



ECONOMIC

survey
2014-15

The Rail Route to higher growth

Highlights by

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Economic Survey 2014-15

Two Volumes

The screenshot displays the official website of the Ministry of Finance, India, for the Economic Survey 2014-15. The page is titled "Economic Survey - Volume I" and is part of the "UNION BUDGET" section. The header includes the Ministry of Finance logo, the text "MINISTRY OF FINANCE GOVERNMENT OF INDIA", and navigation links for "HOME", "Union Budget", "Economic Survey", and "Webcast". A search bar for "Previous Economic Surveys" is also present. The main content area features a breadcrumb trail "You are here: Home > Economic Survey" and a list of links for various sections of the survey, including Preface, Acknowledgements, Economic Outlook, and Fiscal Framework. A sidebar on the left provides a detailed table of contents for Volume II, listing chapters from Preface to Economic Survey - Volume-II (All Chapters). The footer contains related website links and a disclaimer: "Designed, Developed and Hosted by National Informatics Centre, Information is provided by Ministry of Finance."

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Economic Survey -Volume I

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Economic Survey 2014-15

It has dedicated one chapter in Vol I on Railway Sector

Putting Public Investment on Track: The Rail Route to Higher Growth

06
CHAPTER

Quoted...

“the introduction of the railways has been historically the most powerful single initiator of take-offs” - W. W. Rostow

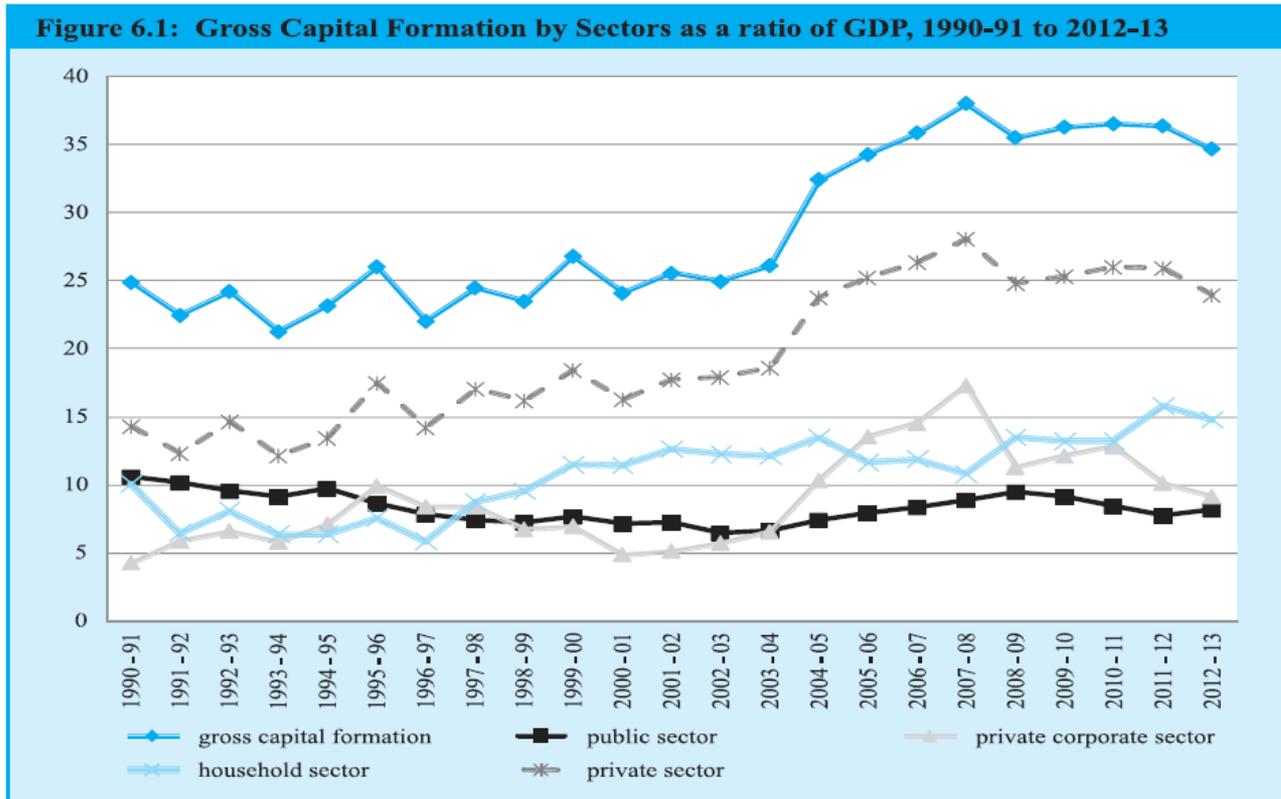
Rostow, W. W. *“The process of Economic Growth”*, Oxford, Clarendon Press, 2d ed., 1960, pp. 302-3 cited in Mitchell, B. R. *“The Coming of the Railway and United Kingdom Economic Growth”*, The Journal of Economic History, 24(3), September 1964.

Introduction

It starts off with simple facts to demonstrate that an increase in public investment would not crowd out private investments in India

And then goes on to build the case for targeting public investment to the sector where it can generate the largest spillovers- **which could well be the Indian Railways.**

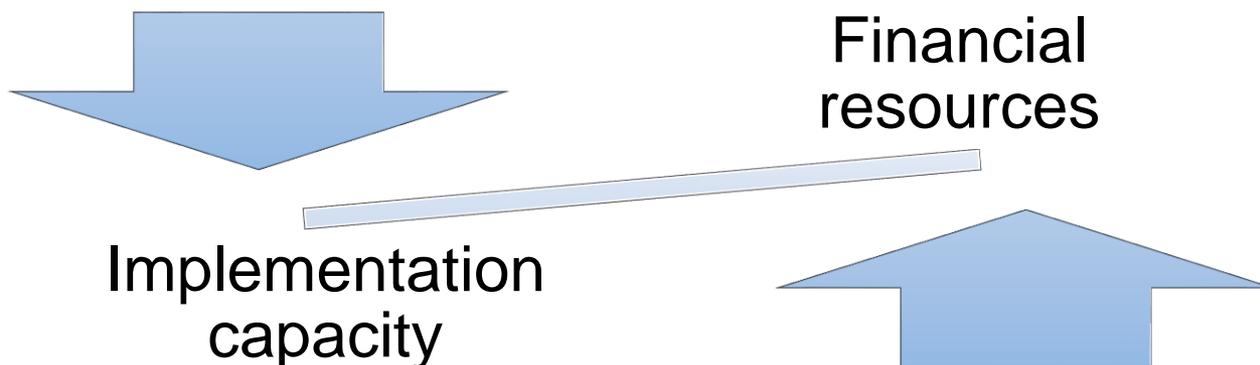
Relationship between Public investment & private investments



Source: Central Statistics Office.

A decline in public investment by more than 1 percentage point between 2007-08 and 2012-13, is accompanied by a general decline in private corporate investment by more than 8 percentage points (barring an increase during 2009-10 and 2010-11)

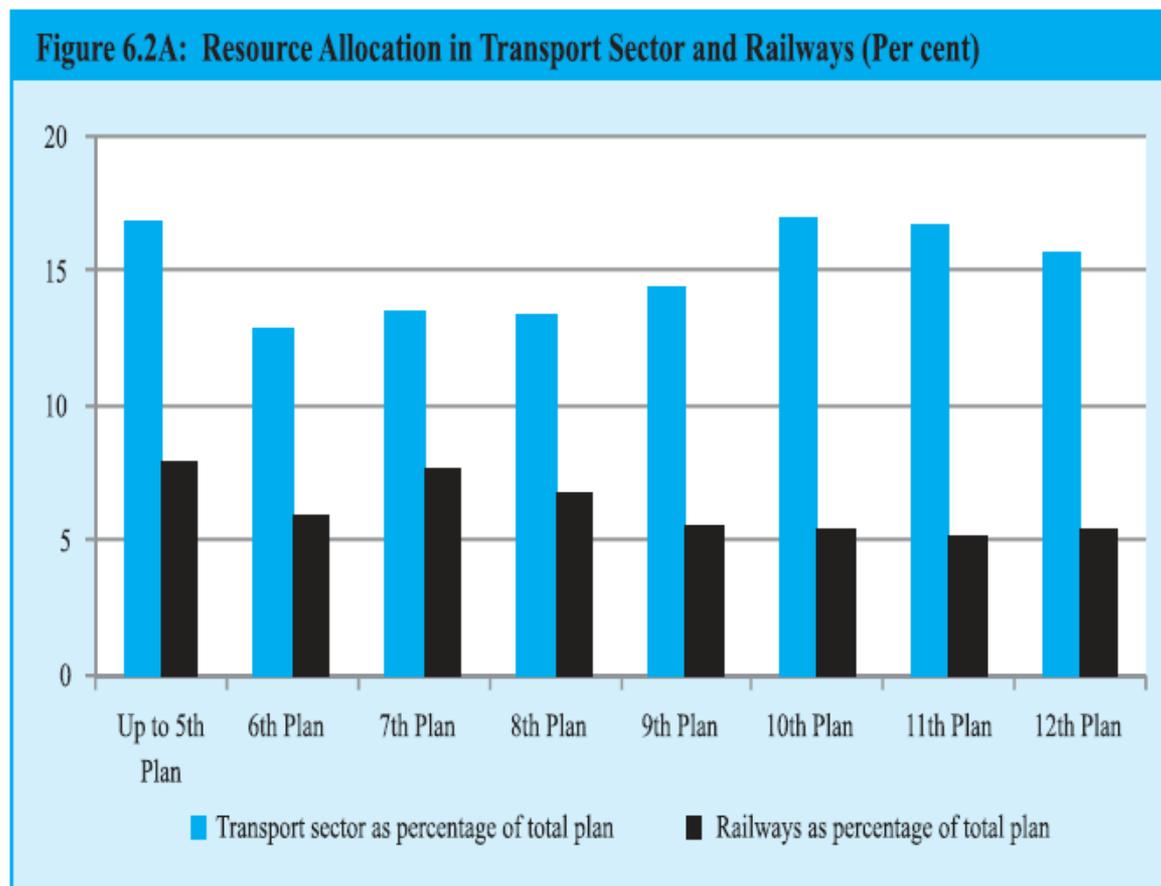
Challenge of investment



The trick is to find sectors with maximum positive spillovers and institutions with a modicum of proven capacity for investing quickly and efficiently.

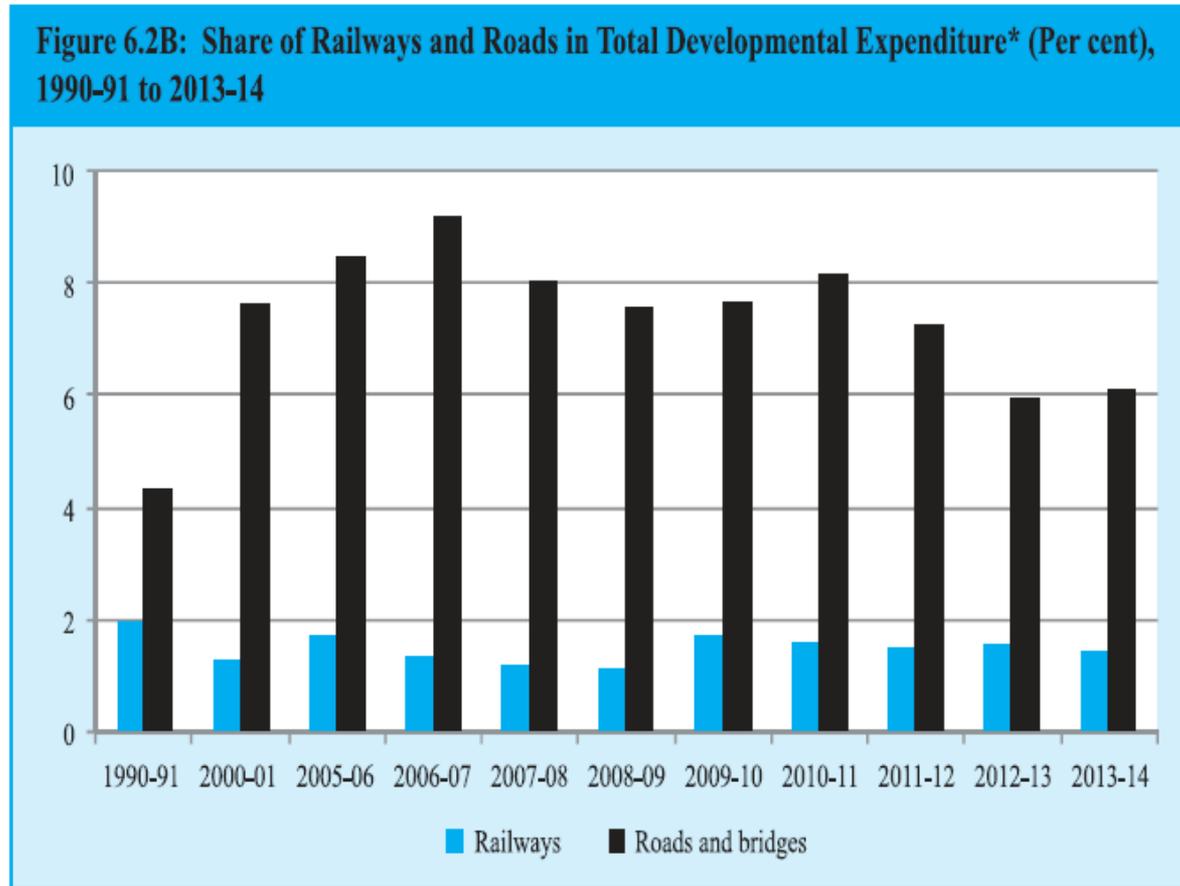
Two prime candidates are rural roads and railways

Resource Allocation %



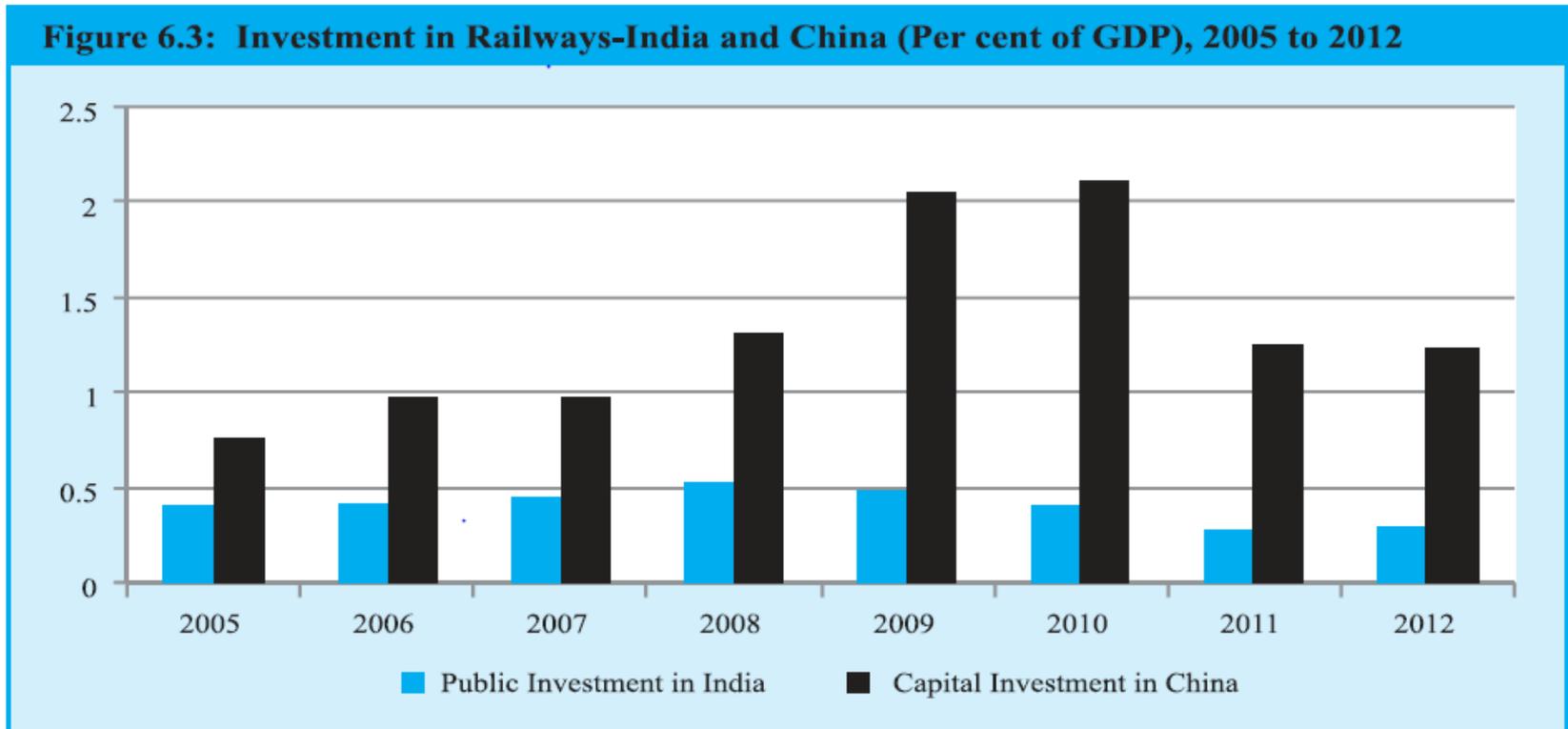
**Source : Indian Public Finance Statistics, Ministry of Finance.*;
Includes both Centre and States.**

Railways and Road share in Expenditure



**Source : Indian Public Finance Statistics, Ministry of Finance.*;
Includes both Centre and States.**

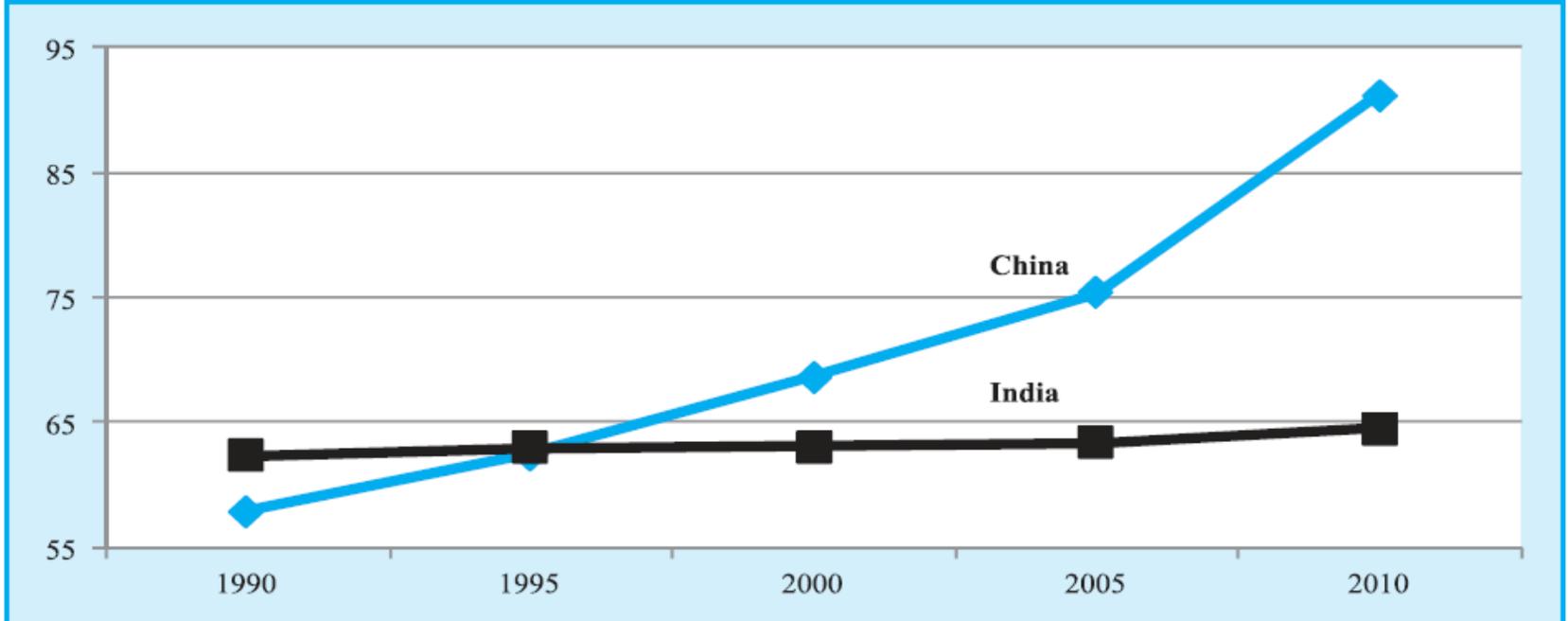
India-China: Investment in Railways



Source : World Bank and MoF calculations.

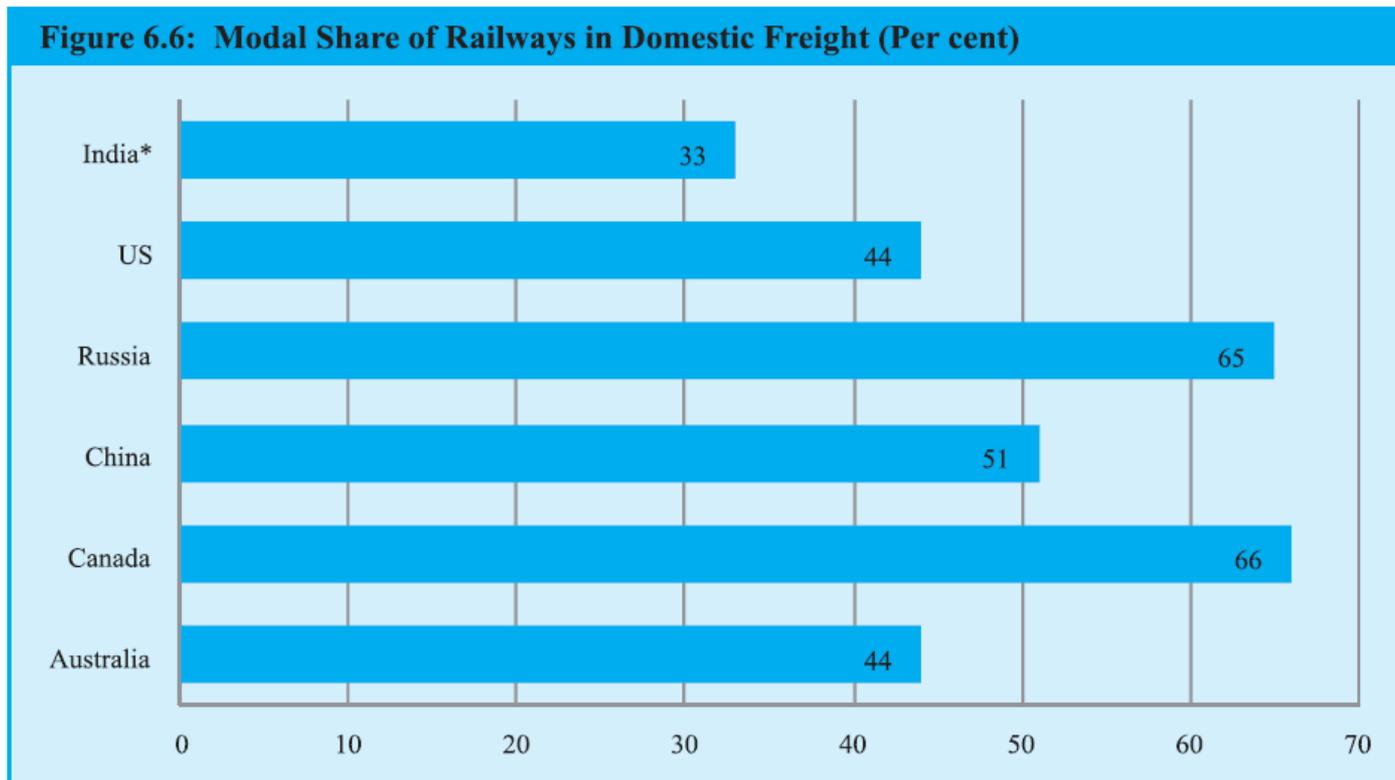
India-China: Addition of capacity

Figure 6.4: Addition to Capacity (route kilometres, '000) , 1990 to 2010



Source : World Bank.

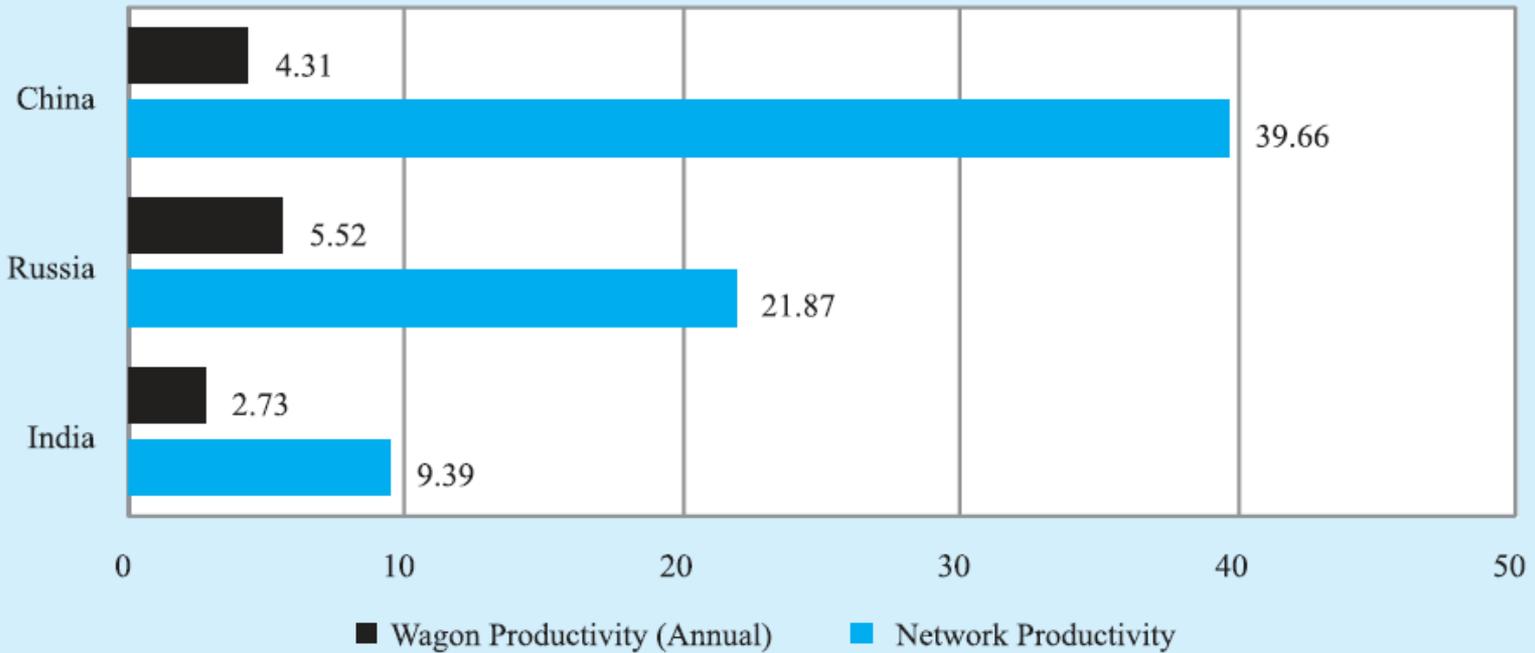
Modal Share of Freight Comparison with other systems



*Source: Amos, Paul "Freight Railways Governance, Organization and Management: An International Round-up", July 2011, World Bank Paper submitted to NTDP (2014). *Data for India is an estimate for 2011-12 reported in the Report of the NTDP (2014).*

Benchmarking

Figure 6.7: Benchmarking Efficiency: India vis-a-vis China and Russia



How much boost can vibrant railways provide to the economy?

Forward and Backward Linkages of the Railways

[Albert Hirschman's idea of backward and forward linkages](#)

Backward linkage measures the effect on other sectors that provide inputs consequent upon a big push for railways.

Forward linkage measures the effects of the big push on other sectors that use railways as an input.

An example of an industry that has excellent forward and backward linkages is the steel industry. Backward linkages include coal and iron ore mining. Forward linkages include items such as canned goods

Linkages of the Railways

BACKWARD

Railways are found to possess strong *backward* linkages (demand pull from other sectors) with manufacturing and services (Table 6.1). Based on 2007-08 data (the latest year for which the input-output tables are available), it appears that increasing the railway output by Re 1 would increase output in the economy by Rs 3.3.

FORWARD

A Re1 push in railways will increase the output of other sectors by about Rs 2.5.

This forward linkage effect has declined over time but this is largely endogenous to capacity constraints in the railways sector which has led to reliance on other modes of transport.

Using Input-Output Analysis to Measure US Economic Structural Change Over a 24 Year Period", 2000 accessed at <http://www.bea.gov/papers/pdf/strucv7all.pdf>

Table 6.1 : Railways; Backward and Forward Linkages

| Sector | 1993-94 | 1998-99 | 2003-04 | 2007-08 |
|---|---------|---------|---------|---------|
| Backward Linkage | | | | |
| AGRICULTURE | 0.01 | 0.01 | 0.01 | 0.02 |
| INDUSTRY | 0.63 | 0.76 | 0.93 | 2.04 |
| SERVICES | 1.28 | 1.32 | 1.24 | 1.23 |
| Total Backward Linkage | 1.92 | 2.08 | 2.19 | 3.29 |
| Forward Linkage | | | | |
| AGRICULTURE | 0.13 | 0.12 | 0.16 | 0.07 |
| INDUSTRY | 2.15 | 2.03 | 2.11 | 1.18 |
| SERVICES | 1.13 | 1.13 | 1.16 | 1.19 |
| Total Forward Linkage | 3.41 | 3.28 | 3.44 | 2.45 |
| Source : Calculations based on CSO input-output tables. | | | | |

Price Elasticity of Demand

Table 6.5 : Price Elasticity of Demand

| | Per cent |
|--|-------------|
| Total passengers | 14.4 |
| <i>Overall suburban passengers</i> | 23.2 |
| <i>Overall non-suburban passengers</i> | 13.4 |
| <i>Upper class passengers</i> | 9.8 |
| <i>Mail and express class passengers</i> | 13.0 |
| <i>Ordinary passengers</i> | 14.5 |
| Total Freight | 55.4 |
| <i>Cement</i> | 37.4 |
| <i>Coal</i> | 47.9 |
| <i>Fertilizer</i> | 44.1 |
| <i>Iron ore</i> | 17.9 |
| <i>Petroleum and petro products</i> | 91.4 |
| <i>Pig iron ore</i> | 33.3 |

Source: MoF estimates.

The elasticities are arrived at by regressing passenger kilometers on average passenger prices (downloaded from MOSPI's infrastructure statistics report) and NTKMs on average tariff rates (identical source).

They should be treated as indicative because the analysis is based on few observations and does not control for other factors that influence the choice of mode of transport.

POLICY RECOMMENDATIONS- KEY TAKEAWAYS

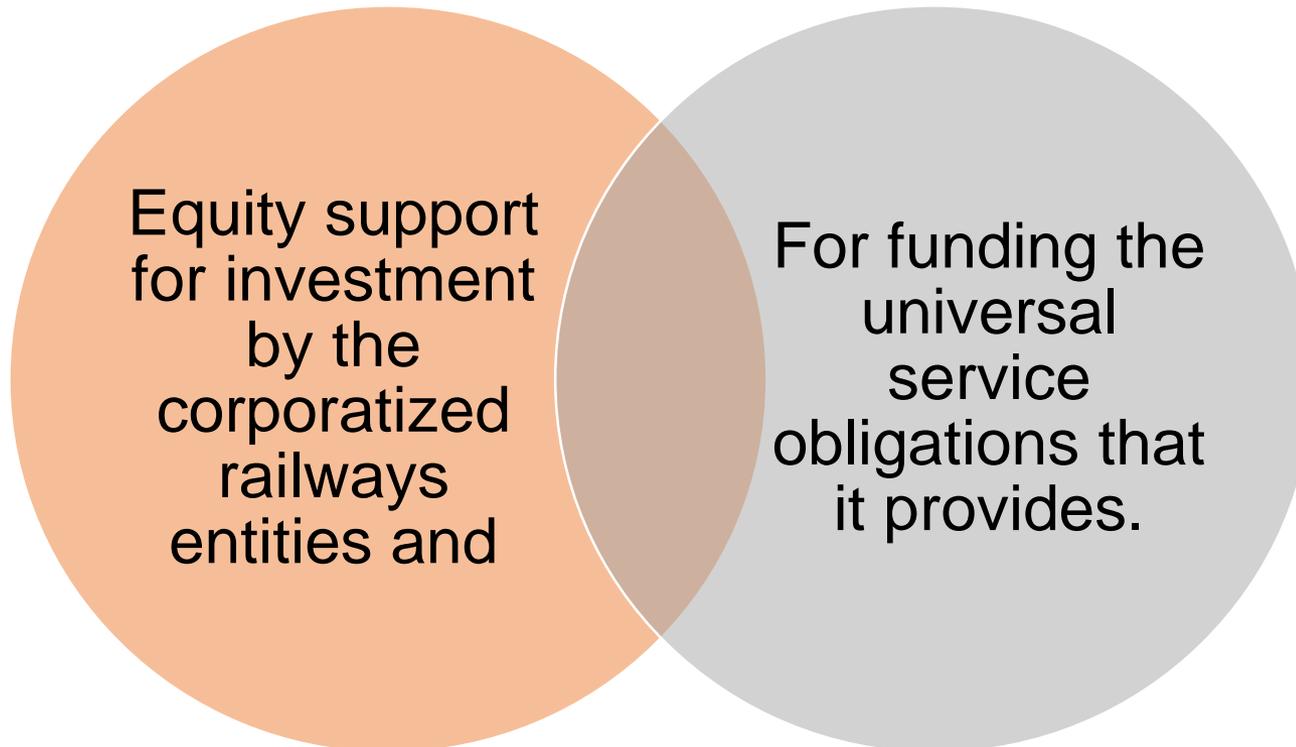
Greater public investment in the railways would boost aggregate growth and the competitiveness of Indian manufacturing substantially.

In part, these large gains derive from the current massive under-investment in the railways.

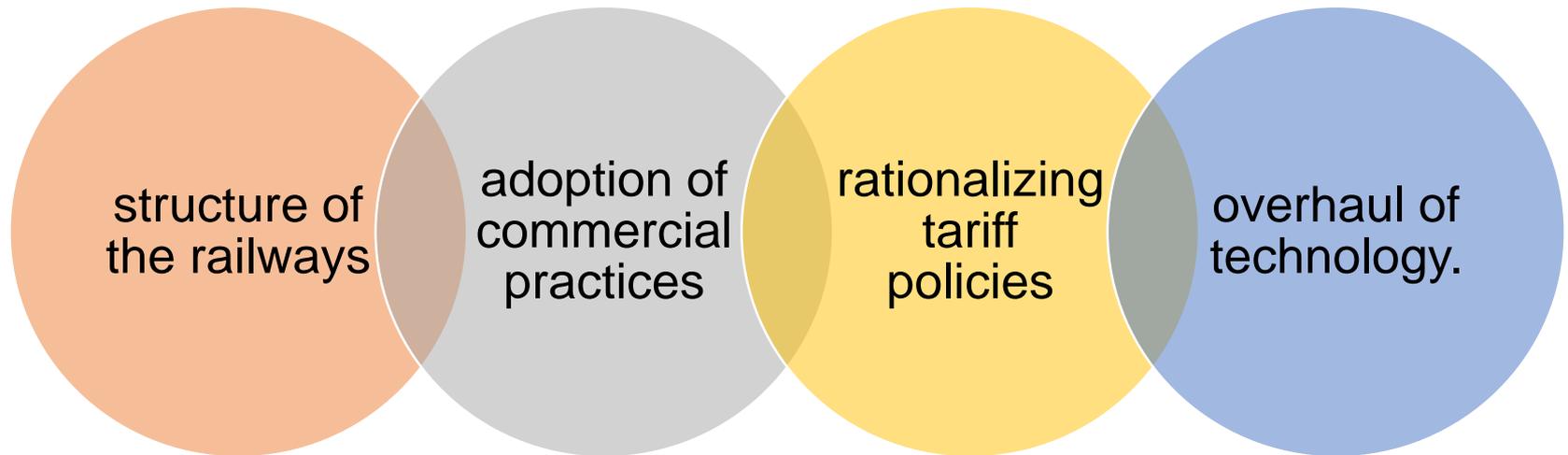
China invests eleven times as much in per-capita terms and underinvestment in the Indian Railways is also indicated by congestion, strained capacity, poor services, and weak financial health.

POLICY RECOMMENDATIONS- KEY TAKEAWAYS

In the long run, the railways must be commercially viable and public support for the railways should be restricted to



But for all this IR has to play its part



Further Reading

[RITES Total Transport Report](#)

[High Level Safety Review Committee under the chairmanship of Dr. Anil Kakodkar](#)

[World Bank on India Transport Sector 2002](#)

<http://www.ciilogistics.com/autoscm/day1/THOMAS%20NETZER-McKinsey.pdf>

http://www.mckinsey.com/insights/travel_transportation/transforming_indias_logistics_infrastructure

<http://siteresources.worldbank.org/INTSARREGTOPTRANSPORT/2045693-1330028581692/23126042/Prsntn5-PaulAmos.pdf>

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTTRANSPORT/0,,contentMDK:20457516~menuPK:1323447~pagePK:148956~piPK:216618~theSitePK:337116,00.html>

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