MODELS OF RAILWAY REFORM AND CONSIDERATIONS ABOUT THE REFORM AT TCDD

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The World Bank

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Main Ideas

- The worldwide crisis of railways
- Models of railway reform
- The EU approach of railway reform
- The need of reform at TCDD
- Lessons learned – useful ideas for Turkish Railway
NEW MARKET CONDITIONS AND THE RAILWAY CRISIS

- Extraordinary increase of the efficiency of road transport starting from 1950
- Most trucking, buses, automobiles were private and more flexible to the market
- Taxes and tolls on road transportation do not cover the total cost of usage
- All railways across the globe suffered ever stronger competition from trucks, cars, buses, airplanes

Starting from 1970 many of the world’s railways were in a serious state of decline
THE VICIOUS CERCLE OF RAILWAYS DECLINE

- Market reduction
- Financial losses
- Poor quality services
- Governments impossibility to continue to cover loses

RISK OF FINANCIAL COLLAPSE
MONOLITHIC RAILWAYS UNFITTED TO NEW MARKET

- Similar reaction of all monolithic railways, with slow and insignificant changes
- Monopolistic, bureaucratic structures, integral part of the state
- Production oriented organizations

MARKET REQUIREMENTS - IGNORED

*It is not the strongest that survives, nor the most intelligent, but rather the one most responsive to change*  
– Attributed to Charles Darwin
What are the goals of reform?

- Making the railway sector financially sustainable
- Increasing the transport market share of railways by shifting traffic from roads
- Creating greener, low-carbon economies

For reaching these goals, the railways must be competitive on the market
MAJOR FORMS OF REFORM

● Structural reforms
  – Vertically integrated dominant operator with separate external operators
  – Vertically integrated operator with selective track access
  – Vertically separated structures in which the infrastructure is organized and operated independently

● Ownership reforms
  – State ownership and operation
  – Privatization
  – Concession or franchise of services
## Vertically Integrated Dominant Operator (Examples)

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Freight</th>
<th>Passengers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AMTRAK, VIA</strong></td>
<td></td>
<td>Owned: State Operated: State</td>
</tr>
<tr>
<td><strong>Japan Rail East</strong></td>
<td>Owned: Private Operated: Private</td>
<td>Owned: Private Operated: Private</td>
</tr>
<tr>
<td><strong>Japan Freight Railway Company</strong></td>
<td>Owned: State Operated: State</td>
<td></td>
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</tbody>
</table>
Vertically Integrated Operator with Selective Track Access (Examples)

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Freight</th>
<th>Passengers</th>
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</thead>
<tbody>
<tr>
<td>Argentina, Brazil, Bolivia, Peru, Mexico (freight &amp; passenger concessions)</td>
<td>Owned: <strong>State</strong>&lt;br&gt;Operated: Private</td>
<td>Owned: Private&lt;br&gt;Operated: Private</td>
</tr>
<tr>
<td>Chile (two freight concessions)</td>
<td>Owned: <strong>State</strong>&lt;br&gt;Operated: Private</td>
<td>Owned: Private&lt;br&gt;Operated: Private</td>
</tr>
<tr>
<td>Africa (12 freight concessions, in some cases with passenger services)</td>
<td>Owned: <strong>State</strong>&lt;br&gt;Operated: Private</td>
<td>Owned: Private&lt;br&gt;Operated: Private</td>
</tr>
<tr>
<td>European Union (more licensed operators for freight and passenger services, state still present on operations)</td>
<td>Infrastructure</td>
<td>Freight</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
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</tr>
<tr>
<td>Owned: <strong>State</strong></td>
<td>Owned: Private</td>
<td>Owned: Private</td>
</tr>
<tr>
<td>Operated: <strong>State</strong></td>
<td>Operated: Private</td>
<td>Operated: Private</td>
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</table>

<table>
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<tr>
<th>United Kingdom (one freight operator and 25 franchises for passengers)</th>
<th>Infrastructure</th>
<th>Freight</th>
<th>Passengers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owned: <strong>PPP</strong></td>
<td>Owned: Private</td>
<td>Owned: Private</td>
<td>Owned: Private</td>
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<tr>
<td>Operated: Private</td>
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</tbody>
</table>
The European way to reform Railways
THE TURNING POINT


- Accounting separation between rail infrastructure and train operators
- Public money for one sector cannot be used to cross-subsidize the other
- The railways must be managed on commercial basis, driven by market demands, independent from the state
- Non-discriminatory access on railway infrastructure

Directive 91/440 – beginning of new legal framework
3 Directive Packages from 2001 to 2007
THE FIRST RAILWAY PACKAGE
(to be implemented by the member states by March 15, 2003)

- Directive 2001/12 amending Directive 91/440 by extending the open access for the entire network
- Directive 2001/13 amending Directive 95/18 on the licensing of railways
- Directive 2001/14 for infrastructure capacity allocation and charging, and safety certification
THE SECOND RAILWAY PACKAGE
(to be implemented by the member states by January 1, 2007)

- Directive 2004/51 further amending Directive 91/440,
- Directive 2004/50 amending interoperability Directives 96/48 and 2001/16,
THE THIRD RAILWAY PACKAGE
(to be implemented by the member states by January 1, 2010)

- Directive 2007/58 amending the Directive 91/440 and Directive 2001/14 to open the market to the international transport of passengers,

- Regulation (EC) 1371/2007 on rail passenger’s rights and obligations,

- Directive 2007/59 on the certification of train drivers operating locomotives and trains on the railway system in the Community.
SEPARATION OF STATE AND RAILWAY FUNCTIONS

- **STATE**: Create the legal and institutional framework, develop unbiased transport policies, regulate the market.

- **RAILWAY**: Service provider based on commercial contracts.

The governments and the railways must be adapted for fulfilling the requirements of EU Directives.
New functions of the Government imposed by the EU Directives
THE MULTIPLE ROLES OF THE GOVERNMENT

- **POLICY MAKER:** develop transport policies for implementing a balanced transport market between different modes of transport.

- **REGULATOR:** guarantee fair competition among different modes of transport, issue clear safety regulations.

- **OWNER:** ensure good corporate governance, set challenging business targets for managers, and hold managers accountable, without meddling in management decisions.

- **CLIENT:** promote transparent contractual relationships with railways, when asking for social services.
INSTITUTIONAL FRAMEWORK REQUIRED BY THE EU

- **LICENSING BODY**: structure for issuing, suspending, and/or revoking the licenses to railway operators

- **SAFETY AUTHORITY**: safety standards definition and control, certification of rolling stock and other components sensitive for safety

- **INVESTIGATING BODY**: accidents investigations

- **REGULATORY BODY**: structure authorized to process the appeals of potential applicants believing that they have been unfairly treated or discriminated on the railway market
Models of implementation of EU Directives in Railways
# Organizational Structures of Railways in Europe

<table>
<thead>
<tr>
<th>Country</th>
<th>Infrastructure Manager</th>
<th>Railway Undertakings</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>RFF</td>
<td>SNCF</td>
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<tr>
<td>Spain</td>
<td>ADIF</td>
<td>RENFE</td>
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<tr>
<td>Portugal</td>
<td>REFER</td>
<td>CP</td>
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<td>Finland</td>
<td>RFK</td>
<td>VR</td>
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<tr>
<td>Czech Republic</td>
<td>SZDC</td>
<td>CD</td>
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<tr>
<td>Slovakia</td>
<td>ZSR</td>
<td>ZSSK</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>NRIC</td>
<td>BDZ-EAD</td>
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## ORGANIZATIONAL STRUCTURES OF RAILWAYS IN EUROPE

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<tr>
<th>COUNTRY</th>
<th>INFRASTRUCTURE MANAGER</th>
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<tbody>
<tr>
<td>GERMANY (DB HOLDING)</td>
<td>DB NETZ</td>
<td>DB SCHENKER RAIL, DB REISE &amp; TOURISTIK, DB REGIO, DB STATION</td>
</tr>
<tr>
<td>NETHERLAND</td>
<td>ProRail (Gov. Agency)</td>
<td>NS,</td>
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<td></td>
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<td>DB SCHENKER RAIL</td>
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<td>DENMARK</td>
<td>BANEDANMARK</td>
<td>DSB, ARIVA,</td>
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</tr>
<tr>
<td>AUSTRIA</td>
<td>OBB NETZ</td>
<td>PERSONENVERKEHR AG,</td>
</tr>
<tr>
<td>(OBB GROUP)</td>
<td></td>
<td>RAIL CARGO AUSTRIA AG,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other units for traction, stations, real estate, etc.</td>
</tr>
<tr>
<td>ITALY</td>
<td>RFI</td>
<td>TRENITALIA with four</td>
</tr>
<tr>
<td>(FS HOLDING GROUP)</td>
<td></td>
<td>Departments (Long dist., Global Logistic, Local &amp; Regio, Rolling Stock)</td>
</tr>
<tr>
<td>POLAND</td>
<td>PLK</td>
<td>PKP CARGO, PKP InterCity, PKP REGIONALNE PKP MAZOVIEKIE</td>
</tr>
<tr>
<td>(PKP GROUP)</td>
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<td>CFR</td>
<td>CFR MARFA, CFR CALATORI</td>
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<tr>
<td>SWEDEN</td>
<td>BV (Gov. Agency)</td>
<td>SJ AB, GREEN CARGO</td>
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<tr>
<td>GREAT BRITAIN</td>
<td>NETWORK RAIL (PPP)</td>
<td>EWS, 25 Franchises for passengers</td>
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<td>NORWAY</td>
<td>JBV (Gov. Agency)</td>
<td>NSB</td>
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<tr>
<td>SWITZERLAND (SBB AG)</td>
<td>INFRASTRUCTURE DEVISION OF SBB</td>
<td>PASSENGER TRAFFIC, CARGO, (Joint Stock Co) REAL ESTATE,</td>
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<tr>
<td></td>
<td></td>
<td>CISALPINO AG (traffic with Italy)</td>
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<td></td>
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<td>LYRIA (TGV with France)</td>
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<td></td>
<td></td>
<td>SBB CARGO ITALY</td>
</tr>
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<td></td>
<td></td>
<td>SBB CARGO DEUTSCHLAND</td>
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<td>CROATIA (HZ-Group)</td>
<td>HZ-Infrastructure</td>
<td>HZ-Freight, HZ-Passengers, HZ-Traction</td>
</tr>
<tr>
<td>MACEDONIA</td>
<td>MZ-Infrastructure</td>
<td>MZ-Transport</td>
</tr>
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MAIN CONCLUSIONS ABOUT THE EU RAIL REFORM

- EU legal and institutional framework allows a very large variety of organizational solutions.
- The reform was implemented in more stages over a period of 7-10 years and the process is not finished.
- There is no one “correct” answer and not all reform processes been uniformly “successful”.
- However, no one railway is in a worse situation than before starting the railway – the only option that is not successful is inaction.
What are the results of the EU reform model?
Railway Freight Traffic Evolution in EU-27

21% increase since 1993 until 2007
Passenger Railway Traffic Evolution in EU27

13% increase since 1993 until 2007
Railway Freight Traffic Evolution in Germany

74% increase since 1993 until 2007
90% increase since 1993 until 2007
69% increase since 1993 until 2007
37% increase since 1993 until 2007
63% increase since 1993 until 2007
Why the decision of reforming railways is important for Turkey?
The economic development of Turkey generates more volumes of transport, but the railway was not able to take full benefit of it and road takes the highest share.
The same tendency is on the passenger transport market
The percentage of transport volume increase since 1995 (100%) shows more convincing the trends.
The freight transport market share for each mode

**Freight Modal Split in Turkey in 1995**
- Pipelines, 2.58%
- Rail, 6.85%

**Freight Modal Split in Turkey in 2007**
- Pipelines, 6.32%
- Rail, 4.78%

**Freight Modal Split in EU-27 in 2007**
- Air, 0.07%
- Sea, 37.25%
- Pipelines, 3.05%
- IWW, 3.34%
- Rail, 10.70%
- Road, 88.89%
- Road, 45.59%
The passengers transport market share for each mode

Passenger Modal Split in Turkey in 1993
- Rail, 5.26%

Passenger Modal Split in Turkey in 2007
- Rail, 2.53%

Passenger Modal Split in EU-27 in 2007
- Cars, 51.92%
- Sea, 0.62%
- Air, 8.70%
- P2W, 2.35%
- Rail incl. High Speed, 7.42%
- Tram&Metro, 1.30%
- Buses, 8.21%
The efficiency of TCDD in comparison with the EU
75% of average productivity of EU-27
75% of average productivity of EU-27
89% of average productivity of EU-27
Better utilization of coaches than the EU-27
48% of average traffic intensity of EU-27
TURKISH RAILWAY AT CROSSROADS...
THE NEED OF REFORM AT TCDD IS EVIDENT

- TCDD faces similar problems as all EU railways before starting the reform
- As a candidate country and a neighboring country to EU, Turkey has to adopt a model based on the EU approach
- The EU model will allow to the new Turkish Railway:
  - to become a business partner of other European Railways
  - to develop railway activities in other EU countries
  - to participate in all railway related organizations of EU
THE ESSENTIAL COMPONENTS OF THE REFORM (1)

(ACCORDING TO THE EU DIRECTIVES)

- Set up the institutional framework for the roles of the State:
  - Railway Department at MoT in charge with the development of unbiased transport policies
  - Regulatory Framework (licensing, safety, investigation)
  - Management of Public Service Contracts and Track Access Charge

- Create new railway company(ies), free of historical debts, based on main lines of business, financially independent from the government
THE ESSENTIAL COMPONENTS OF THE REFORM (2) (ACCORDING TO THE EU DIRECTIVES)

- The transparent financial contribution of the state in railway infrastructure:
  - Multi-annual Contracts of MoT with railway to set up:
    - *the infrastructure management performance targets,*
    - *the public funds transferred to railway infrastructure and their destination,*
    - *methods to control the utilization of funds*

- The users of railway infrastructure must pay an access charge that will cover at least the direct costs resulted for the operation of train services
THE ESSENTIAL COMPONENTS OF THE REFORM (3) (ACCORDING TO THE EU DIRECTIVES)

- The revenues from the access charges and from the state contribution must cover the total costs of operation, maintenance, and development of infrastructure.

- Obligation of railway to adjust its activities to the market and to provide services at the lowest possible cost for the quality of service required.

- Commercial approach of passenger services based on multi-annual Public Service Contracts.
THE ESSENTIAL COMPONENTS OF THE REFORM (4) (ACCORDING TO THE EU DIRECTIVES)

- Tariff for freight activities set up based on commercial principles by the freight line of business
- Implementation of Performance Contracts for managers of railway (operational and financial targets and a limited number of annual indicators as conditions for the payment of the salary to the general managers of each line of business)
It must function both between
The Railway and the Market and
between the Units of the Railway
The commercial approach in railway

Market

Public Service Contracts

Infrastructure Management Contract

Tariffs

Infrastructure Manager
(Line of Business in Holding, SOE, Gov’t Agency)

PASSENGER RAILWAY
Line of Business

Track Access Charge

FREIGHT RAILWAY
Line of Business
Lessons learned (1)

- Need of political support
- Appoint business oriented management team
- Do not ignore the international transport market trends (be part of the int’l market)
- There is no guaranteed successful approach; define mixed solution function of specific conditions
- The forms of organization (holding, institutional separation, concession) are less important than the implementation of market principles
Lessons learned (2)

- Act now! Do not wait too long. Define solutions to be implemented step by step
- Continuity in implementation; once the process started, do not stop
- Flexibility in the implementation. Do not ignore the feedback of the system, make the necessary corrections
- Invest to create the new mentality of the staff
- Cooperation with trade unions

The new tradition – The continuous change, innovation and updating work practices
Thank you for the kind attention!

Vasile Olievschi

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