UNIDROIT International Summer School
“Financing of high value equipment: Railway Rolling Stock”
Rome, 26th June 2023

Howard Rosen
Chairman Rail Working Group
Switzerland

www.railworkinggroup.org
Follow us on LinkedIn and RailwayWorkingGrp
• Formed in 1996 at the request of UNIDROIT, the International Institute for the Unification of Private Law (intergovernmental organisation based in Rome)
• Not-for-profit global industry group based in Switzerland
• Dedicated to the adoption of the Luxembourg Rail Protocol to the Cape Town Convention
• All officers and members work for free
• Over 80 direct members and hundreds via industry associations, including ARIA, linking up various industry stakeholders
• In Africa we work with the UN ECA, the AU, AfDB and various regional organisations as well as with individual governments
Introduction

1. Setting the scene in Africa (Howard Rosen)
   • The Railways and Africa
   • How can rolling stock be financed?
   • What are the legal problems for creditors?

2. South Africa Case Study (Mesela Nhlapo)
   • Rail today in South Africa and the new 3rd Party Access
   • Funding requirements
   • Regional considerations (Mozambique)
   • The Luxembourg Rail Protocol as a solution for Africa

3. A detailed look at the Luxembourg Rail Protocol (Howard Rosen)
   • Legal provisions, questions and URVIS
   • Registry Regulations and Model Rules
   • Economic benefits

4. Q&A
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4. Q&A
Africa Needs More Railways

• Railways are essential for sustainable development
• The lack of integrated African rail networks is holding back growth and intra-continental trade – including the AfCFTA
• Roads cannot take the strain from increased trucking
• Cities are strangled by congestion and pollution
• Moving passengers and freight onto rail is vital for environmental, social and economic reasons (1 train can transport the freight carried by 40 trucks)
Africa Needs More Railways

Africa has a low level of intra-regional trade...

Source: UN Economic Commission for Africa

Percentage of intra-regional trade:
- Africa: 15%
- N. America: 48%
- Asia: 58%
- Europe: 67%
Africa Needs More Railways

... and too little rail infrastructure

Source: AfDB statistics and World Bank WDI database, 2013

Comparative rail density: km rail lines per 1000 km² total land area

- Africa: 1.53
- Asia: 4.43
- Latin America: 4.99
- Europe: 8.45
**Africa Needs More Railways**

**Energy Efficiency**
Passenger-kilometres carried per unit of energy (1kwh = 0.086kep)

*Source: EEA (2018)*
Finding the money

• More passenger and freight traffic must be moved to the rails
• The rail sector has to be competitive
• Latest UN ECA study shows requirements upon implementation and realization of planned infrastructure for the AfCFTA as 132,857 bulk wagons and 36,482 container wagons at a cost respectively of $26.571 bn and $9.120 bn by 2030; add another $5 bn at least for locomotives
• The African Integrated High Speed Rail Network (AIHSRN) will require $multibillion investment in new standard gauge rolling stock
An African Finance Minister earlier today
## Current Financing models

<table>
<thead>
<tr>
<th>Country</th>
<th>Public sector</th>
<th>Private sector *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Long distance services and regional services predominantly State owned. Infrastructure government owned</td>
<td>Some suburban services operated by private sector companies along with freight</td>
</tr>
<tr>
<td>France</td>
<td>Government owned SNCF holding company, with functionally separate track and train companies</td>
<td>Rail freight open to competition and regional passenger services may follow</td>
</tr>
<tr>
<td>Germany</td>
<td>Government owned Deutsche Bahn holding company, with functional separation of track and train</td>
<td>Regional State tendered concessions, with new private sector entrants. Small amount of long distance under open access</td>
</tr>
<tr>
<td>Italy</td>
<td>RFI and Trenitalia are government owned, as part of Ferrovie dello Stato Italiane, with functional separation of track and train</td>
<td>NTV offers competition on high-speed rail</td>
</tr>
<tr>
<td>Japan</td>
<td>Broken up and privatised (fully integrated), albeit with loss making regional railway companies remaining in public ownership</td>
<td>Number of regional and commuter railways are private companies with significant business outside rail</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Owned by the government, ProRail provides the infrastructure and Nederlandse Spoorwegen (NS) provides the majority of the passenger services</td>
<td>Small regional private contracted passenger service companies exist albeit very limited</td>
</tr>
<tr>
<td>Sweden</td>
<td>Track and train separated, with train operations privatised, but infrastructure in public ownership (including majority of stations)</td>
<td>Long distance services run as open access or under contract. Regional and suburban services under contract from regions</td>
</tr>
<tr>
<td>Switzerland</td>
<td>SBB is the largest operator and is publicly held. SBB also manages the infrastructure</td>
<td>Some freight operators, especially those operating trans-alpine</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Separated and privatised by function, with track now back in public ownership. Some franchises now under public operation</td>
<td>Passenger services franchised to private operators, freight services privatised along with rolling stock lease companies. Some long distance open access operators</td>
</tr>
<tr>
<td>USA</td>
<td>Amtrak, which is effectively government owned, provides intercity services across track</td>
<td>The freight operators are private and are vertically integrated owning their own</td>
</tr>
</tbody>
</table>

*Private operators also includes operators owned by foreign governments

Source: UK government
Current Financing models

• State funds – taxation and debt
• Collective state borrowing – e.g. Eurofima
• Development Aid
• Foreign state/state agency loans and grants
• World Bank and multilateral development bank loans and guarantees
• Export Credit Agency support but
  • Calibrated on country risk
  • Term of loan is limited
  • Local content rules
• Chinese loans
OECD ECA Risk Classifications for Africa - June 2023

- 59% (Red)
- 27% (Yellow)
- 6% (Green)
- 6% (Light Green)
- 2% (Beige)

Legend:
- 3
- 4
- 5
- 6
- 7
Current Financing models

Kenya
- EXIM Bank of China
- Gov't of Kenya
- China Development Bank
- Industrial & Commercial Bank of China

Ethiopia-Djibouti
- State Governments
- Addis Ababa - Djibouti
  Revisions to financing terms were successfully negotiated in Ethiopia

Nigeria
- Lagos - Kano
- EXIM Bank of China

Morocco
- Tangier - Kenitra - Casablanca
  Loan Agreements
  Gov't of Morocco
  European Funding sources
  25%
  10%

Mombasa - Naivasha
The Kenyan government has recently requested a revision of financing terms.
Current Financing models

• However
  • the government resources are limited
  • debt burdens can be too onerous and
  • soft loans and aid come with conditions
• The private sector can help but there are problems
New Financing models

- Finance of infrastructure and rolling stock separated
- Investors can bring in capital through direct equity investments in operators
- Rolling stock can be financed by the private sector through:
  - Debt or equity
  - Secured debt
  - Leasing
  - BOT/PPP
- ROSCOs for Africa
- Franchise and Concession models
Financing Rolling Stock

Debt model

Shareholders

Manufacturer

Operator

Bank

Customers

Sale of rolling stock

Capital

Debt

Pledge of rolling stock

Fares/fees
Financing Rolling Stock

Lease model

- Manufacturer
- Shareholders (Capital)
- Lessor (Sale of rolling stock, Lease)
- Operator
- Bank (Debt pledge)
- Customers (Fares/fees)

Financing flow:
- Manufacturer to Lessor (Sale of rolling stock)
- Lessor to Operator (Lease)
- Operator to Customers (Fares/fees)
- Lessor to Bank (Debt pledge)
- Bank to Lessor (Rentals, Debt)

Interactions:
- Shareholders provide Capital to Lessor

Network:
- Rail Working Group

The diagram illustrates the lease model for financing rolling stock, involving key players such as manufacturers, shareholders, lessors, operators, bankers, and customers.
Operating Leases for the Railways

- Operating Leases are critical ways to provide private sector secured finance independent of government.
- Operating lessor owns the rolling stock and leases it for less than its useful life; lessee pays only part of the cost.
- Operating leasing is a key component in the success of the aviation sector in the last 40 years:
  - Lessee can be lightly capitalised
  - Flexible instrument: lessor can carry maintenance, insurance and other liabilities
  - Promotes a secondary market
Operating Leases for the Railways

• An important part of any PPP strategy
• Unburdens and de-risks balance sheet – and operator is no longer an asset manager
• Allocates practical and technological obsolescence and other risks where they can be most easily borne
• Opens up non recourse private financing of existing fleets
• Encourages foreign investment in the railways
• Lowers the barriers to entry for new industry participants
Financing Rolling Stock
The trends

• Corporate
  • Separating infrastructure and operations
  • Separating operations from rolling stock
• Financial
  • PPP 2.0
  • ECA and MDB support
• Operational
  • Differentiate between Passenger and Freight
  • Open access
  • Franchises and concessions
Franchise

- Manufacturer
- Government
- Shareholders
- Operator
- Bank
- Customers

Relationships:
- Franchise
- Payment
- Capital
- Sale of rolling stock
- Debt
- Pledge of rolling stock
- Fares/fees
Franchise

Government

Shareholders

Operator

Manufacturer

Lessor

Customers

Franchise

Payment

Capital

Sale of rolling stock

Lease

Fares/fees
Problems of bringing in private capital

• No national title or security registry
• Identifiers unstable (from a creditor’s perspective) and inconsistent across the sector
• Limited legal infrastructure domestically and internationally
• Repossession issues for creditors on debtor default or insolvency
• Public Policy and Public Interest
• Bank’s capital requirements and Basel III – and soon IV
• Limited commercial tracking of assets
• Conflict of laws and cross border risks

But there’s a solution
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4. Q&A
LRP – South African perspective

Mesela Kope-Nhlapo
- Private law for African Economic Growth
- Why is LRP important for Africa
- Who are we communicating to, the lawmakers (simple language)
- Why is simple and less technical language important (when?)
- 2022 – Rail Policy approved by cabinet
- 2022 – Interim Rail Regulator established
- 2023 – Rail Master Plan in progress
- 2023 – LRP: significant move by the government
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But there’s a solution
Cross border issues

- Manufacturer in France
- Conditional Sale
- Purchaser in Mauritius
- Lease
- Operator in Botswana
- Bank in South Africa
- Loan Security
- Rolling stock operating in Namibia, Mozambique, South Africa and Botswana
Problems of bringing in private capital

• No national title or security registry
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But there’s a solution - the Luxembourg Rail Protocol
Luxembourg Rail Protocol

• Diplomatic Conference in Luxembourg in 2007:
• Attended by 42 states and 11 international organisations including 7 African States and SADC
• Sponsoring intergovernmental organisations UNIDROIT and OTIF – both with African members
Luxembourg Rail Protocol

- Applies the Cape Town Convention to rolling stock **when debtor is located in a contracting state**
- International registry in Luxembourg
- Registrar responsible to contracting states
- Will introduce global unique identification system for railway equipment (URVIS)
How the Convention works

Cape Town Convention

Protocols

Aircraft  Rolling Stock  Space Property  MAC
The Rail Protocol
Applies to ALL Rolling Stock

• Wherever manufactured, whatever gauge and operability standards
• Broadly defined: “..vehicles movable on a fixed railway track or directly on, above or below a guideway.” This covers:
  ➢ Inter-urban and urban rolling stock
  ➢ Specialist boring and other rail mounted equipment
  ➢ Metro and light rail trains and trams
  ➢ Monorail trains and cable cars
  ➢ People movers/shuttles at airports, hyperloop pods
  ➢ Cranes and gantries at ports
When does the Luxembourg Protocol apply?

- Protocol must be in force
- Which must be generically identifiable
- And in force in the jurisdiction where the debtor is principally located
- When an International Interest is created in the rolling stock
The Protocol’s Status

• Adopted in 2007 (4 ratifications and active registry required to enter into force – expected November 2023)
• Appointment of Regulis SA (SITA subsidiary) as Registrar in December 2014; now part of ISC
• Ratified by Gabon, Luxembourg, Spain and Sweden (and the EU)
• Signed by Italy, Spain, South Africa, Germany, France, Mozambique, Switzerland and UK - all moving towards ratification; South Africa’s ratification going to parliament now
• Under review in Africa, by Mauritius, Burkina Faso, Egypt, Uganda, Senegal, Namibia and Ethiopia
Aircraft Protocol Status in Africa

The Convention and the Aircraft Protocol is already in force in 26 African States

- Angola
- Burkina Faso
- Cameroon
- Cape Verde
- Congo
- Côte d'Ivoire
- Democratic Republic of the Congo
- Egypt
- Eswatini
- Ethiopia
- Gabon
- Ghana
- Kenya
- Madagascar
- Malawi
- Mozambique
- Namibia
- Niger
- Nigeria
- Rwanda
- Senegal
- Sierra Leone
- South Africa
- Togo
- United Republic of Tanzania
- Zambia

Lesotho, Burundi and Sudan have signed but not yet ratified.
The problem of contiguity

• The Protocol applies by reference to where the debtor has its centre of operations
• Not by reference to where the rolling stock is located
• What are the creditor rights when the rolling stock is situated in a jurisdiction which is not a contracting state?
• And remember, there can be multiple creditors and multiple debtors in different jurisdictions
The problem of contiguity
Unique Vehicle Identification

- Rolling stock must be uniquely identifiable to register interest
- Unique Vehicle Rail Identification System (URVIS) will be established by registry regulations
- First global unique and permanent identification system for rolling stock
- 16-digit number allocated by the Registrar in Luxembourg that will never be re-used
- Affixed permanently to each item of rolling stock by the manufacturer, maintainer or keeper
URVIS Benefits

• URVIS
  - Important for immatriculation – admission to rail system
  - Will support regional regulatory co-operation and interoperability systems
  - Defence against fraud on purchasers and creditors of rolling stock
  - Key element of AI/autonomous operation
URVIS Hidden Benefits

- URVIS
  - One system applicable worldwide on all rail assets
  - Real-time tracking of condition and location of assets domestically and in other jurisdictions (and tracks)
  - Facilitates more efficient asset management
  - Underwrites customised predictive maintenance
  - Makes lifetime asset management and costs much easier for operators, manufacturers and financiers
URVIS Hidden Questions

- URVIS number must be “affixed to the item of railway rolling stock” (Article XIV)
  - Who affixes?
  - How is it affixed?
  - Is it permanent – and how permanent?
- Type, size, location and cost of identifier
- Readability?
- Legal liabilities
- UN ECE Model Rules
Public service railway rolling stock

• What’s going on?
• Initial declaration under Article XXV
  • “Continue to apply”
  • Application to rolling stock
    “railway rolling stock habitually used for the purpose of providing a service of public importance” (Art XXV (1)
  • Compensation to the creditor (usually)
• the 2nd, fatal, declaration
• Subparagraph 6
The Economic Benefits

- Macro and Micro Economic Benefits
- Looking at the micro economic benefits
  - More security = lower risk = lower financing rates
  - Easier documentation and legal structures
  - Clear legal position encourages new sources of investment
  - Export Credit Agency support rates decrease
  - Supports cross border operations
  - URVIS facilitates more efficient asset management
  - Operating leasing - higher residual values plus manufacturing economies of scale
The Luxembourg Rail Protocol to the Cape Town Convention

*Its positive impact on the cost of financing railway rolling stock in Africa*

Prepared for

[Logo of RAIL WORKING GROUP]

[Logo of Oxera]
Results of the analysis (1/3)

Countries with an OECD country risk classification of 7

Net present value of benefits (in $m) for an initial rolling stock value of $100m
Results of the analysis (2/3)

Countries with an OECD country risk classification of 5-6

Net present value of benefits (in $m) for an initial rolling stock value of $100m
Results of the analysis (3/3)

Countries with an OECD country risk classification lower than 5

Net present value of benefits (in $m) for an initial rolling stock value of $100m
Depending on countries, direct micro-benefits assessed as between 1.6% and 13.5% of the present value of rolling stock.

Many additional micro- and macro-economic benefits also expected.
This study focuses on the direct micro-level benefits

Luxembourg Rail Protocol

- Easier repossession of collateral on default
- Improved and standardized legal and operational frameworks across borders

Direct micro-level benefits

- Reduced risk for creditors
- Reduced transaction costs

Reduced financial costs for train operators

Better value for money for customers

Macro-benefits

Quantified in this study
This study focuses on the direct micro-level benefits

**Indirect micro-level benefits**

- facilitates operating leases which
  - open up the market to new competition
  - provide more flexibility for operators
  - drive standardisation of equipment
- potentially cuts Export Credit Agency finance premiums (following the example of the Aircraft Protocol)
- the unique global identifier enables more efficient asset location and status tracking, leading to savings on insurance, maintenance, and reductions of many other costs
- registration of creditor claims provides protection for creditors and operators on cross border routes even without ratification by the state where the rolling stock is located

Not quantified
This study focuses on the direct micro-level benefits

**Indirect micro-level benefits**

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**Macro-benefits**

- reduction in polluting greenhouse gases
- lower unemployment
- increased productivity and GDP
- increased transport safety, less congestion
- new markets for African rolling stock manufacturers and operators
- regional integration and interoperability
- underwrites the African Continental Free Trade Area and the planned African Infrastructure High Speed Rail Network
Increased demand for rail services under the AfCFTA
Why the Luxembourg Rail Protocol will help

• Offering new security it will create new private credit sources
• Creating a common security system for lenders and lessors even when rolling stock crosses borders
• It will lower the barriers to entry for private lenders and operators so
  • more attractive financing rates and cheaper AfDB/Export Credit Agency support \textbf{IF} there’s a Cape Town Discount
  • more competition and efficiencies
  • flexible rolling stock procurement strategies by underwriting operating leases – in turn creating a catalyst for standardised equipment leading to manufacturing economies of scale
  • non-discriminatory access and sound, fair regulation
Increased demand for rail services under the AfCFTA
Why the Luxembourg Rail Protocol will help

• And facilitate investment in new technology
• The new global system for uniquely identifying rolling stock (URVIS) leads to
  • easy real time tracking of the location and status of rolling stock for creditors and others
  • cheaper and easier insurance
  • predictive maintenance – saving money by calibrating servicing to utilisation
  • more effective regulator monitoring and safer cross border operations
Conclusion

• Expansion and rehabilitation of the railways are a critical component of a sustainable development agenda for Africa
• Railways are the key to open and free trade across Africa
• States cannot carry this burden alone: private entrepreneurs and private capital are needed – and will be available to finance rolling stock if the security conditions are right
• The Luxembourg Rail Protocol creates a new global legal regime for securing creditors, with minimal cost, facilitating more and cheaper asset based financing of railway equipment without state support
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Chairman Rail Working Group
Switzerland

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Follow us on LinkedIn and RailWorkingGrp
Embracing Technology

• Technology is opening up new opportunities
  ➢ Hybrid, cleaner diesel and hydrogen/fuel cell locomotives
  ➢ Artificial Intelligence
  ➢ Convoying and driverless trains
  ➢ Supercapacitor trams
  ➢ Quieter wagons
  ➢ Variable gauge rolling stock
  ➢ GPS rolling stock tracking in real time

• This needs $billions of investment
## Quantifying the Benefits

<table>
<thead>
<tr>
<th>South Africa (Transnet)</th>
<th>ZAR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Without</strong></td>
<td></td>
</tr>
<tr>
<td>Capital cost*</td>
<td>87,756</td>
</tr>
<tr>
<td>interest rate</td>
<td>8.000% per annum</td>
</tr>
<tr>
<td>interest rate</td>
<td>0.667% per month</td>
</tr>
<tr>
<td>lease term</td>
<td>10 years</td>
</tr>
<tr>
<td>term</td>
<td>120 months</td>
</tr>
<tr>
<td>Future value</td>
<td>50%</td>
</tr>
<tr>
<td>Monthly payment</td>
<td>- 819</td>
</tr>
<tr>
<td><strong>Annual payment</strong></td>
<td>- 9,833</td>
</tr>
<tr>
<td>aggregate monthly payments</td>
<td>- 98,330</td>
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<tr>
<td><strong>With</strong></td>
<td></td>
</tr>
<tr>
<td>Capital cost</td>
<td>87,756</td>
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<td>120 months</td>
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<tr>
<td>Future value</td>
<td>50%</td>
</tr>
<tr>
<td>Monthly payment</td>
<td>- 738</td>
</tr>
<tr>
<td><strong>Annual payment</strong></td>
<td>- 8,853</td>
</tr>
<tr>
<td>aggregate monthly payments</td>
<td>- 88,528</td>
</tr>
</tbody>
</table>

- **Annual Saving** : - 980
- **Aggregate saving** : - 9,802
- **Present value of saving** : - 6,733
- percentage of capital cost : -7.6720%

* written down value from Transnet AFS to 31.3.20 (includes containers)

All amounts in ZAR Mio
## Quantifying the Benefits

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<tr>
<td><strong>Without</strong></td>
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<td>Capital cost*</td>
<td>5,874</td>
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<tr>
<td>interest rate</td>
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<td>Future value</td>
<td>50%</td>
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<tr>
<td></td>
<td>2,936.95</td>
</tr>
<tr>
<td>Monthly payment</td>
<td>-</td>
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<tr>
<td></td>
<td>54.85</td>
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<tr>
<td><strong>Annual payment</strong></td>
<td>-</td>
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<tr>
<td></td>
<td>658</td>
</tr>
<tr>
<td>aggregate monthly payments</td>
<td>-</td>
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<td></td>
<td>6,581.67</td>
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</tr>
<tr>
<td><strong>Annual payment</strong></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>593</td>
</tr>
<tr>
<td>aggregate monthly payments</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>5,925.56</td>
</tr>
<tr>
<td><strong>Annual Saving</strong></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>66</td>
</tr>
<tr>
<td><strong>Aggregate saving</strong></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>656</td>
</tr>
<tr>
<td><strong>Present value of saving</strong></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>451</td>
</tr>
<tr>
<td>percentage of capital cost</td>
<td>-7.6720%</td>
</tr>
</tbody>
</table>

* written down value from Transnet AFS to 31.3.20 (includes containers)

All amounts in USD Mio. forex $1 = ZAR 14.94
## Quantifying the Benefits

<table>
<thead>
<tr>
<th>South Africa (Transnet)</th>
<th>ZAR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Without</strong></td>
<td></td>
</tr>
<tr>
<td>Capital cost*</td>
<td>87,756</td>
</tr>
<tr>
<td>interest rate</td>
<td>8.000% per annum</td>
</tr>
<tr>
<td>interest rate</td>
<td>0.667% per month</td>
</tr>
<tr>
<td>lease term</td>
<td>10 years</td>
</tr>
<tr>
<td>term</td>
<td>120 months</td>
</tr>
<tr>
<td>Future value</td>
<td>75%</td>
</tr>
<tr>
<td>Monthly payment</td>
<td>- 700</td>
</tr>
<tr>
<td><strong>Annual payment</strong></td>
<td>- 8,404</td>
</tr>
<tr>
<td>aggregate monthly payments</td>
<td>- 84,035</td>
</tr>
<tr>
<td><strong>With</strong></td>
<td></td>
</tr>
<tr>
<td>Capital cost</td>
<td>87,756</td>
</tr>
<tr>
<td>interest rate</td>
<td>6.600% per annum</td>
</tr>
<tr>
<td>interest rate</td>
<td>0.550% per month</td>
</tr>
<tr>
<td>lease term</td>
<td>10 years</td>
</tr>
<tr>
<td>term</td>
<td>120 months</td>
</tr>
<tr>
<td>Future value</td>
<td>75%</td>
</tr>
<tr>
<td>Monthly payment</td>
<td>- 609</td>
</tr>
<tr>
<td><strong>Annual payment</strong></td>
<td>- 7,307</td>
</tr>
<tr>
<td>aggregate monthly payments</td>
<td>- 73,065</td>
</tr>
<tr>
<td><strong>Annual Saving</strong></td>
<td>- 1,097</td>
</tr>
<tr>
<td><strong>Aggregate saving</strong></td>
<td>- 10,970</td>
</tr>
<tr>
<td><strong>Present value of saving</strong></td>
<td>- 7,535</td>
</tr>
<tr>
<td>percentage of capital cost</td>
<td>-8.5860%</td>
</tr>
</tbody>
</table>

* written down value from Transnet AFS to 31.3.20 (includes containers)

All amounts in ZAR
## Quantifying the Benefits

<table>
<thead>
<tr>
<th>South Africa (Transnet)</th>
<th>US$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Without</strong></td>
<td></td>
</tr>
<tr>
<td>Capital cost*</td>
<td>5,874</td>
</tr>
<tr>
<td>interest rate</td>
<td>8.000% per annum</td>
</tr>
<tr>
<td>interest rate</td>
<td>0.667% per month</td>
</tr>
<tr>
<td>lease term</td>
<td>10 years</td>
</tr>
<tr>
<td>term</td>
<td>120 months</td>
</tr>
<tr>
<td>Future value</td>
<td>75%</td>
</tr>
<tr>
<td>Monthly payment</td>
<td>- 46.87</td>
</tr>
<tr>
<td><strong>Annual payment</strong></td>
<td>- 562</td>
</tr>
<tr>
<td>aggregate monthly payments</td>
<td>- 5,624.84</td>
</tr>
<tr>
<td><strong>With</strong></td>
<td></td>
</tr>
<tr>
<td>Capital cost*</td>
<td>5,874</td>
</tr>
<tr>
<td>interest rate</td>
<td>6.600% per annum</td>
</tr>
<tr>
<td>interest rate</td>
<td>0.550% per month</td>
</tr>
<tr>
<td>lease term</td>
<td>10 years</td>
</tr>
<tr>
<td>term</td>
<td>120 months</td>
</tr>
<tr>
<td>Future value</td>
<td>75%</td>
</tr>
<tr>
<td>Monthly payment</td>
<td>- 40.75</td>
</tr>
<tr>
<td><strong>Annual payment</strong></td>
<td>- 489</td>
</tr>
<tr>
<td>aggregate monthly payments</td>
<td>- 4,890.56</td>
</tr>
<tr>
<td><strong>Annual Saving</strong></td>
<td>- 73</td>
</tr>
<tr>
<td>Aggregate saving</td>
<td>- 734</td>
</tr>
<tr>
<td>Present value of saving</td>
<td>- 504</td>
</tr>
<tr>
<td>percentage of capital cost</td>
<td>-8.5860%</td>
</tr>
</tbody>
</table>

* written down value from Transnet AFS to 31.3.20 (includes containers)  
All amounts in USD Mio.  
forex $1 = ZAR 14.94
Europe

FINANCIAL BENEFITS

20 countries
€19.4bn total benefits

Refinancing 16%
Freight 12%
New deliveries 84%
Passengers 88%

Financial savings by country in billions of Euros
Mauritius as a Financial Services Centre

- **Parent company (India)**
- **Lessor (Mauritius)**
- **Operator (Malawi)**
- **Bank (RSA)**
- **Bank (Mauritius)**

- **Supplier/Manufacturer (France)**: sale of equipment
- **Lessor (Mauritius)**: lease, pledge of equipment
- **Operator (Malawi)**: equity
- **Bank (Mauritius)**: equity or debt, loan