

Rail freight and development

Transport Forum & Learning Week

**Paul Amos: Transport Advisor World Bank
Washington, March 2007**



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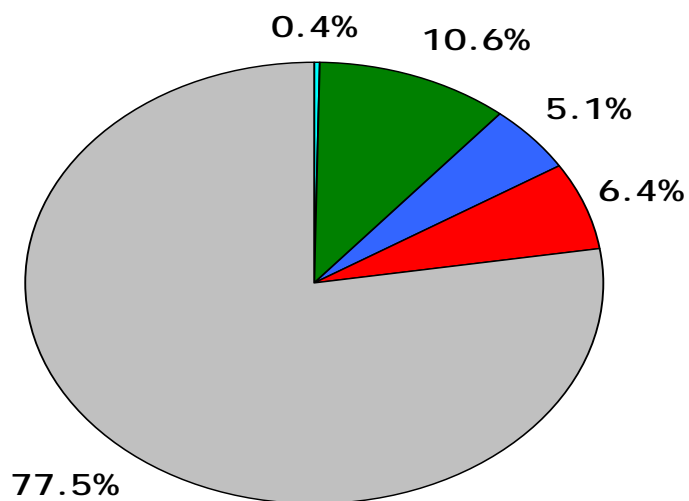
Contents

- ▶ **World Bank and railways: overview**
- ▶ **Financing sources for public railways**
- ▶ **Trends in global freight logistics**
- ▶ **How railways will need to respond**
- ▶ **Importance of private sector finance**
- ▶ **Alternative models for private finance**
- ▶ **Project and governance risks**
- ▶ **Public private partnerships in main line railways**

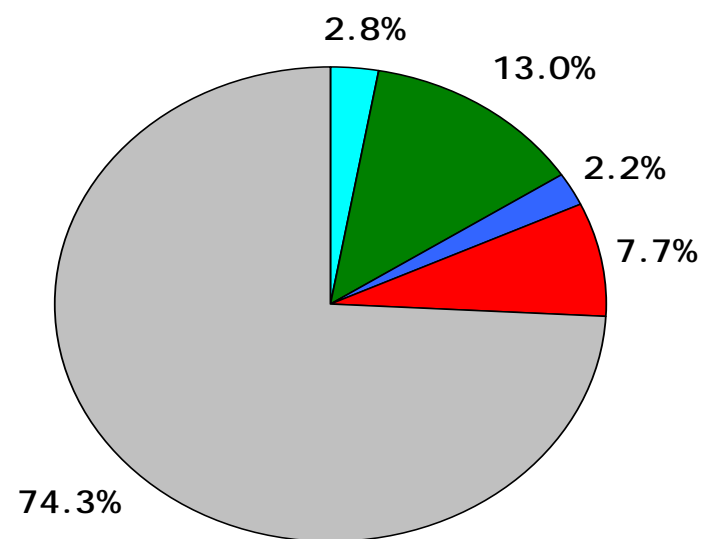


World Bank railway lending.....

FY96 to FY00



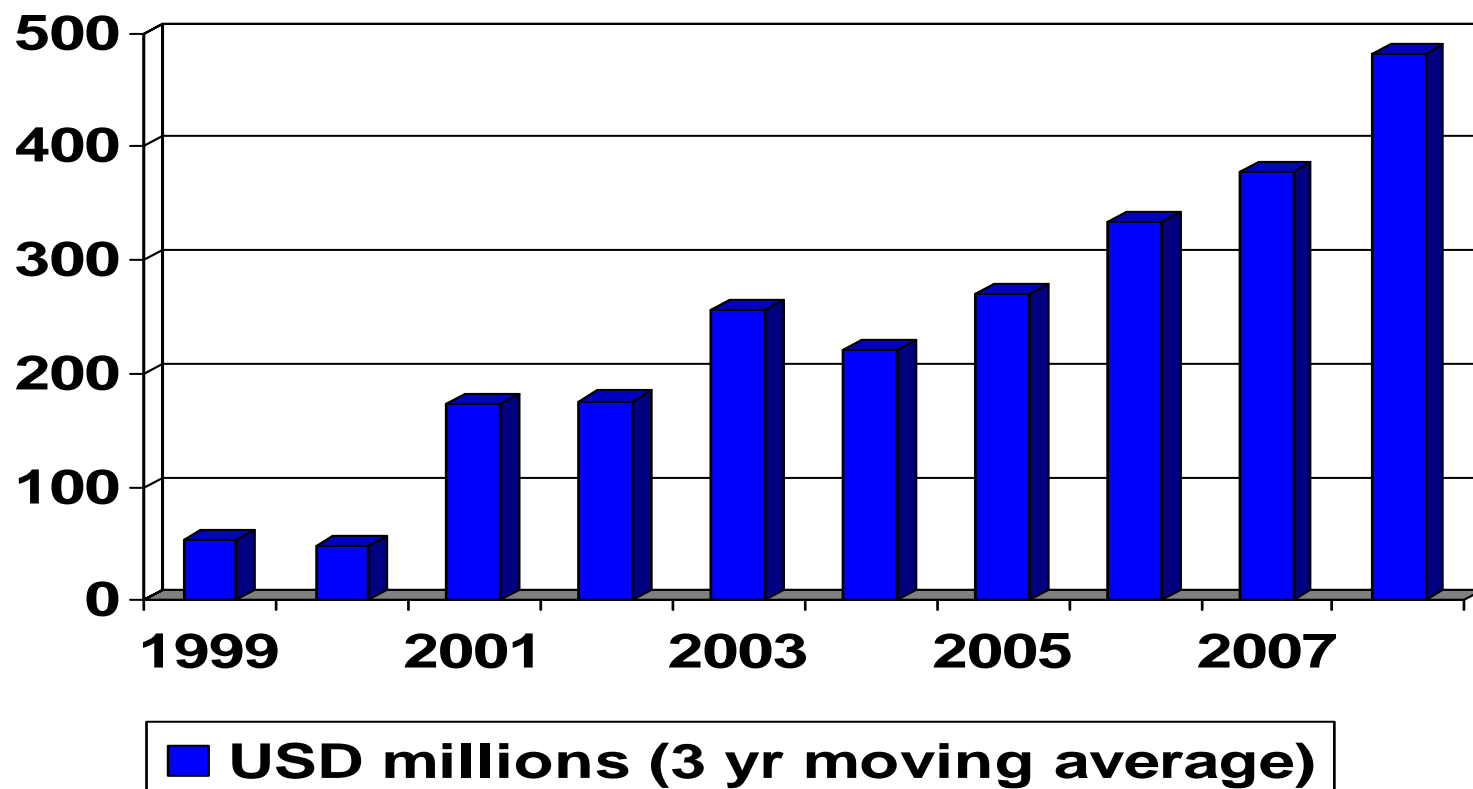
FY01 to FY05



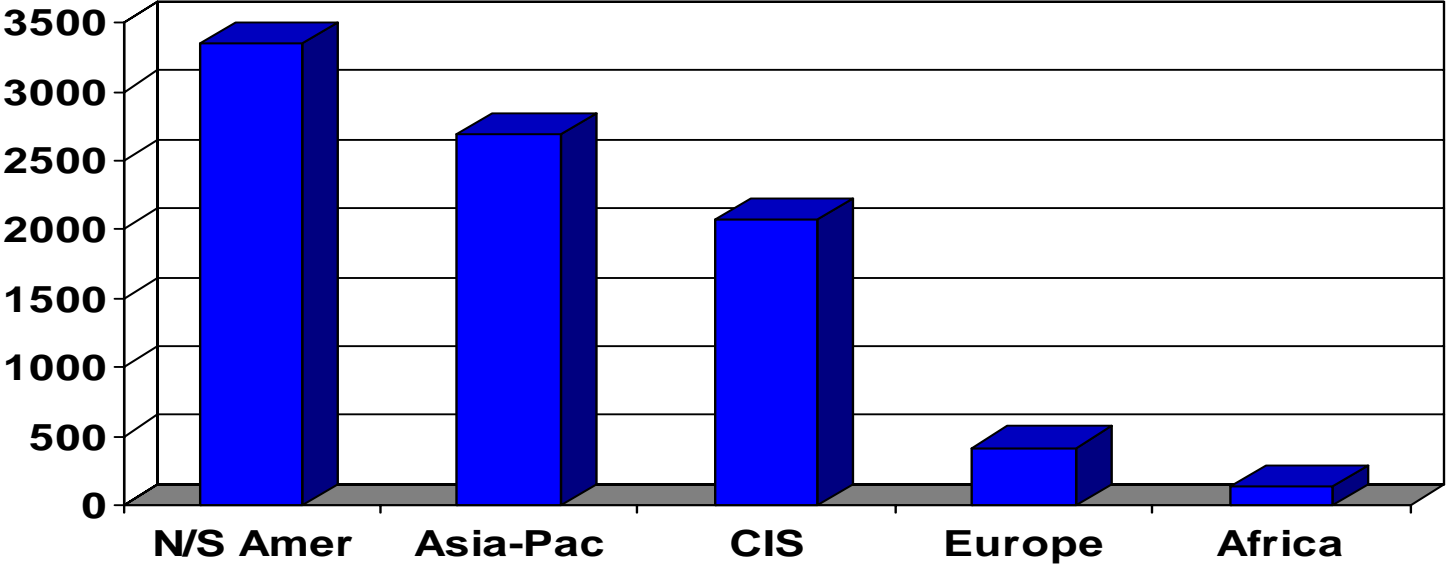
- Aviation
- General Transport Sector
- Ports/Water/Shipping
- Railways
- Roads & Highways



World Bank Railway Project Financing (1999-2008 projected)



Global rail freight, where is it ?.....

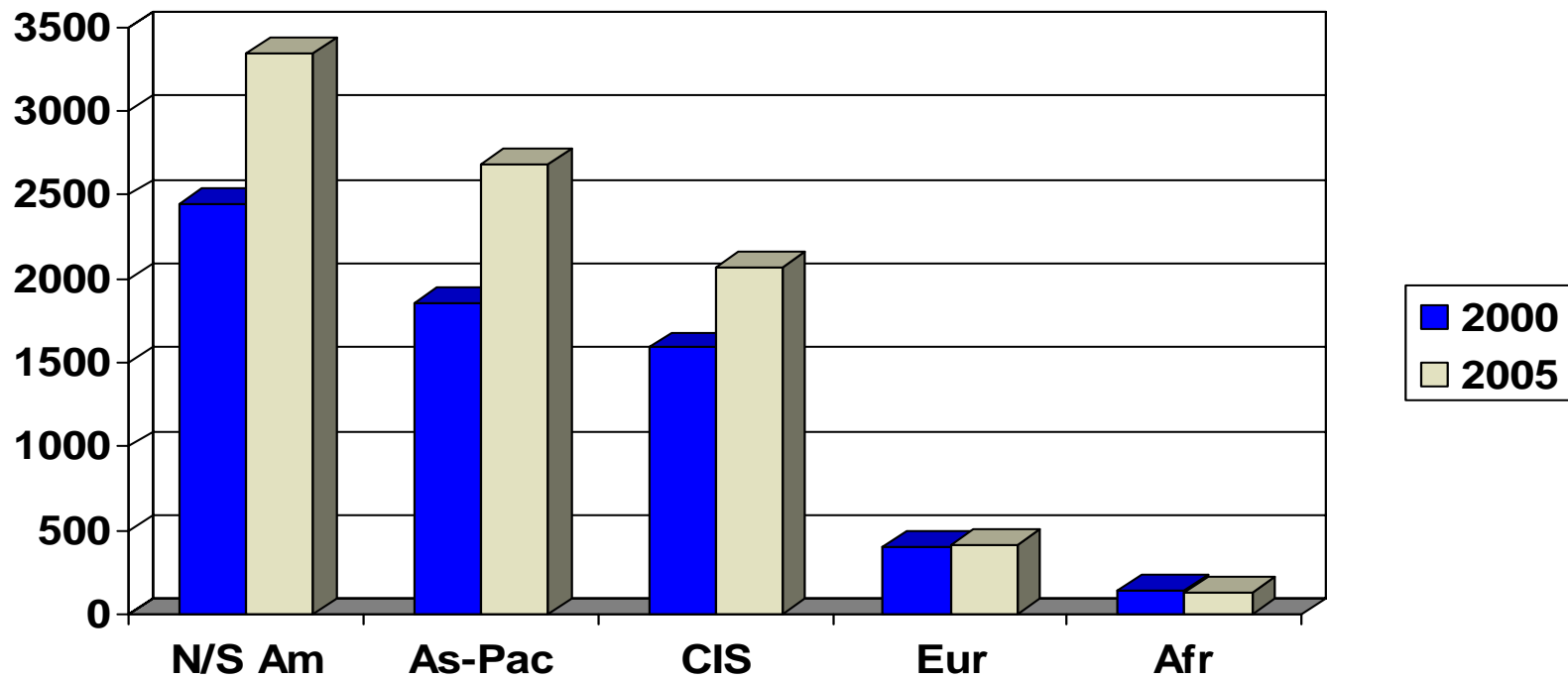


■ Net Tonne-km (billions)

Source: UIC



Rail freight, increasing strongly in most regions.....



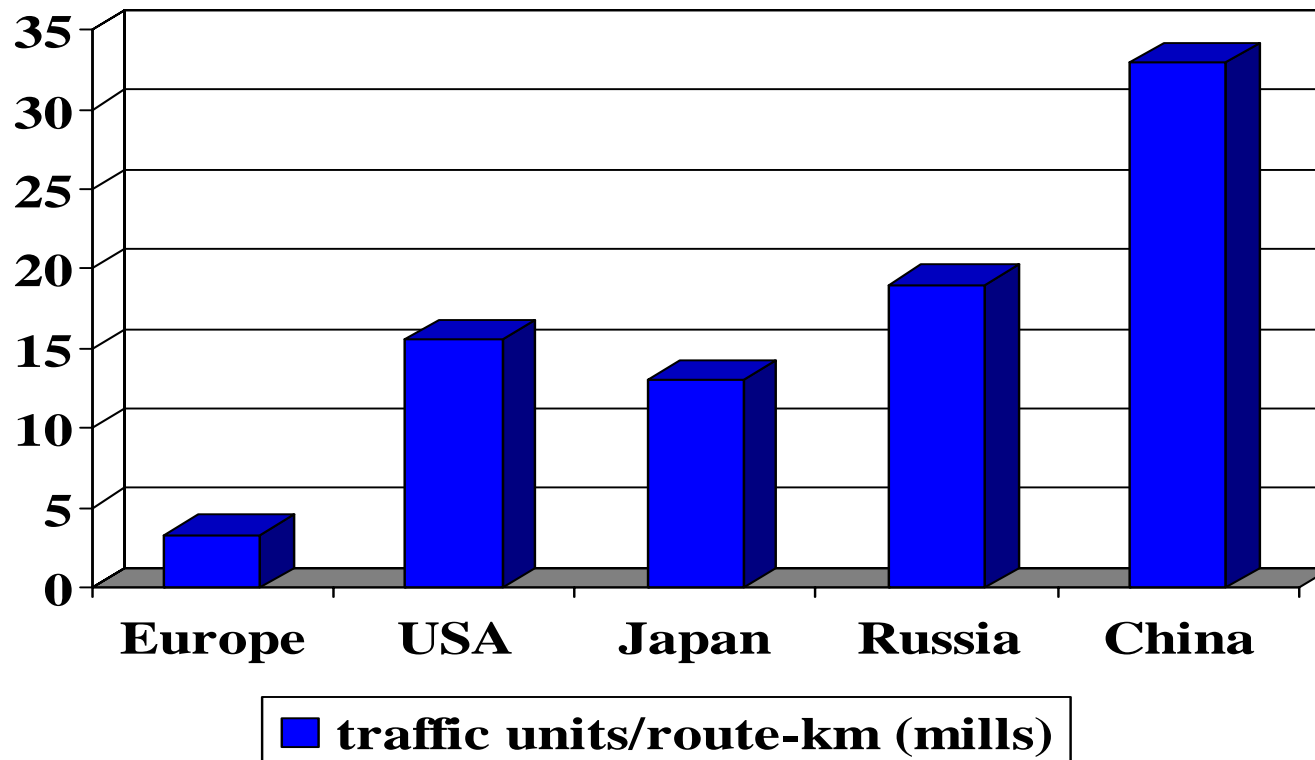
Global freight task: 25 percent growth over five years

Source: UIC



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Network utilization...key rail corridors are becoming congested

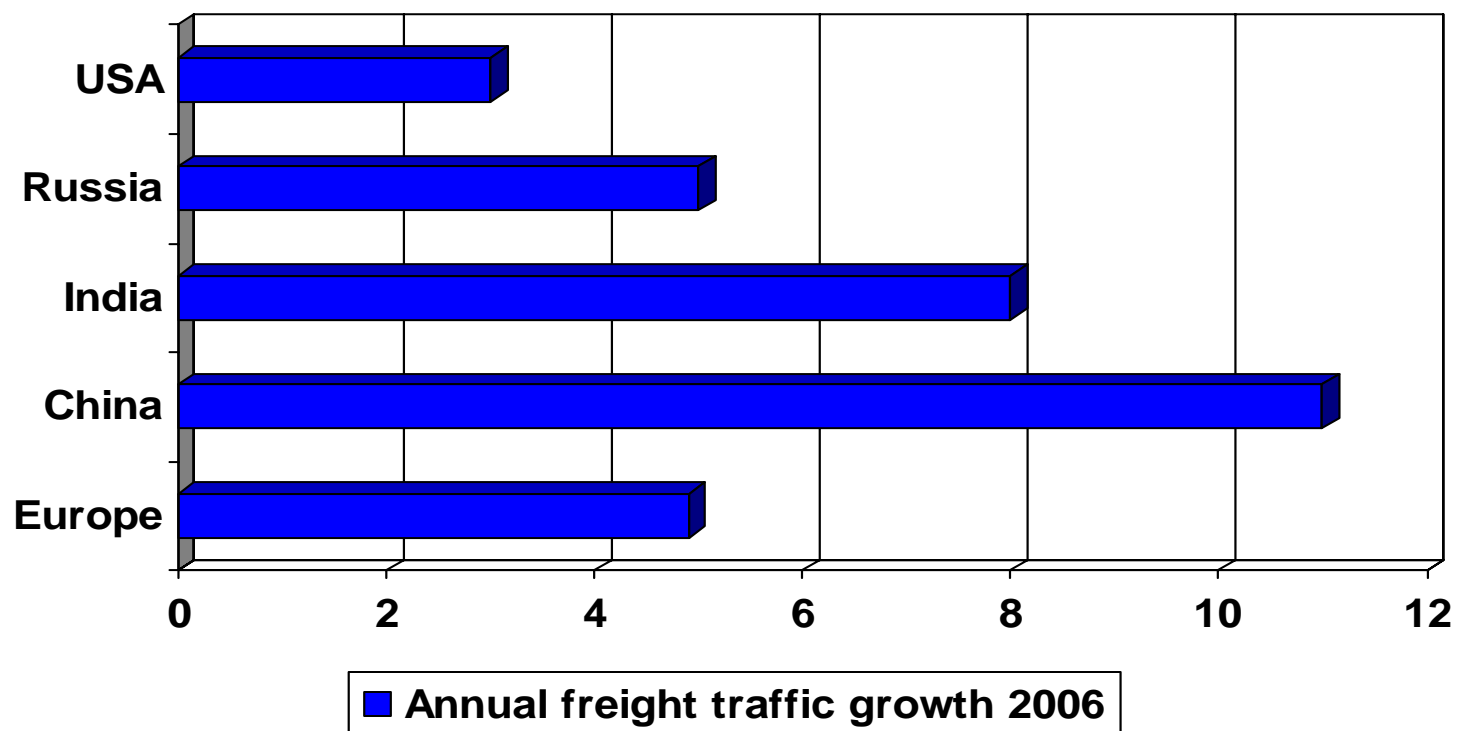


Source: UIC



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Strong traffic growth continued in 2006.....



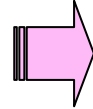
Source: UIC



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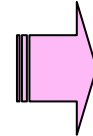
Challenges to railways...freight supply chains are changing...

Markets



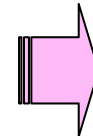
Rapid expansion of international trade, and particularly in Asia: many supply chains are now truly global

Expectations



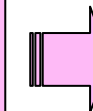
Global competition in product and service markets is driving higher standards and lower costs in logistics supplier markets

Competition



Despite some industry concentration (e.g. ports) the freeing of transport markets is creating greater contestability in logistics services and sub-markets

Technology



All modes of transport are investing to obtain more efficient, usually larger units and improved traffic dispatching, monitoring and control capability



Challenges in supply chains....contd.

Inter-modality

Both standard and specialized containerization continues to grow , facilitating inter-modal transit and multi-modal allocation of traffic

Energy/climate

The expectation of perpetually cheap energy is waning due both to declining fossils fuel stocks and expectation of higher energy taxes in response to global warming

Security

Higher standards of security in freight transport are being sought in all modes

Bottlenecks

Logistics services depend heavily on public infrastructure : capacity increments are not matching world freight volume growth



Despite growing demand, the public sector's ability and willingness to finance or guarantee general investment in rail freight is likely to decline

- ▶ Increasing proportion of government expenditures is to meet health, education and social objectives
- ▶ Delivering freight is decreasingly seen as a core (or even an appropriate) Government role
- ▶ Most of rail's 'political capital' will be expended on passenger services
- ▶ Concerns for competitive neutrality of investment in public rail freight train operations vis a vis privately financed road (and water/sea freight services)
 - ...though this case cannot be made with regard to infrastructure where heavy haulage is often also subsidized



Freight railway services will need to be able to offer supply chain managers ever improving services at reducing real costs

Service attributes

- Customer responsiveness
- Geographic reach (= intermodal)
- Delivery time
- Reliability of delivery time
- Frequency of delivery
- Safety and security of goods
- Protection of corporate image
- Value-adding services

Cost components

- Transport & storage tariffs
- Inventory holding costs
- Product damage or deterioration
- Pilferage losses
- Insurance costs
- Administration
- Customs and other clearances
- Informal payments for service



Sustained increases in service while managing costs will depend on three Cs....

Competitive spirit

- ▶ A focus on customer service
- ▶ High-order marketing skills
- ▶ Pricing agility

Commercial culture

- ▶ Lean decision structures
- ▶ Rigorous management of internal and outsourced costs
- ▶ Keen incentive mechanisms

Capital access

- ▶ Investment in physical assets that deliver high service standards
- ▶ Investment in IT to monitor and control operations

Few state-owned railways will be up to this task without private participation in ownership, finance and management

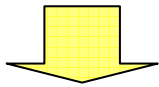


Private participation is therefore an important option in policies to increase the role of rail freight in the global supply chain

- ▶ The World Bank has supported many examples of concessioning of public railways to the private sector in Latin America and Africa
- ▶ Privatization has normally been facilitated by the predominance of freight operations and low levels of passenger service
- ▶ Integration of infrastructure and operations under an exclusive operator has been preferred where there have been:
 - relatively low traffic levels
 - limited market power,
 - infrastructure investment obligations

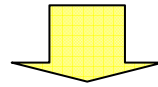


In 2005 The World Bank published reviews of around 40 case-studies of rail privatization (plus UK experience)



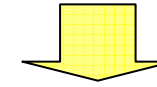
Latin America

- Argentina (5 cases)
- Bolivia
- Brazil (7 cases)
- Chile (3 cases)
- Colombia
- Mexico (4 cases)
- Peru



Africa

- Ivory Coast
- Cameroon
- Gabon
- Malawi
- DRC Zimbabwe
- Togo
- Maputo Corridor
- Senegal/Mali
- Zambia
- Madagascar
- Mozambique (2 cases)



Australasia

- New Zealand Railways
- Westrail
- Victoria (V/Line) Freight
- National Rail (TOC)
- Alice -Darwin PPP
- Airport Rail Link PPPs (2 cases)
- Urban rail PPPs (2 cases)

- Latin America and Africa typically integrated infrastructure/train operating concessions
- Australia/NZ mainly full privatization (plus a variety of PPP models)



Results of rail privatisation in Latin America

- 1 ▶ Overall results positive, especially for freight
- 2 ▶ Strong increase in productive efficiency
- 3 ▶ Higher traffic volumes and market share
- 4 ▶ Reduced government operating and capital subsidies
- 5 ▶ ...But private investment has rarely met concession promises, or led to major network upgrade or expansion

Source: World Bank Transport Paper TP-6: Results of Railway Privatization in Latin America, 2005



Results of rail privatisation in Africa

- 1 ▶ **Productive efficiency has clearly improved**
- 2 ▶ **Freight service improved and traffic attracted**
- 3 ▶ **In general, concessionaires have met any passenger service obligations, despite some payment difficulties**
- 4 ▶ **Substantial investments in infrastructure... but almost fully funded by international donors**
- 5 ▶ **...Little private investment in railway network: many lines not be sustainable without future public capital injections**

Source: World Bank Transport Paper TP-8: Results of Railway Privatization in Africa, 2005



Results of rail privatisation in Australia/New Zealand

- 1** ▶ Privatization of freight railways very positive with strong increases in productive efficiency
- 2** ▶ Encouraged integration of rail services across state boundaries, aided rail economics and markets
- 3** ▶ Problems of investment in low density lines remains: governments will need to be investor of last resort
- 4** ▶ Railway network in New Zealand has had to be re-nationalized, with major new govt. funding commitment
- 5** ▶ Nearly all PPP schemes face major difficulties due to overstated expectations of market demand and/or income

Source: World Bank Transport Paper TP-7: Results of Railway Privatization in Australia and New Zealand, 2005



Results of rail privatisation in Great Britain

- 1** ▶ After many years of adjustments the industry is showing promising signs of improvement
- 2** ▶ Fastest growing passenger railway in Europe and second fastest growing major freight railway
- 3** ▶ Average age of rollingstock reduced by more than 10 years and train-kms operated up 24 percent
- 4** ▶ Continuing improvement in the key safety performance measures used by independent safety regulator
- 5** ▶ But Govt. has effectively taken back control of network and increased financing of network upgrade/expansion

Source: World Bank Transport Paper TP-2: Privatizing British Railways, 2005



Many governments are reluctant to privatize public railway networks for cultural, social or political reasons

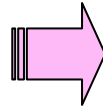
- ▶ This is particularly true of networks with high levels of passenger service
- ▶ Reluctance is reinforced in countries in which rail has features of natural monopoly in freight
 - typically larger countries with high rail distances
 - with heavy bulk traffic markets

Track access rights can provide a route to private investment in freight train operations while retaining the public railway network in public ownership and control.



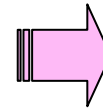
Track access rights for freight train operators can in principle come in a variety of different forms....

Contractually agreed: specific access rights:



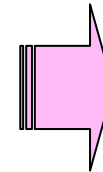
▪ ***USA (approx 25% of US network is subject to 'trackage rights')***

Legally mandated: narrowly defined access rights



▪ ***Canada (30km beyond company boundaries)***
▪ ***Mexico (specific lines to ports/cities to create competition)***

Legally mandated: general rights of access



▪ ***Most EU States, EU international, Australian State-owned railways****

*Australian interstate rail is carried on vertically separated infrastructure managed by the Australian Rail Track Corporation



But private freight access on public rail networks will require a rigorous governance (legal and regulatory) framework if it is to be financeable..

1. Laws and regulations on access to public rail systems

2. Criteria and process for licensing new rail entities

3. System for safety accreditation and monitoring

4. Procedures for applying for capacity on public rail network

5. Standard documentation for track (& facility) access contracts

6. Agreements on rollingstock interchange and revenue division

7. Procedures for incorporating new operators fairly into timetable

8. Rules for sorting out operating priorities/conflicts between trains

9. Institutions and procedures for regulatory review and compliance



Financing rail freight is not only about commercial risks but also the predictability and acceptability of governance risks

Commercial risks

- **Financing risks (e.g. currency risks)**
- **Land acquisition: costs and time**
- **Construction and/or rollingstock engineering risks**
- **Residual asset risks**
- **Safety risks**
- **Market risks:**
 - **Volume of freight**
 - **Yield: revenue/tonne-km**

Governance risks

- **Fair and transparent concession or privatisation bidding process, or process for track access**
- **Legal enforcement of Agreements**
- **Market and pricing freedoms**
- **Adherence to operating freedoms**
- **Any government financial contribution is paid on time**
- **Regulatory risks**
- **Protection against expropriation**



Good regulatory structures can therefore facilitate several different ways of involving private finance and management in railway freight transport

| <i>Functions</i> \ <i>Structures</i> | Finance & build rail line | Operate & maintain rail line | Finance rollingstock | Operate freight train services |
|--|---------------------------|--|---|--|
| Rollingstock leasing/availability contracts | Public | Public | Private | Public (pays R/S hire prices to private) |
| Freight train operating company or concession | Public | Public | Private | Private |
| Infrastructure build or renovate concession | Private | Public (pays usage charges to private) | Public | Public |
| Infrastructure build & operate concession | Private | Private | Public (pays access charges to private) | Public |
| Integrated infra.and train service company or concession | Private | Private | Private | Private |



Thank you for your attention

Questions and comments to:

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