



Financing infrastructure: a broader perspective

Prepared for PRO//Motion 1520

Andrew Meaney, Partner, Head of
Transport practice, Oxera Consulting

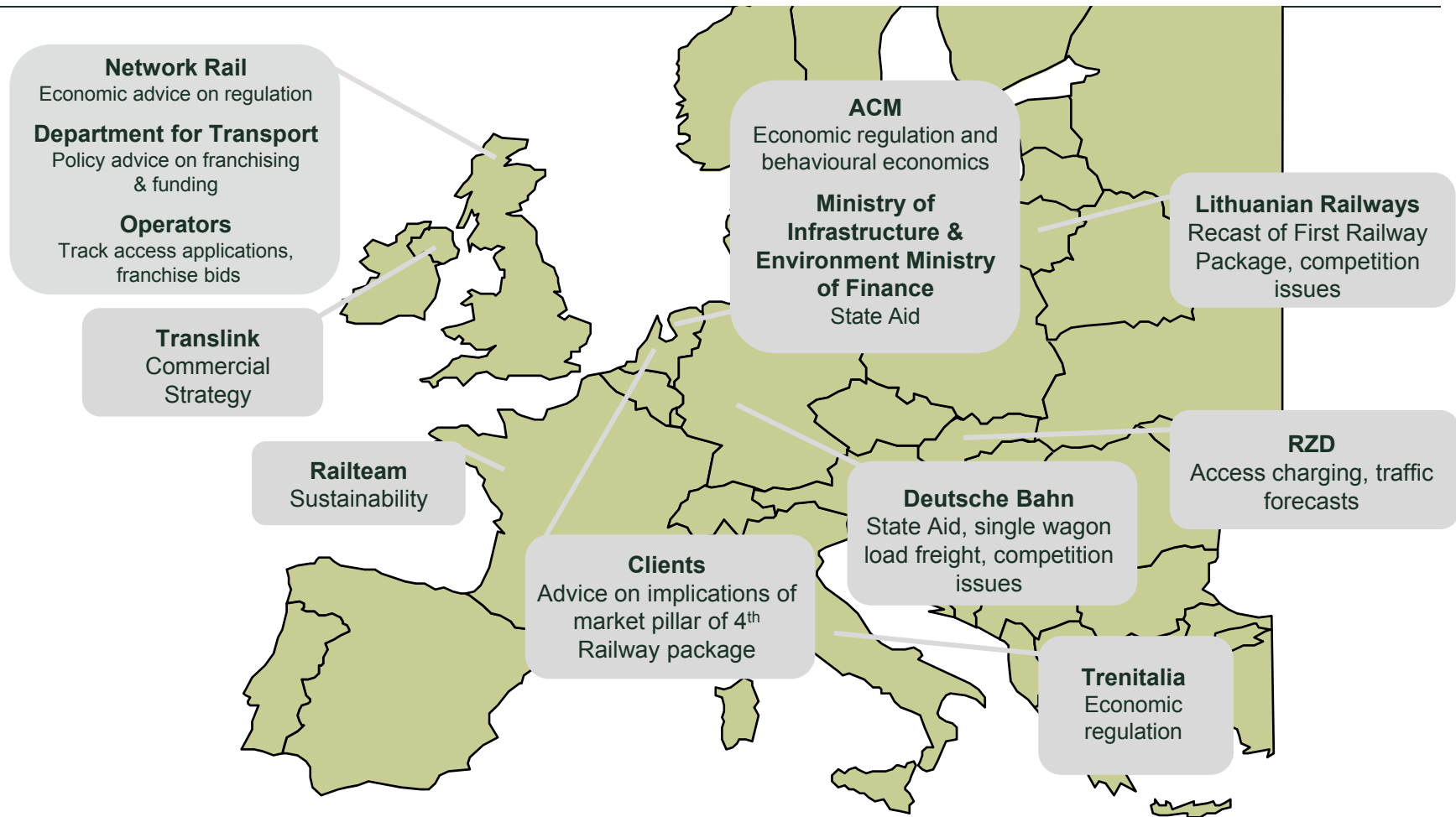
2 October 2018

PRO//Motion 1520

oxera
compelling economics

Introducing Oxera

Selected projects in the European rail sector



Context

1 Global market volume of the rail industry of €159bn per annum, including €54bn in rolling stock

2 Total market for rail supply is set to continue its growth of recent years at 2.6% per year

3 Growth in the rail market is currently constrained by the availability of funding

Definitions

- financing is the injection of capital by an investor in the expectation of returns
 - sources: banks (debt), infrastructure funds (equity), IPO (equity), state (debt or equity)
- funding is the payment of fees and/or charges by passengers or freight customers to remunerate that capital
 - funding can also come from government subvention

The opportunity

- international investors looking to invest in assets providing long-term returns
 - they find it difficult to identify rail opportunities
- of the €60bn of private finance going into infrastructure in Europe in 2017, only €4bn, or 6.4% went into rail...¹
- ...but the need is substantial and growing:
 - rail competes with every other sector for scarce state capital and operating expenditure
 - yet assets are aging, while demand for rail services is increasing in many geographies



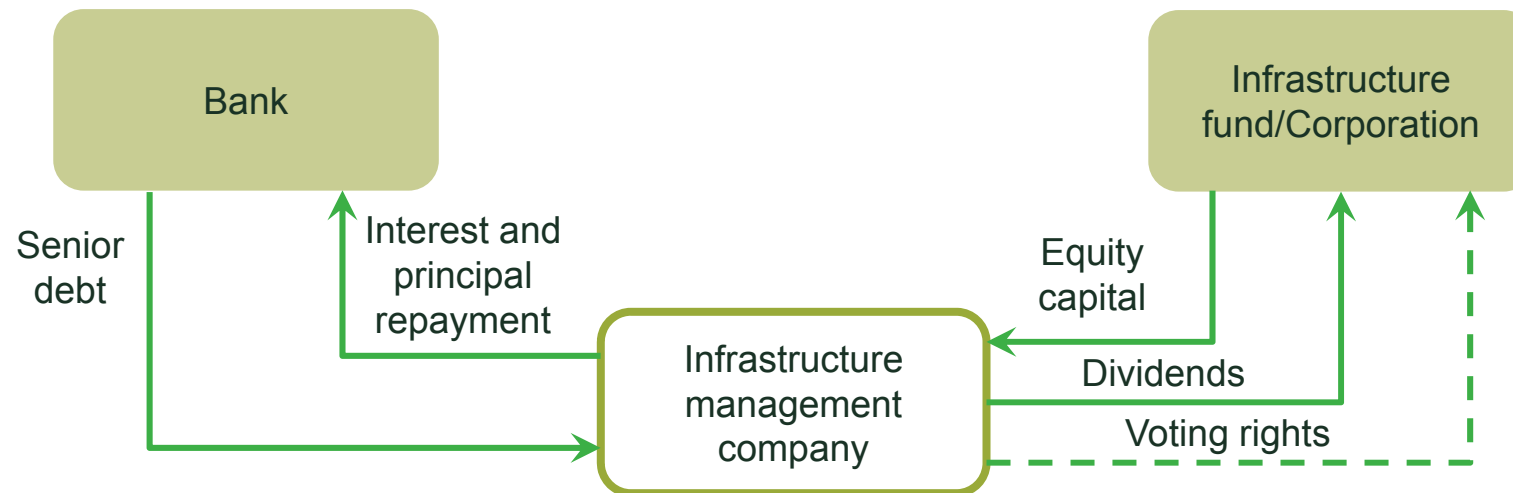
When can private finance help?

¹ Note: Data covers PPP deals in Europe during calendar year 2017. Nearly half of the deals by value were in the UK.

Source: Infradeals.

Private infrastructure financing

A typical setup



Legend:

- Monetary flows
- - - → Rights and obligations

Key question: how to allocate risk?

Risk allocation

- rail infrastructure can involve a number of risks to allocate between providers and investors:
 - construction
 - revenue
 - availability
 - terminal value (rolling stock, property)
- familiar principle: allocate to the party best able to manage it
 - this will reduce financing costs

Alternative funding mechanisms

What happens if a funding gap emerges?

Measures aimed at increasing revenues

- Increasing traffic volume;
- Increasing access charges;
- Surcharge;
- Capacity booking charge;
- Traffic-linked subsidy;
- Availability payment.

Measures aimed at decreasing costs

- Decrease the project scope;
- Increase efficiency.

Measures aimed at attracting low-cost capital

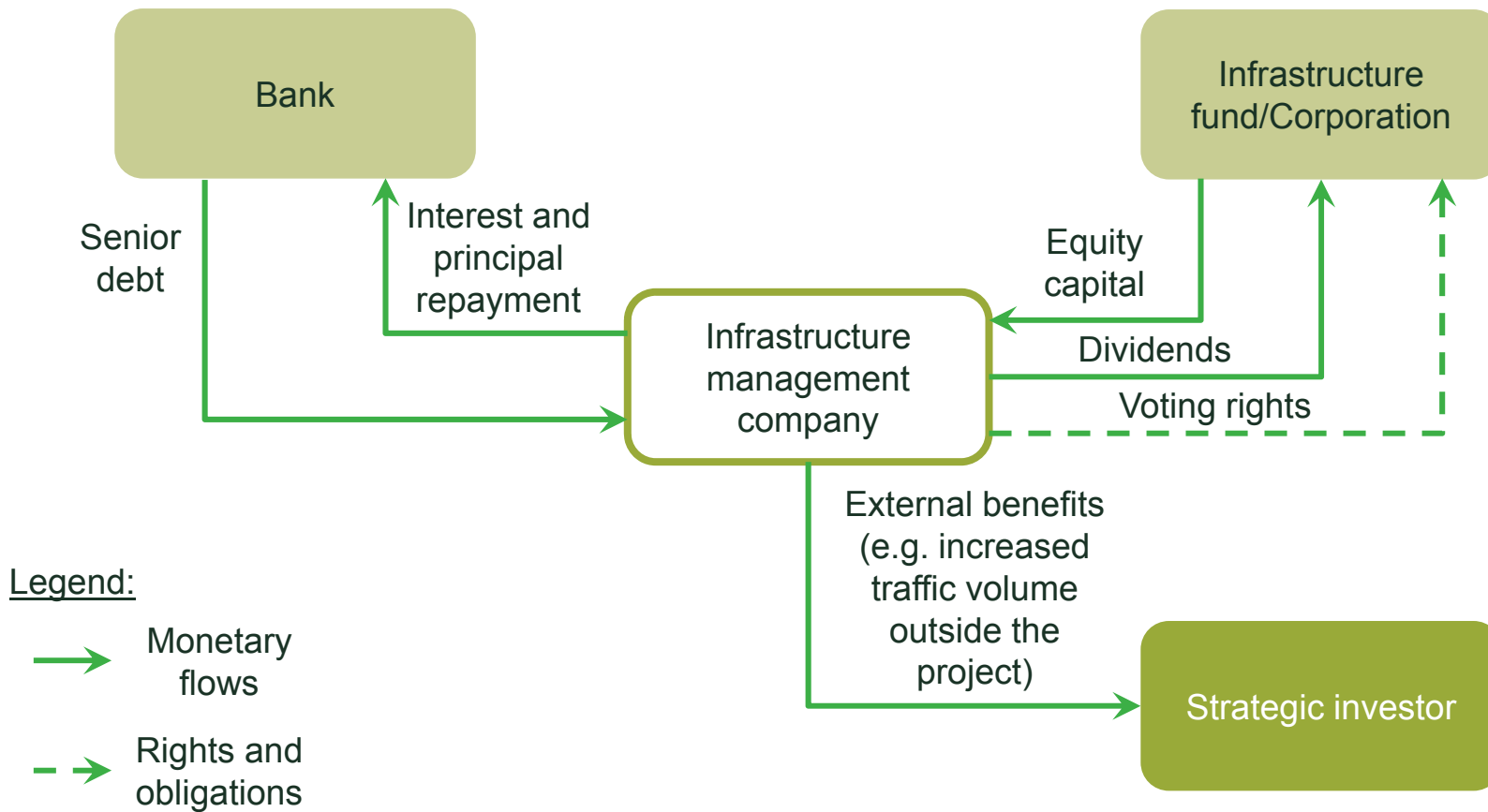
- Subordinated debt;
- Equity injection.

Measures aimed at decreasing the cost of capital (de-risking)

- Debt default guarantee;
- Refinancing risk guarantee;
- Minimum revenue guarantee;
- Traffic volume guarantee;
- Other guarantees.

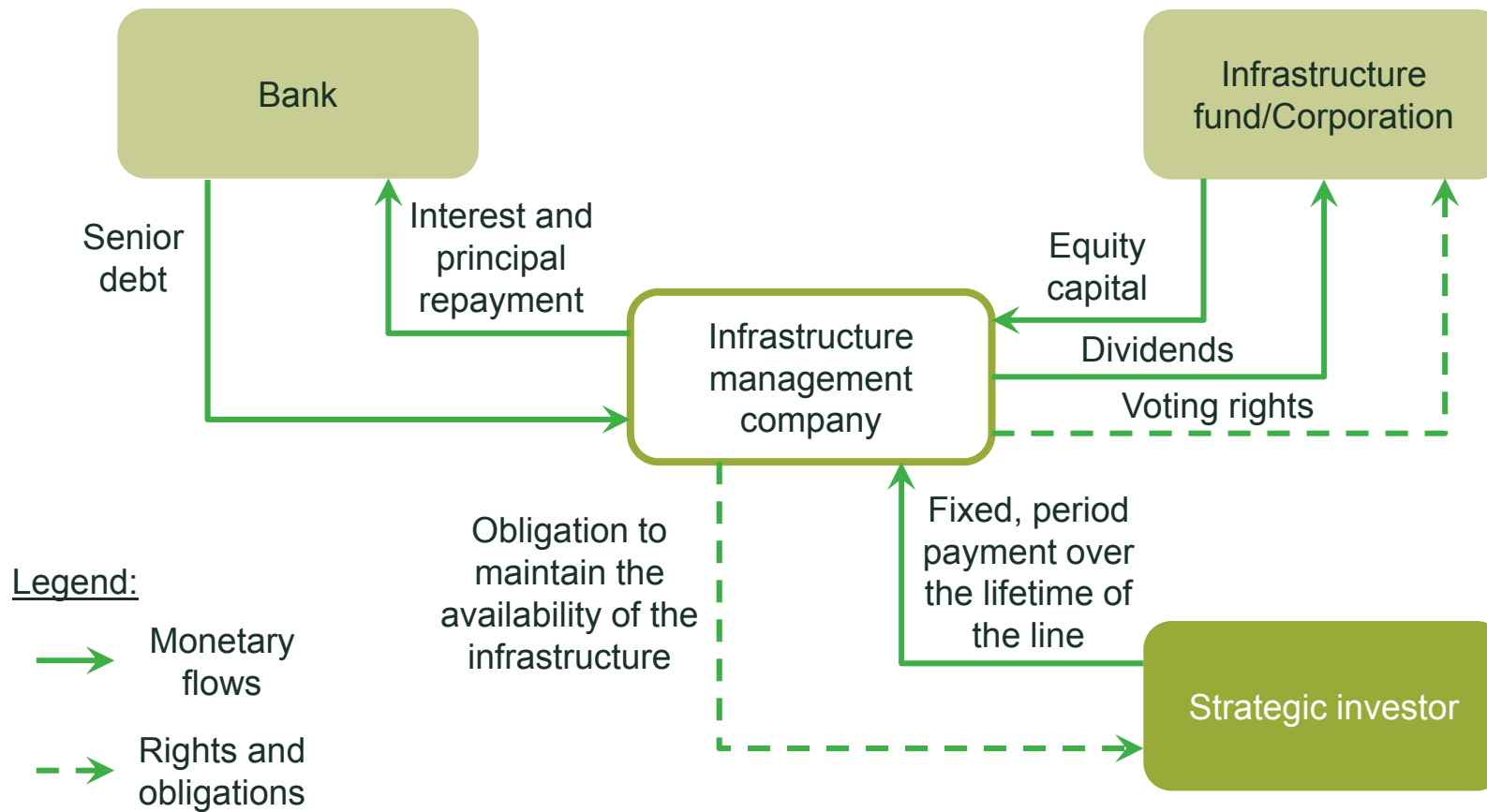
Broadening the scope

Introducing a strategic investor



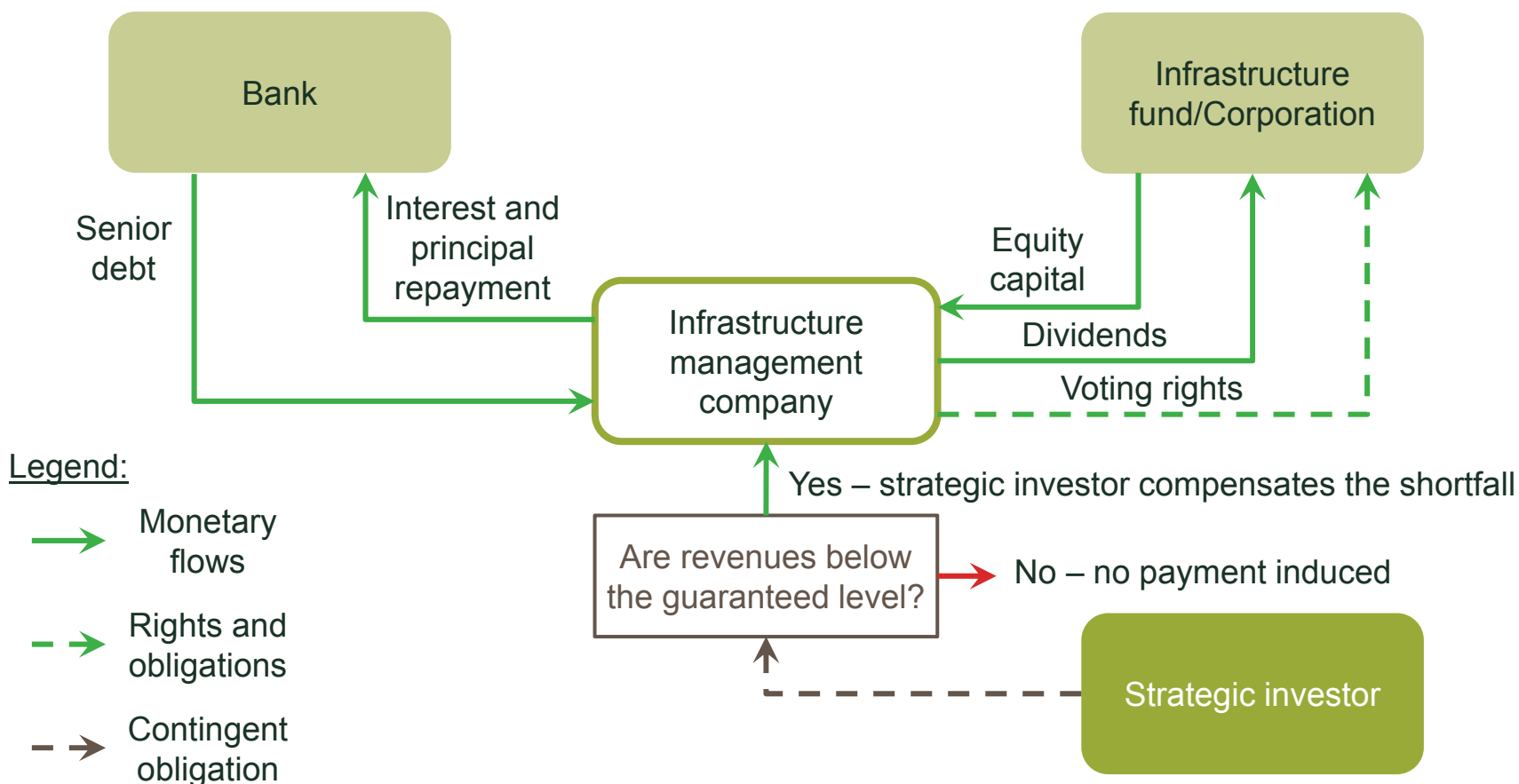
Examples of alternative funding mechanisms

Availability payment



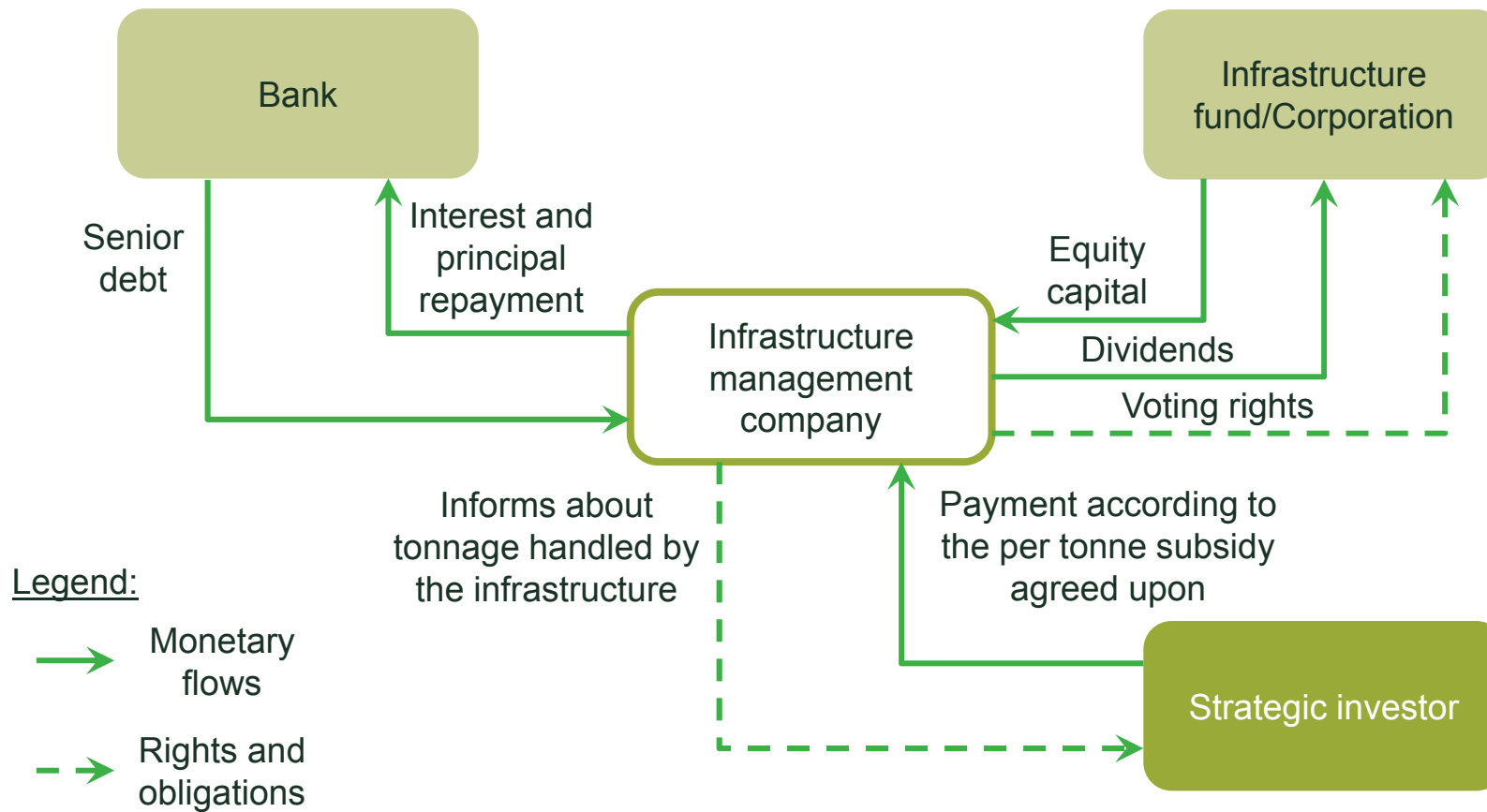
Examples of alternative funding mechanisms

Revenue guarantee



Examples of alternative funding mechanisms

Traffic-linked subsidy



Conclusions

- 1 Benefits of rail infrastructure extend beyond return on investment
- 2 Funding gap can be bridged by internalising external benefits of the project
- 3 Efficient risk allocation benefits all parties involved



Luxembourg Rail Protocol: estimated impact on rolling stock financing cost in countries using the 1520 gauge

Prepared for PRO//Motion 1520

Howard Rosen, Chairman, Rail
Working Group

2 October 2018

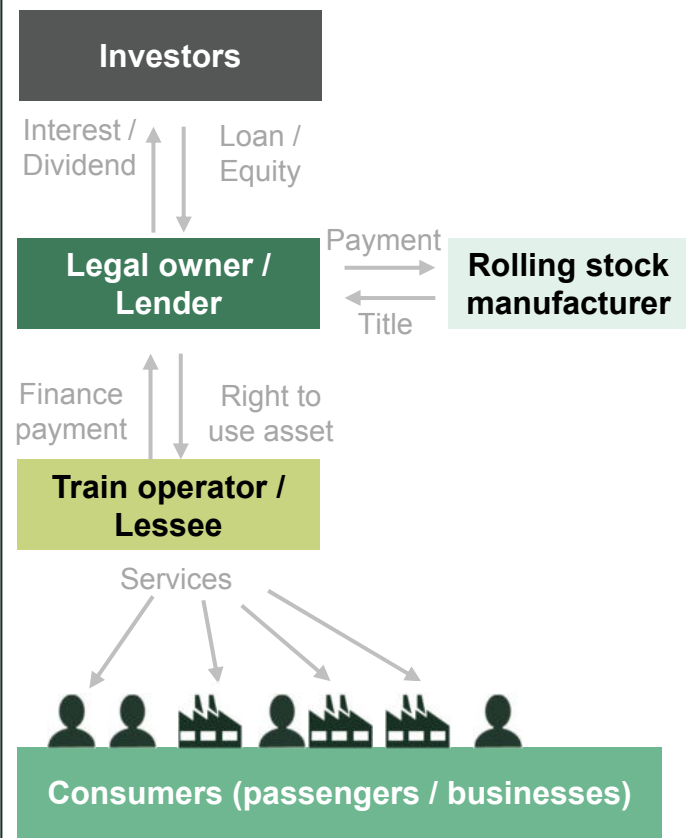
PRO//Motion 1520

oxera
compelling economics

Benefits from the Luxembourg Rail Protocol (LRP)

The Luxembourg Rail Protocol (LRP)

Financing the rail industry



Issue with bringing in private capital due to:

- uncertainty around the repossession of collateral for creditors
- limited legal infrastructure and tracking of assets
- cross border risks, no international registry
- no common system for identifying railway equipment worldwide

Solution: Luxembourg Rail Protocol

New global legal systems for the recognition and prioritisation of security interests held by creditors

Debtors covered



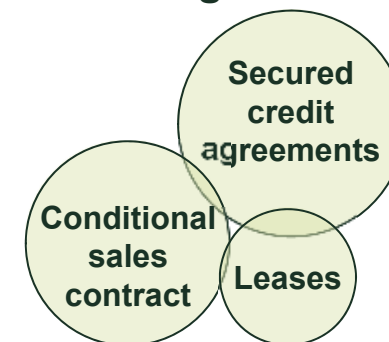
all debtors in ratifying state

Vehicles covered



all vehicles running on tracks or above, on, or under a guideway

Financing covered



Features of LRP deliver both micro- and macro- benefits

Single central global registry

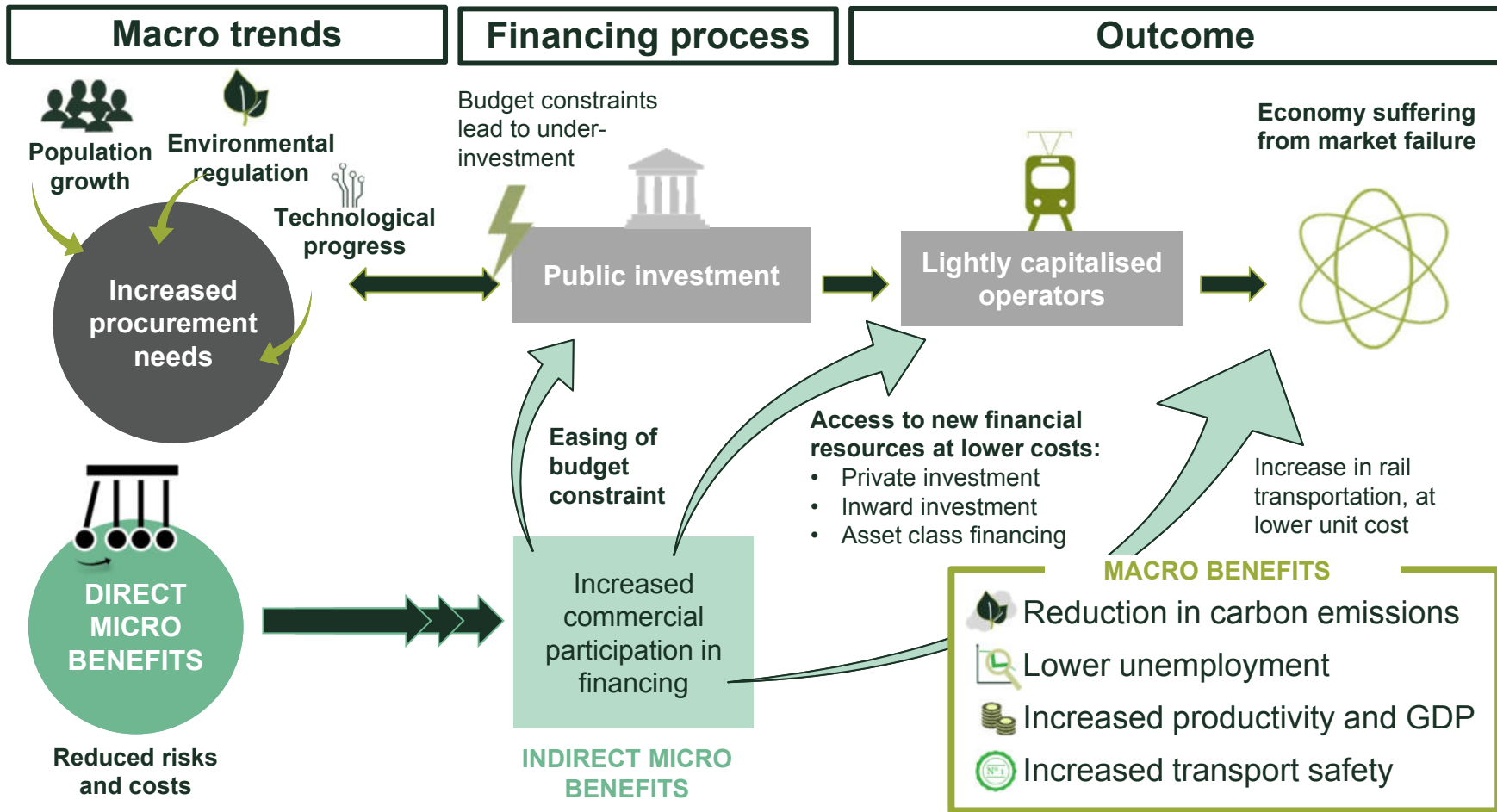
- **Facilitates** local recording, international interests and universal numbering system
- Establishes **clear priority** among **creditors**
- Provides for **real time monitoring** – creditors can check rival claims to related rail equipment
- **Eliminates unnecessary restructuring** of security interests as transactions change

Clear legal framework and enforcement

- **Covers contracting states and all debtors therein** without differentiating across the type of financing structures
- Provides for **clear creditor rights** on termination, default, and insolvency
- Recognises and regulates the **security interests** of financiers and other parties
- Opens the way to **secured finance** with recourse only to the **assets**



LRP will reduce costs and help growth in rail transport



Country case studies

FINANCIAL BENEFITS

9 countries

€13.9bn total
benefits

Refinancing
24%

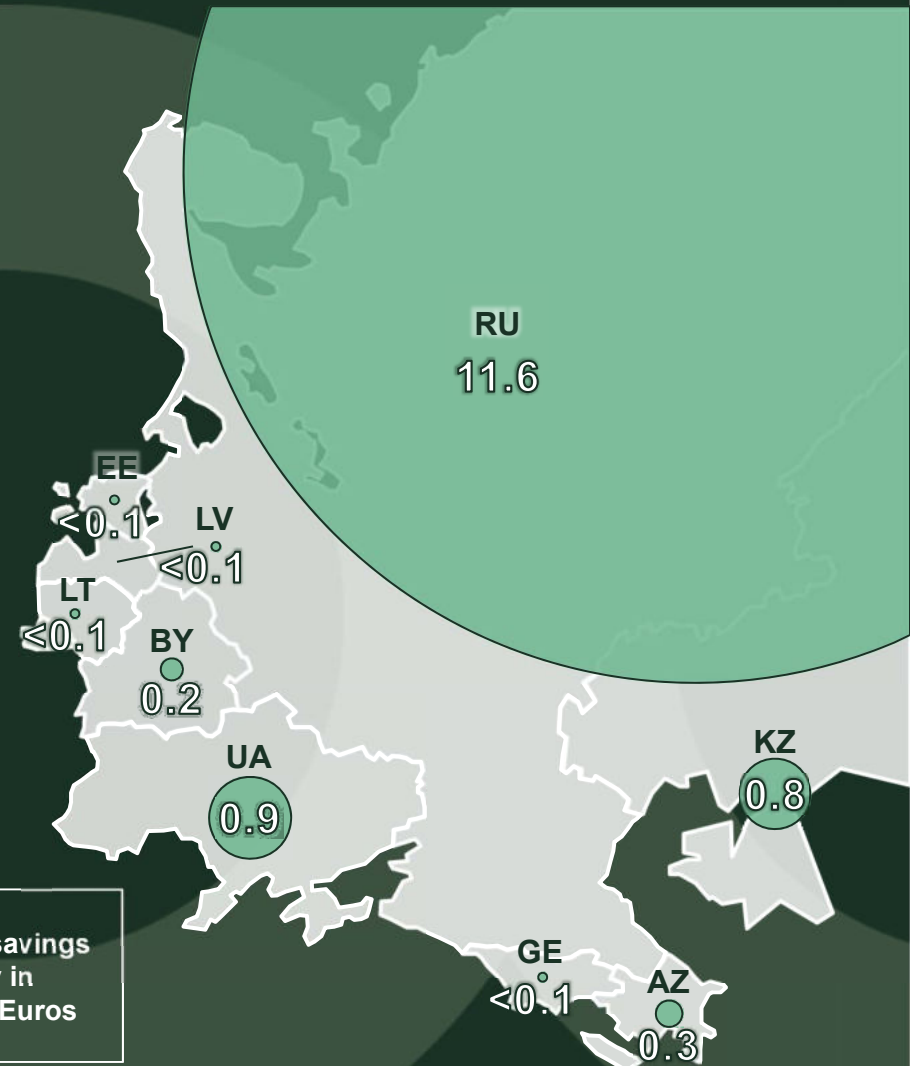


New deliveries
76%

Freight
51%



Passengers
49%



Country case studies 1/3

Present value of total savings

€255m

€26 per 



Present value of total savings	
Passengers 	Freight 
€186m	€69m

Present value of total savings

€188m

€20 per 



Present value of total savings	
Passengers 	Freight 
€132m	€56m

Present value of total savings

€4m

€3 per 



Present value of total savings	
Passengers 	Freight 
€2m	€2m

Country case studies 2/3

Present value of total savings

€33m

€9 per 



Present value of total savings	
Passengers 	Freight 
€21m	€13m

Present value of total savings

€33m

€17 per 



Present value of total savings	
Passengers 	Freight 
€26m	€8m

Present value of total savings

€16m

€6 per 



Present value of total savings	
Passengers 	Freight 
€12m	€4m

Country case studies 3/3

Present value of total savings

€846m

€48 per 



Passengers 	Freight 
Present value of total savings	
€363m	€483m

Present value of total savings

€11,606m

€80 per 



Passengers 	Freight 
Present value of total savings	
€5,659m	€5,947m

Present value of total savings

€934m

€21 per 

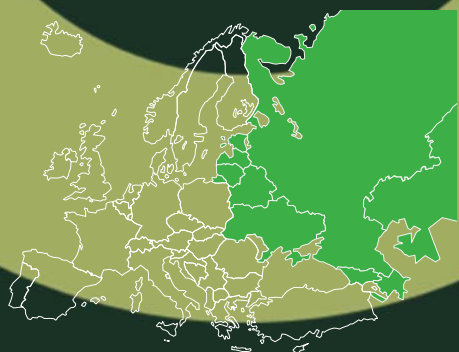


Passengers 	Freight 
Present value of total savings	
€413m	€521m

Conclusion

**Direct
micro-benefits
from 9 countries
assessed at
€13.9bn**

**Many additional
micro and macro
benefits
expected**



Andrew Meaney
+44 (0) 1865 253 028
andrew.meaney@oxera.com



Howard Rosen
+41 (0) 41 760 28 88
howard.rosen@railworkinggroup.org
www.railworkinggroup.org



www.oxera.com
Follow us on Twitter
[@OxeraConsulting](https://twitter.com/OxeraConsulting)

Oxera Consulting LLP is a limited liability partnership registered in England no. OC392464, registered office: Park Central, 40/41 Park End Street, Oxford, OX1 1JD, UK; in Belgium, no. 0651 990 151, registered office: Avenue Louise 81, 1050 Brussels, Belgium; and in Italy, REA no. RM - 1530473, registered office: Via delle Quattro Fontane 15, 00184 Rome, Italy. Oxera Consulting GmbH is registered in Germany, no. HRB 148781 B (Local Court of Charlottenburg), registered office: Rahel-Hirsch-Straße 10, Berlin 10557, Germany.

Although every effort has been made to ensure the accuracy of the material and the integrity of the analysis presented herein, Oxera accepts no liability for any actions taken on the basis of its contents.

No Oxera entity is either authorised or regulated by the Financial Conduct Authority or the Prudential Regulation Authority within the UK or any other financial authority applicable in other countries. Anyone considering a specific investment should consult their own broker or other investment adviser. Oxera accepts no liability for any specific investment decision, which must be at the investor's own risk.

© Oxera 2018. All rights reserved. Except for the quotation of short passages for the purposes of criticism or review, no part may be used or reproduced without permission.

PRO//Motion 1520

