

# Logistics & Infrastructure development Focus on rail



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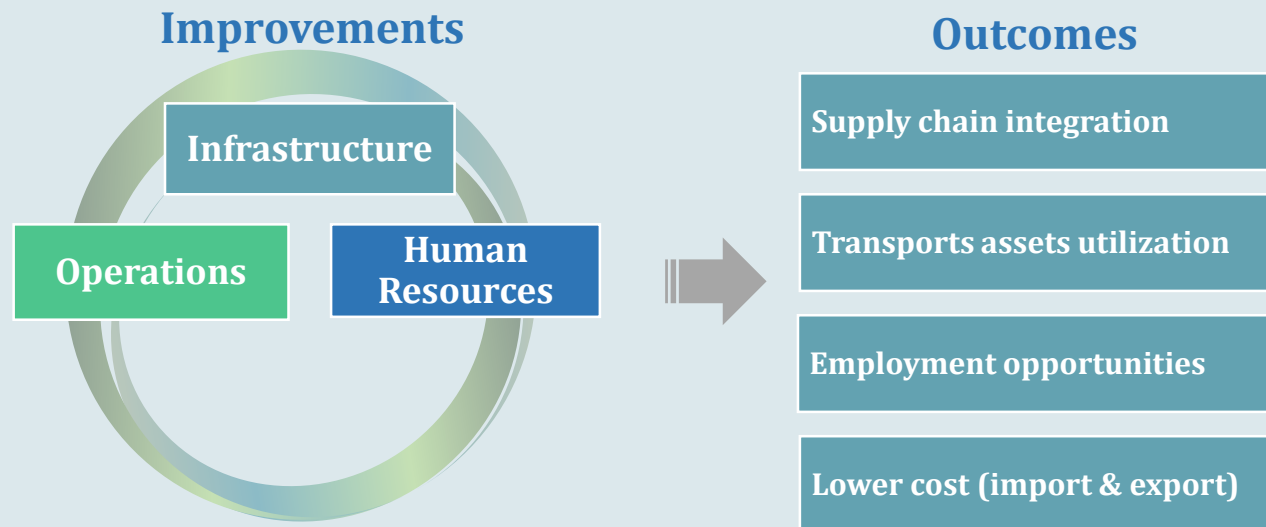


# The importance of logistics investments

International trade and its related freight distribution systems **now requires the development of logistics capabilities**, which are supported by both **physical** (infrastructures) and **managerial assets**. Globalization has imposed more complex, geographically dispersed, and flexible supply chains that **require advanced logistics**.

The **outcomes** of investing in logistics capabilities are mainly increased integration with global trade and supply chains, better utilization of national transport assets, more competitive exports, and lower costs for imports, as well as increased employment opportunities.

For freight distribution, the conventional approach of investing in infrastructure alone is now perceived to be insufficient; **rather investment should be made in a wider framework that includes the supporting activities of logistics**



# Ports and maritime transport systems

The port, particularly the container terminal, has become an **important trade and logistics platform** whose level of activity reflects not only the intensity of the use of its infrastructure, but also the logistical capabilities set in place to support its operations. The maritime freight market is divided into bulk cargo and containerized cargo.

- **Bulk operations**, which mostly concern raw materials, are structured as point-to-point services between a port of loading and a port of unloading.
- It is in **containerized cargo** that most of the developments in logistics are taking place, mainly because it involves a wide range of goods, many of **high added value**.

Freight distribution operates over markets defined by maritime ranges and port hinterlands.



# Improving logistics performance and competitiveness

## Logistics performance



Several developing countries are caught in a vicious cycle in which existing interests are using freight distribution as a rent-extraction mechanisms, lack of market forces resulting in limited incentive to invest in additional facilities, low-quality services, and complex procedures (customs, taxation, inspections, etc.) hindering trade. Moving away from this vicious cycle and toward a virtuous cycle often requires trade facilitation reforms, such as market liberalization.

Inertia is difficult to break, but national benefits can be substantial since the **virtuous cycle** leads to **more open markets, incentives for capital investment, the building of scale economies** (and the associated reduction in transport costs), **higher-quality services, and more efficient supply-chain management.**

There is also the challenge of **building institutional capacity** and **coordination among agencies** to ensure that transport and logistics projects are identified, developed, and managed.

# Improving logistics performance and competitiveness

## Planning and funding integration

Planning and funding integration refers to the planning and funding of infrastructure provisions from an integrated multimodal, total-logistics-chain perspective. Lessons learned :

1

**Public finance arrangements are inadequate** for maintaining and improving the performance of freight transport systems. This inadequacy was a major driver behind privatization and deregulation in the freight transport industry worldwide.

2

**Finance arrangements** should be designed to promote **productivity gains**. Investment projects that are **politically** rather than **commercially driven** often fail in this regard.

3

Finance options differ in their probable impacts on freight system performance. For instance, a public / private partnership may create a level of subsidy for a transportation project and thus impacting on its utilization level.

# Improving logistics performance and competitiveness

## Logistics zones and inland ports development



In many developing economies, rail corridors are embryonic and geared toward transporting raw material flows. There is limited capacity for intermodal transport development. Most inland ports are serviced by trucks, creating challenges in accessibility and road capacity. Consequently, inland ports are set around trucking services, which are less economically and environmentally efficient than rail. There is also a trend toward the duplication of inland port facilities, leading to smaller, dispersed facilities conferring limited potential for economies of scale.

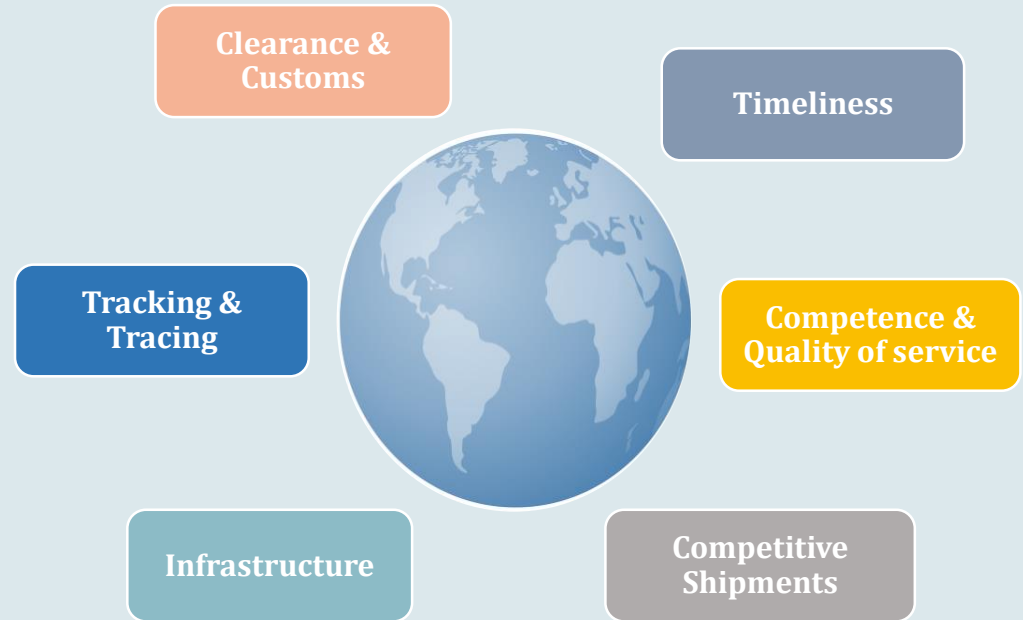
**The port-centric approach appears a good option because of the lack of competitiveness among ports due to well-defined hinterlands.**

# Logistic Performance Index

The international score uses six key dimensions to benchmark countries' performance and also displays the derived overall LPI index.

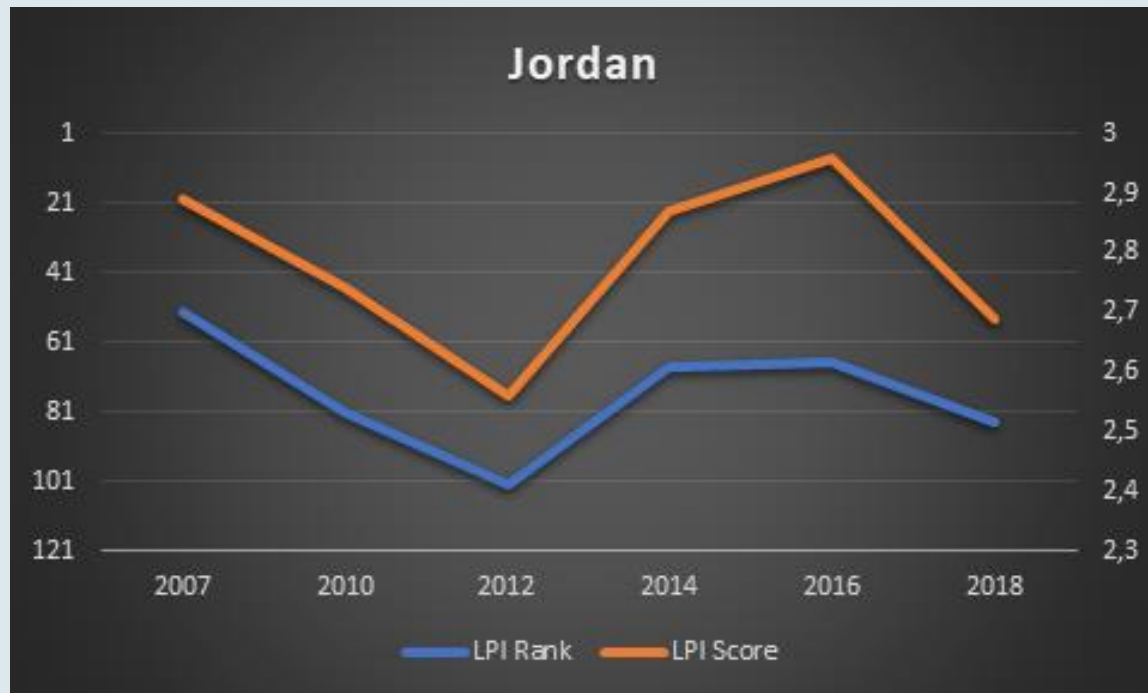
The **logistics performance (LPI)** is the weighted average of the country scores on the **six key dimensions**:

- 1) **Efficiency of the clearance process** (i.e., speed, simplicity and predictability of formalities) by border control agencies, including customs;
- 2) **Quality of trade and transport related infrastructure** (e.g., ports, railroads, roads, information technology);
- 3) Ease of arranging **competitively priced shipments**;
- 4) **Competence and quality of logistics services** (e.g., transport operators, customs brokers);
- 5) Ability to **track and trace consignments**;
- 6) **Timeliness of shipments** in reaching destination within the scheduled or expected delivery time.



The scorecards demonstrates comparative performance of all countries (world), regional and income groups.

# Logistics Performance Index Jordan's Scorecard



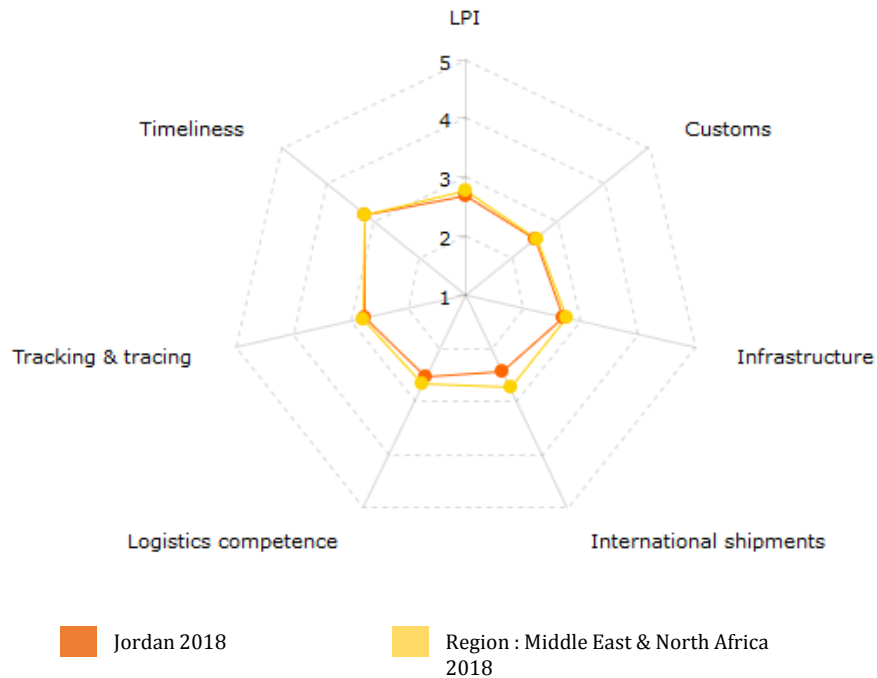
## LPI Rank 2018

- 1 Germany
- 2 Sweden
- 3 Belgium
- 4 Austria
- 5 Japan
- 6 Netherlands
- 7 Singapore
- 8 Denmark
- 9 United Kingdom
- 10 Finland
- 11 United Arab Emirates
- | |
- 84 Jordan**
- | |
- 160 Afghanistan

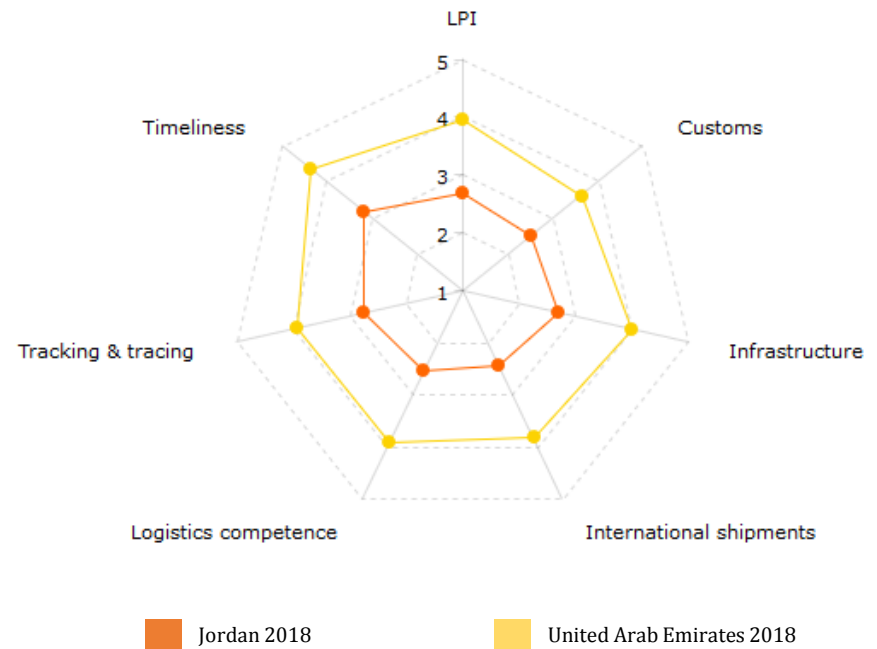


# Logistics Performance Index

## Jordan in the Middle East & North Africa



## Jordan & UAE



<https://lpi.worldbank.org>

# Infrastructure Financing – the particular case of railways

Although, efficiency of freight distribution is not only an issue of infrastructure , infrastructure development remains a key aspect of any logistic project.

## Railway Infrastructure Financing

Railways are very capital intensive and increasingly need to attract financing from the private sector to be successful.

What makes a railway project attractive to private investors and eligible to financing?

In other words, what are the rules and guidelines of the financial market regarding railway projects?



# Infrastructure Financing – the particular case of railways

## Railway Infrastructure Financing

Financiers are looking

- for a safe and stable environment,
- a robust business model based on reliable market studies and commercial objectives,
- an experienced management team,
- good sponsors/shareholders prepared to invest in equity,
- already well-advanced, preferably greenfield, projects.



**Any deviation from those expectations will translate in higher credit costs, increase in equity and in sponsors' guarantees requirements.**

# Key drivers of bankability / PPP feasibility

- ✓ Business environment / country credit rating
- ✓ Quality of public / private contractual framework, esp. termination guarantee
- ✓ Availability of subsidy
- ✓ Level of Forex risk



- ✓ Traffic density
- ✓ Passenger v.s. general cargo?
- ✓ Unit revenue (i.e. tariff)
- ✓ Offtake guarantee from key anchor rail users
- ✓ Market share and competition with other modes of transportation esp. roads
- ✓ Required Capex (greenfield v.s. brownfield)
- ✓ Opex structure

- ✓ Sponsor's 'skin in the game'
- ✓ Sponsor's construction completion guarantee
- ✓ Risk adjusted required rate of return

Source: Pierre Pozzo di Borgo - International Finance Corporation

# Raising commercial debt for a greenfield railway = lofty traffic requirements

## Scenario 1

### Assumptions

<u>Investment</u>		
EBITDA	\$/Tkm	0.02
Investment cost	\$ m/km	2.5
<u>Financing</u>		
Debt to equity ratio	%	70%
Maturity	yrs	15
Cost of debt	%	5%
Drawdown period	yrs	4
Repayment period	yrs	11
Target equity IRR	%	15%
<u>Fiscal</u>		
Fixed assets depreciable life	yrs	40
Income tax rate	%	35%

### Outputs

Annual volume requirement	Mtpa	31.4
Resulting Minimum DSCR	X	1.9x

## Scenario 2

### Assumptions

<u>Investment</u>		
EBITDA	\$/Tkm	0.02
Investment cost	\$ m/km	5.0
<u>Financing</u>		
Debt to equity ratio	%	70%
Maturity	yrs	15
Cost of debt	%	8%
Drawdown period	yrs	4
Repayment period	yrs	11
Target equity IRR	%	15%
<u>Fiscal</u>		
Fixed assets depreciable life	yrs	40
Income tax rate	%	35%

### Outputs

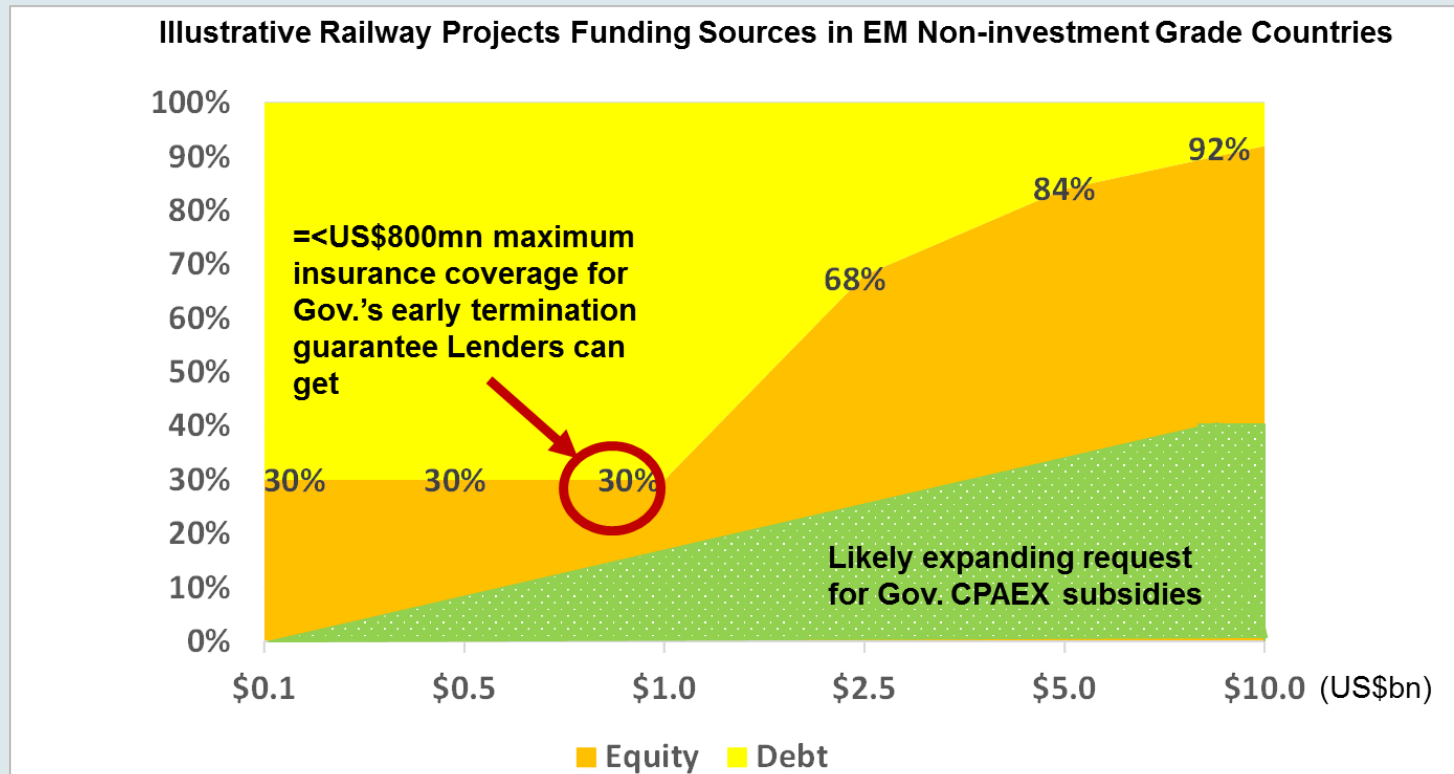
Annual volume requirement	Mtpa	71.8
Resulting Minimum DSCR	X	1.9x

Source: Pierre Pozzo di Borgo - International Finance Corporation

### Conclusion:

- A greenfield railway would require 31.4 / 71.8 Mtpa of freight volume to raise commercial capital in Scenario 1 / 2.
- Assuming a 700 km track length, traffic required would be 22.0 bn / 50.2 bn Tkm in Scenario 1 / 2.

# Finding the right equilibrium between equity and debt

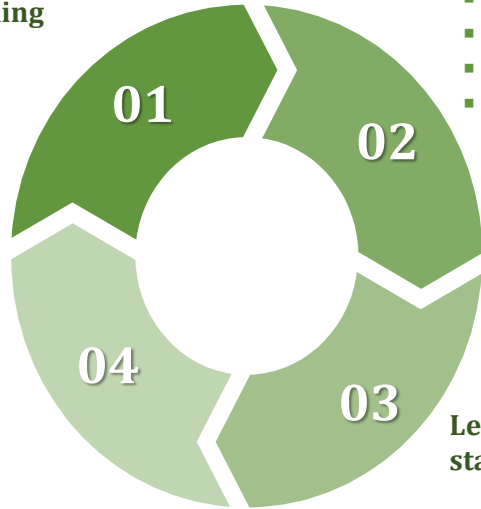


Source: Pierre Pozzo di Borgo - International Finance Corporation

Very few project's sponsors (all mining Cos) can undertake multi billion dollar rail infra projects in frontier markets.

# Bankability of Freight Railway projects

Identified revenue streams - funding

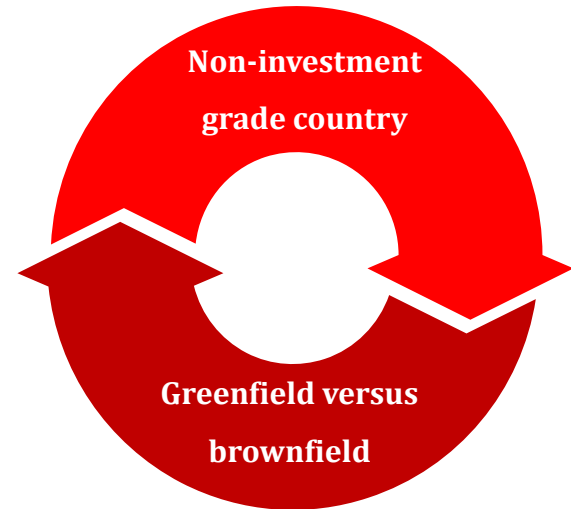


Governance of the Project

Project driven by commercial objectives:

- Interoperability - integration
- Reliability
- Predictability
- Capacity
- Low cost

Legal framework stability





# Thank you

**Eric Peiffer**  
**CEO of Vecturis SA**

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[www.vecturis.com](http://www.vecturis.com)