré Group for CFCO concession contract in October 2004.
- Figure 16:** CPCS Transcom's Market Study and Financial Modeling, Transaction support for the concessioning of Tanzania Railways Corporation, November, 2004.
- Figure 17:** World Bank's railway database, 2005
- Figure 18:** CPCS Transcom's Market Study and Financial Modeling, Transaction support for the concessioning of Tanzania Railways Corporation, November, 2004; Sitarail, Camrail, Transrail and Madarail audited accounts for 2002, 2003 and 2004, respectively.
- Figure 19:** Sitarail audited accounts for 2001.
- Figure 20:** L. Le Ruyet's Camrail, financial, institutional and organizational review, May 2004.
- Figure 21:** Sitarail audited accounts for 2002.
- Figure 22:** Sitarail financial projections 2004-2015, the Bolloré Group, 2005.
- Figure 23:** Sitarail audited accounts from 1996 through 2001.

Figure 24: Camrail audited accounts from 1999 through 2004.

Figure 25: Camrail and Sitarail audited accounts from 1999 through 2004.

Figure 26: Camrail 2004 audited accounts and financial projections 2004-2015, the Bolloré Group, 2005.

Figure 27: Based on information provided in Annex D

Figure 28: Based on information provided in Annex D

Figure 29: World Bank, 2005

Figure 30: Based on information provided in Annex D

Figure 31: Based on information provided in Annex D

Annex B: Camrail's Rapport d'Activités, 2005 for Table B-1

Annex C: Concession contracts for Camrail, Sitarail, Madarail and Transrail

Annex D: TRC: "TRC Concession Model 20050115 unprotected.xls"

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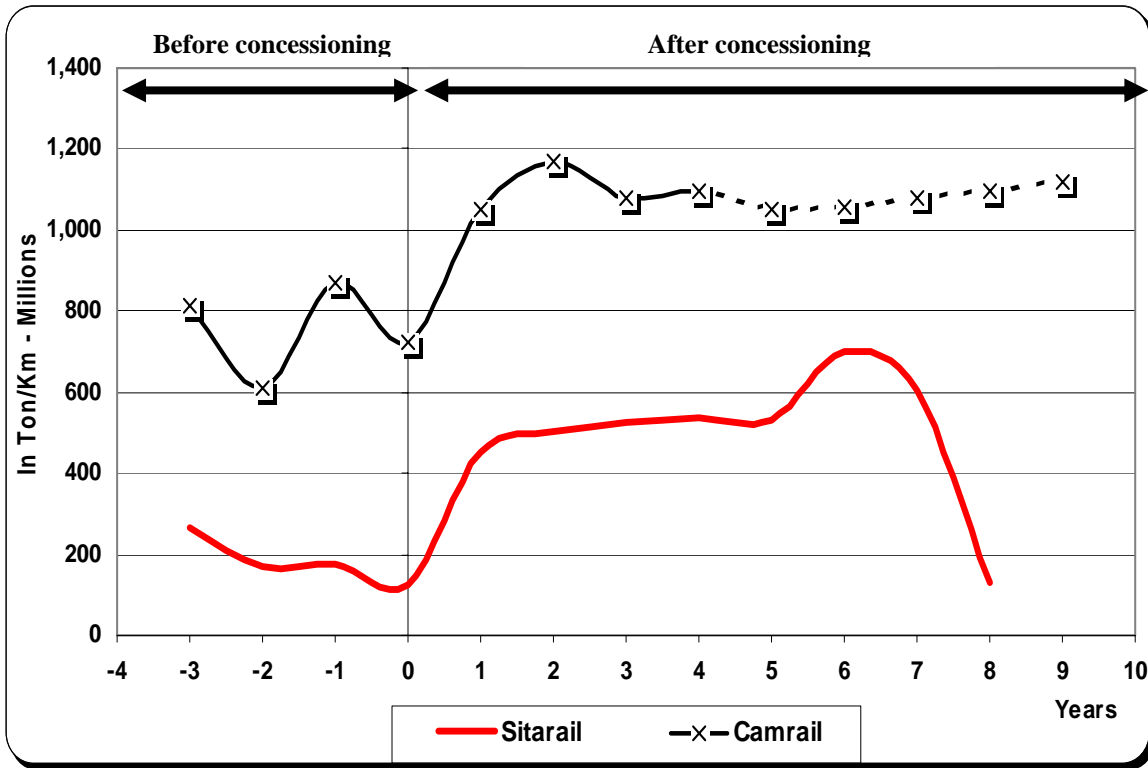
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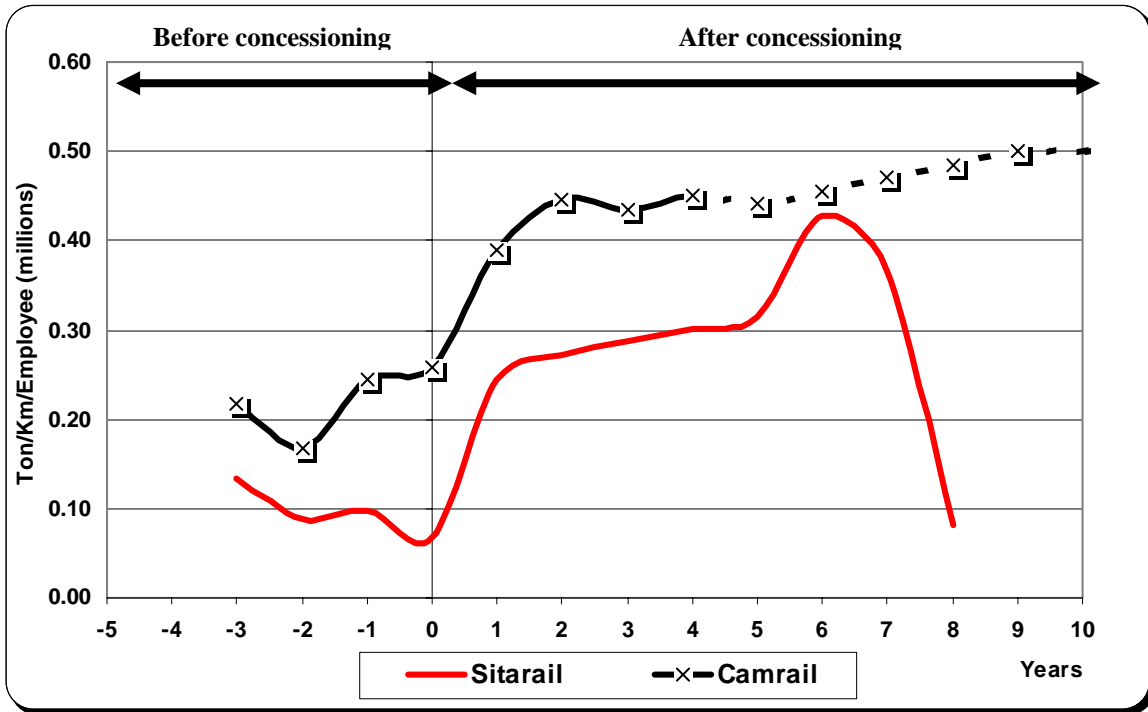
Annex B

Sitarail and Camrail operational performances before and after concessioning



Source: World Bank, 2005

Figure B- 1: Sitarail and Camrail traffic performance since concessioning



Source: World Bank, 2005

Figure B- 2: Sitarail / Camrail employee productivity performance since concessioning

Performance indicators	Baseline (FY2000)	Targeted by 12/31/2005	Achieved by 12/31/2005	Performance change between FY2000 and 12/31/2005
Debt service coverage ratio	1.96	>= 1.40	1.40	- 28.5%
Long term debt to equity ratio	2.53	<= 2.00	1.80	- 28.8 %
Ratio of current assets	0.55	>= 1.10	0.90	+ 63.63 %
Wagon turnaround number of days	8.3	<= 7.0	5.6	- 32.53 %
Staff productivity traffic unit / staff	459,957	>= 515,000	534,049	+ 16.10 %
Ratio of staff costs to traffic	35.99 %	<= 30.00%	27.60 %	- 23.31%
Cumulative length of slow down in effect for more than 90 days	40.4 km	<= 9.0 km	2.4 km	- 94.05%
Number of working locomotives (out of 62)	38	=> 45	54	+ 42.11%
Reliability of locomotives (number of breakdowns per 100,000 km) for:				
-CC2200	8.8	<= 6.2	5.4	+ 38.63%
-CC2600	5.7	<= 6.2	13.1	- 129.82%
-BB1100	16.6	<= 15.0	14.6	+ 12.04%
-BB120	43.5	<=40.0	24.1	+ 44.59%
Availability of CC locomotives for CC2200	73.2 %	>=83.0%	76.9%	+ 5.05%
Mileage (in km) per year and per available locomotive	76,414	=> 88,000	90,711	+ 18.71%

Note: negative numbers in the performance change column do not necessarily mean worsening performances.

Table B-1: Camrail detailed performance improvements since concessioning

Annex C

Comparative review of Camrail, Sitarail, Madarail and Transrail concession/affermage contracts contractual clauses

Concession elements	Transrail	Sitarail	Camrail	Madarail
Starting date	<ul style="list-style-type: none"> September 2003 	<ul style="list-style-type: none"> September 1995 	<ul style="list-style-type: none"> January 1999 	<ul style="list-style-type: none"> October 2002
Duration	<ul style="list-style-type: none"> 25 years 	<ul style="list-style-type: none"> 15 years initially Extended to 35 years in 2001 	<ul style="list-style-type: none"> 20 years initially Extended to 30 years in 2005 	<ul style="list-style-type: none"> 25 years
Tariff setting mechanisms	<ul style="list-style-type: none"> Free setting. No passenger service agreement in place right now. Interim agreement provides for full compensation of the Concessionaire's costs associated with existing passenger services by the Concessioneing Authority. Concessionaire is free to negotiate discounted tariffs with any users' category as long as these discounts do not threaten the profitability of its operations. Multimodal tariffs can be used. 	<ul style="list-style-type: none"> Free setting. If tariffs are imposed within the context of a public service agreement (usually passenger service), then Concessionaire is eligible for full compensation of costs incurred through a subsidy mechanism. Total liberty to set tariffs. Tariffs, however, must be sufficient to cover operating costs. Concessionaire is free to negotiate discounted tariffs with certain users' categories as long as these discounts do not threaten the profitability of its operations. Multimodal tariffs can be used. 	<ul style="list-style-type: none"> Free setting. Concessionaire is free to negotiate discounted tariffs with any users' category as long as these discounts do not bring the level of tariff below costs for more than a year and on a non-recurring basis. Multimodal tariffs can be used. 	<ul style="list-style-type: none"> Free setting. Concessionaire is free to negotiate discounted tariffs with any users' category as long as these discounts do not bring the level of tariff below costs for more than a year and on a non-recurring basis. Multimodal tariffs can be used. In the event that the tariff offered to a user is not agreeable to the latter, the designated user can seek recourse through arbitration to obtain a lowering of that tariff. If tariffs are imposed within the context of a public service agreement (usually passenger service), then Concessionaire is eligible for full compensation of costs incurred through a subsidy mechanism.
Actions that qualify as evidence of excessive market/pricing power	<ul style="list-style-type: none"> Tariff applied is more than twice the level of charges incurred (including the depreciation and capital costs associated with the operation of the rolling stock) When the Concessionaire overtly discriminate a client or a group of clients in terms of transport conditions. When the Concessionaire refuses to provide service to a client or a group of clients whose activities depend on access to rail services. If the Concessioneing Authority considers that discriminatory behavior has taking place, it can authorize the affected parties to operate directly or via a third party agreement their own rail services. 	<ul style="list-style-type: none"> None listed. 	<ul style="list-style-type: none"> Tariff applied is more than twice the level of charges incurred (including the depreciation and capital costs associated with the operation of the rolling stock) When the Concessionaire overtly discriminate a client or a group of clients in terms of transport conditions. When the Concessionaire refuses to provide service to a client or a group of clients whose activities depend on access to rail services. If the Concessioneing Authority considers that discriminatory behavior has taking place, it can authorize the affected parties to operate directly or via a third party agreement their own rail services. 	<ul style="list-style-type: none"> Tariff applied is more than twice the level of charges incurred (including the depreciation and capital costs associated with the operation of the rolling stock) When the Concessionaire overtly discriminate a client or a group of clients in terms of transport conditions. When the Concessionaire refuses to provide permanently or temporarily service to a client or a group of clients whose activities depend on access to rail services.

Concession elements	Transrail	Sitarail	Camrail	Madarail
Third party operator access to the track maintained by the concessionaire	2 cases:	2 cases:	2 cases:	2 cases:
	<i>1. Operating licenses awarded by the Concessioneing Authority</i>	<i>1. Operating licenses awarded by the Concessioneing Authority</i>	<i>1. Operating licenses awarded by the Concessioneing Authority</i>	<i>1. Operating licenses awarded by the Concessioneing Authority</i>
	<ul style="list-style-type: none"> • Concessioneing Authority can award a license to operate on the Concessioneaire track to a third party in the following cases: <ul style="list-style-type: none"> ➤ When the Concessioneaire has agreed to it. ➤ When the third party operates public services for which the Concessioneaire could have bided on. ➤ When the third party operates a transport service related to mining activities. ➤ When the third party operates on a network linked to that of the Concessioneaire and is limited to transport services from/to the third party’s network. ➤ When the Concessioneaire has seriously failed to address the transport needs of one or a group of clients. In this case, only the services related to that/these clients can be provided by a third party. 	<ul style="list-style-type: none"> • Such request cannot occur during the first seven years of the concession. • The Concessioneaire cannot discriminate against the other operator(s) designated by the Concessioneing Authority after this initial period. 	<ul style="list-style-type: none"> • Such request cannot occur during the first five years of the concession. • Concessioneing Authority can award a license to operate on the Concessioneaire track to a third party in the following cases: <ul style="list-style-type: none"> ➤ When the Concessioneaire has agreed to it. ➤ When the third party operates public services for which the Concessioneaire could have bided on. ➤ When the third party operates a transport service related to mining activities. ➤ When the third party operates on a network linked to that of the Concessioneaire and is limited to transport services from/to the third party’s network. ➤ When the Concessioneaire has seriously failed to address the transport needs of one or a group of clients. In this case, only the services related to that/these clients can be provided by a third party. 	<ul style="list-style-type: none"> • Concessioneing Authority can award a license to operate on the Concessioneaire track to a third party in the following cases: <ul style="list-style-type: none"> ➤ When the Concessioneaire has agreed to it. ➤ When the Concessioneaire has seriously failed to address the transport needs of one or a group of clients. In this case, if the disagreement between the operator and the Concessioneaire centers on the costs of the services to be provided, then the Concessioneaire is entitled to be paid at a minimum the costs associated with the provision of this services + 50% related to the Concessioneaire’s structural charges.
	<i>2. Agreement between the Concessioneaire and another Operator</i>	<i>2. Agreement between the Concessioneaire and another Operator</i>	<i>2. Agreement between the Concessioneaire and another Operator</i>	<i>2. Agreement between the Concessioneaire and another Operator</i>
<ul style="list-style-type: none"> • Concessioneaire can sign operating agreement with a third party if the latter has been licensed to operate a service by the Concessioneing Authority. • Concessioneaire freely negotiate terms of agreement with third party but the fee agreed between both parties cannot be less that the full cost to the Concessioneaire of the third party operations plus 10%. 	<ul style="list-style-type: none"> • Negotiations between these two entities are free with no requirement for disclosure to Concessioneing Authority except for the technical characteristics of the operations to be undertaken. 	<ul style="list-style-type: none"> • Concessioneaire can sign operating agreement with a third party. • The fee paid by the third operating party cannot be lower that the cost incurred by the Concessioneaire in providing access to the track. 	<ul style="list-style-type: none"> • Concessioneaire can sign operating agreement with a third party. • The fee paid by the third operating party cannot be lower that the cost incurred by the Concessioneaire in providing access to the track. 	

Concession elements	Transrail	Sitarail	Camrail	Madarail
Ancillary services	<ul style="list-style-type: none"> • Concessionaire can provide services complementary to its transport service including, but not limited to, freight storage, freight forwarding, etc. 	<ul style="list-style-type: none"> • Concessionaire can provide services complementary to its transport service including, but not limited to, freight storage, freight forwarding, etc. 	<ul style="list-style-type: none"> • Concessionaire can provide services complementary to its transport service including, but not limited to, freight storage, freight forwarding, etc. • The Concessionaire is free to set commercial passenger services and adjust their frequency and tariffs as it sees fit. 	<ul style="list-style-type: none"> • Concessionaire can provide services complementary to its transport service including, but not limited to, freight storage, freight forwarding, etc. • The Concessionaire is free to set commercial passenger services and adjust their frequency and tariffs as it sees fit.
Concessionaire financial responsibility in relation to the rail infrastructure	<ul style="list-style-type: none"> • Concessionaire supports all the operations, maintenance, renewal and building costs of the track, except in the case of public service contracts containing specific clauses to that effect. • Concessionaire can elect to finance directly investment in the track, following approval from the Concessions Authority. • Concessionaire investment in rail infrastructure requires, above a certain threshold, approval from the Concessions Authority. 	<ul style="list-style-type: none"> • Concessionaire supports all operation and maintenance costs. Concessions Authority pays for the renewal of track and development investments • Two steps process: 1) the Concessionaire prepares an investment plan and submits it to the Holding company(s); 2) the Holding Company(s) submit the plan to the State(s) for approval & funding. The debt associated with this investment is serviced by the concessionaire. • Concessionaire can elect to finance directly investment in the track, following approval from the Concessions Authority. 	<ul style="list-style-type: none"> • Concessionaire supports all the operations, maintenance, renewal and building costs of the track. • Concessionaire's investment in rail infrastructure requires, above a certain threshold, approval from the Concessions Authority. • Concessionaire's investment in track renewal is reimbursable by the Concessions Authority at the end of the concession based on the residual book value of the investment at that time. • Track turned over to the Concessions Authority at the end of the Concession must be able to withstand operations at a cost similar to that borne by the Concessionaire for at least five years after the end of the concession. 	<ul style="list-style-type: none"> • Concessionaire supports all the operations, maintenance, renewal and building costs of the track. • Concessionaire's investment in rail infrastructure requires approval from the Concessions Authority unless in case of force majeure. • Concessionaire's investment in track renewal is reimbursable by the Concessions Authority at the end of the concession based on the residual book value of the investment at that time or through the transferring of the debt liability relating to the financing of that track. • Track turned over to the Concessions Authority at the end of the Concession must be able to withstand operations at a cost similar to that borne by the Concessionaire for at least five years after the end of the concession.

Concession elements	Transrail	Sitarail	Camrail	Madarail
<p>Concessionaire financial responsibility in relation to the rolling stock</p>	<ul style="list-style-type: none"> • Concessionaire buys from state railways existing rolling stock it wishes to acquire. • Additional rolling stock purchase is financed by the Concessionaire unless it is part of a public service obligation. • Concessionaire can freely sale the rolling stock it owns although the Concessioneing Authority has first right of refusal when it comes to the purchase of that rolling stock. • Costs of maintenance and operations of the rolling is borne by the Concessionaire although these costs can paid for by the Concessioneing Authority in the case of a public service obligation. 	<ul style="list-style-type: none"> • Concessionaire supports all maintenance costs. • Concessioneing Authority supports all rehabilitation & acquisition costs. • Concessionaire can rehabilitate and acquire rolling stock and can use third party's rolling stock. 	<ul style="list-style-type: none"> • Concessionaire buys from state railways existing rolling stock it wishes to acquire. • Additional rolling stock purchase is financed by the Concessionaire unless it is part of a public service obligation. • Concessionaire can freely sale the rolling stock it owns although the Concessioneing Authority has first right of refusal when it comes to the purchase of that rolling stock. • Costs of maintenance and operations of the rolling is borne by the Concessionaire although these costs can paid for by the Concessioneing Authority in the case of a public service obligation. 	<ul style="list-style-type: none"> • Rolling stock purchase is financed by the Concessionaire unless it is part of a public service obligation. • Concessionaire can freely sale the rolling stock it owns although the Concessioneing Authority has first right of refusal when it comes to the purchase of that rolling stock. • Costs of maintenance and operations of the rolling is borne by the Concessionaire although these costs can paid for by the Concessioneing Authority in the case of a public service obligation.
<p>Clauses regarding end of contract for no cause</p>	<ul style="list-style-type: none"> • If the Concessioneing Authority cancels for no cause the concession agreement before its end term, the Concessionaire is entitled to: <ul style="list-style-type: none"> ➢ Projected net benefits for the reminder of the concession contract based on the average benefits achieved during the last three years. ➢ Payment from the Government of any outstanding debt related to railway equipment and track acquisition. ➢ Payment from the Government the residual value of the equipment purchased from the Concessioneing Authority at the beginning of the concession contract. ➢ Payment from the Government of the equivalent of 5% of previous year turnover. 	<ul style="list-style-type: none"> • In the last 6 months of the concession contract, the Concessioneing Authority can decide what is needed to ensure service continuity. At that time, the Concessioneing Authority can buy the equipment owned by the Concessionaire either at a price agreed with the Concessionaire or at a price decided by an arbitrator. 	<ul style="list-style-type: none"> • Following the first ten years of the concession contract, the Concessioneing Authority can decide unilaterally, albeit with a five years pre- notification, to terminate the concession contract. In this case, the Concessionaire is eligible: <ul style="list-style-type: none"> ➢ For compensation of the book value of the track acquired outside of the first 6 year investment program that is not fully depreciated by the end of the concession contract. ➢ Projected net benefits, adjusted for the average lending rate of the central Bank over the last two years + 4%, for the reminder of the concession contract based on the average benefits achieved during the last three years. ➢ Payment from the Government of any outstanding debt related to railway track acquisition agreed under the initial 6 year investment program. ➢ Payment from the Government of laying off costs of Concessionaire personnel resulting of Concessioneing Authority taking over railway operations. 	<ul style="list-style-type: none"> • Following the first ten years of the concession contract, the Concessioneing Authority can decide not to renew the concession. • If the Concession is terminated for no cause, then the Concessionaire is eligible: <ul style="list-style-type: none"> ➢ For compensation of the book value of the track and rolling stock financed by him that is not fully depreciated by the end of the concession contract or for payment of the debt related to these equipments and material ➢ For transfer of all subcontractor agreements liability to the Concessioneing Authority.

Annex D

Operational and financial characteristics of eight planned and already operating railway concessions in Sub-Saharan Africa

	Concessionaire	Concession starting date	Concession length	Initial capital contribution (in US\$ millions)	Shareholders
<i>Tanzania</i>	TRC	2006	25 years	10.0	Not yet known
<i>Mozambique</i>	CCFB (Beira)	2004	25 years	19.7	IRCON : 25%, RITES: 26%, Government: 49%
<i>Kenya-Uganda</i>	URC	2006	25 years	6.8 (E)	Not yet known
	KRC			13.5 ⁽¹⁾	
<i>Zambia</i>	RSZ	2002	20 years	6.1	NLPI: 72.8%, Transnet: 18.2%, Canarail: 6.0%, and Employees: 3.0%
<i>Cameroon</i>	Camrail	1999	20 years	18.5	SCCF: 77.0%, Government: 10.0%, Socirail:4.0%, TOTAL:5.0% and SEBC: 4.0%
<i>Madagascar</i>	Madarail	2003	25 years	5.0	Comazar: 51.0%, Government: 25.0%, Manohisoa Financière:12.5% and Others: 11.5%
<i>Burkina Faso-Cote d'Ivoire</i>	Sitarail	1996	20 years	8.8	Bolloré: 67.0%, Côte d'Ivoire and Burkina Governments: 30.0% and Employees: 3.0 %
<i>Mali-Senegal</i>	Transrail	2003	25 years	17.2	Canac: 78.0%, Mali and Senegal Governments: 22.0%

(E): Estimated

⁽¹⁾ As taken from the financial model proposed by the bidder

⁽²⁾ For Tanzania: total include US\$ 33 million made available by the World Bank in support of track renewal. For Burkina Faso-Cote d'Ivoire: total include state holding companies (called "Compagnies de Patrimoine") investment of US\$52 million

⁽³⁾ Calculated with the average currency rate of 2004: 0.001893 CFAF/US\$

Source: See Annex A

	Concessionaire	Total investment plan amount (first five year - in US\$ millions)	Percentage of investment plan financed through commercial banks and private equity	Percentage of investment plan dedicated to track rehabilitation	Cost of acquisition of rolling stock by the Concessionaire at the time of concessioning (in US\$ millions)
<i>Tanzania</i>	TRC	88.0 ⁽²⁾	62.9%	57.9%	16.6
<i>Mozambique</i>	CCFB (Beira)	152.5	12.3%	83.5%	n.a.
<i>Kenya-Uganda</i>	URC	18.4 (E)	100.0% (E)	85.0% (E)	n.a.
	KRC	44.3 ⁽¹⁾	100.0% (E)	25.7% (E)	n.a.
<i>Zambia</i>	RSZ	14.8	100.0%	22.3%	n.a.
<i>Cameroon</i>	Camrail	89.6	44.4%	25.2%	42.4
<i>Madagascar</i>	Madarail	36.1	40.9%	67.1%	32.8%
<i>Burkina Faso-Cote d'Ivoire</i>	Sitarail	63.3 ⁽²⁾	19.7%	67.8%	n.a.
<i>Mali-Senegal</i>	Transrail	55.4	61.0%	35.7%	18.2

(E): Estimated

⁽¹⁾ As taken from the financial model proposed by the bidder

⁽²⁾ For Tanzania: total include US\$ 33 million made available by the World Bank in support of track renewal. For Burkina Faso-Cote d'Ivoire: total include state holding companies (called "Compagnies de Patrimoine") investment of US\$52 million

⁽³⁾ Calculated with the average currency rate of 2004: 0.001893 CFAF/US\$

Source: See Annex A

	Concessionaire	Actual debt burden carried by Concessionaire by 5th Year of concession (in US\$ millions)	Entry ticket fee	Average concession fee in percentage of revenues (Year 1 to 5)		
				Variable	Fixed	Total
<i>Tanzania</i>	TRC	61.9 (E)	None	5.0%	7.7%	12.7%
<i>Mozambique</i>	CCFB (Beira)	130.0	= > US\$ 2 million	0.0%	0.0%	0.0%
<i>Kenya-Uganda</i>	URC	18.4 (E)	= > US\$ 2 million	11.1% ⁽¹⁾	0.0%	11.1% ⁽¹⁾
	KRC	44.3 ⁽¹⁾	= > US\$ 3 million		0.0%	
<i>Zambia</i>	RSZ	14.8	US\$ 750,000	5.0%	8.7%	13.7%
<i>Cameroon</i>	Camrail	132.0	None	2.9%	0.3%	3.2%
<i>Madagascar</i>	Madarail	12.8	None	1.4%	0.4%	1.8%
<i>Burkina Faso-Cote d'Ivoire</i>	Sitarail	6.6	None	5.8%	0.0%	5.8%
<i>Mali-Senegal</i>	Transrail	73.6	None	1.3%	0.7%	2.0%

(E): Estimated

⁽¹⁾ As taken from the financial model proposed by the bidder

⁽²⁾ For Tanzania: total include US\$ 33 million made available by the World Bank in support of track renewal. For Burkina Faso-Cote d'Ivoire: total include state holding companies (called "Compagnies de Patrimoine") investment of US\$52 million

⁽³⁾ Calculated with the average currency rate of 2004: 0.001893 CFAF/US\$

Source: See Annex A

	Concessionaire	Freight revenues (in US\$ millions)		Actual debt burden by 5th year as a multiple of 5th year revenue	Freight Traffic (in Tkm millions)		Number of Employees		Freight staff productivity	
		Year 1	Year 5		Year 1	Year 5	Year 1	Year 5	Year 1	Year 5
<i>Tanzania</i>	TRC	74.9	135.5	0.5	1,616	2,819 (E)	5,233 (E)	5,008 (E)	308,000	563,000
<i>Mozambique</i>	CCFB (Beira)	6.4	72.2 (E)	2.1	285	1,274 (E)	n.a.	n.a.	n.a.	n.a.
<i>Kenya-Uganda</i>	URC	23.5 (E)	30.3 (E)	0.6	271 (E)	391 (E)	1,190 (E)	1,190 (E)	228,000	328,000
	KRC	78.5 ⁽¹⁾	132.1 ⁽¹⁾	0.3	1,694 ⁽¹⁾	2,642 ⁽¹⁾	3,700 ⁽¹⁾	3,800 ⁽¹⁾	458,000	690,000
<i>Zambia</i>	RSZ	34.5 (E)	51.6 (E)	0.3	686 (E)	878 (E)	1,710 (E)	1,232 (E)	401,000	712,000
<i>Cameroon</i>	Camrail	58.1 ⁽³⁾	72.9 ⁽³⁾	1.8	880	1,114	2,808	2,524	390,000	442,000
<i>Madagascar</i>	Madarail	7.4	28.2 (E)	0.5	62	185 (E)	915	900 (E)	68,000	206,000
<i>Burkina Faso-Cote d'Ivoire</i>	Sitarail	21.4 ⁽³⁾	29.9 ⁽³⁾	0.2	451	528	1,815	1,650	248,000	320,000
<i>Mali-Senegal</i>	Transrail	32.9	51.7 (E)	1.4	382	727 (E)	1,550	1,388	246,000	523,000

(E): Estimated

⁽¹⁾ As taken from the financial model proposed by the bidder

⁽²⁾ For Tanzania: total include US\$ 33 million made available by the World Bank in support of track renewal. For Burkina Faso-Cote d'Ivoire: total include state holding companies (called "Compagnies de Patrimoine") investment of US\$52 million

⁽³⁾ Calculated with the average currency rate of 2004: 0.001893 CFAF/US\$

Source: See Annex A