Rail Liberalisation Index 2011
Market Opening: Rail Markets of the Member States of the European Union, Switzerland and Norway in comparison

A study by IBM Global Business Services
in conjunction with Prof. Dr. Dr. h.c. Christian Kirchner, Humboldt University, Berlin
Presentation in Brussels, 20 April 2011
Note

- English translation – in case of any doubts, the German version shall apply.

- This presentation contains slides created by IBM Global Business Services in conjunction with Prof. Dr. Dr. Dr. h.c. Kirchner, Humboldt University, Berlin.

- The complete results of the "Rail Liberalisation Index 2011" are available on the Internet at www.deutschebahn.com/liberalisierungsindex (German) and www.deutschebahn.com/liberalisation-index (English) as from 21 April 2011.
Agenda

1. Objective and Concept of the Rail Liberalisation Index 2011
2. Results of the Study: Current Status of Market Opening
3. Results of the Study: Further Findings
4. Conclusion
The new edition of the Rail Liberalisation Index provides current information on the progress of railway liberalisation in Europe.

1. Comparing the current relative degree of market opening of the rail transport markets in the enlarged EU, Switzerland and Norway as of 1 January 2011 (reporting date)
2. Evaluating the market access possibilities from the point of view of railway undertakings willing and able to enter
3. Adapting the LIB Index to the status of academic discussion
4. Increasing the level of detail for better quantifiability and differentiation of the market entry barriers
5. Disclosing methods, weighting, sources and evaluations
6. Providing a snapshot of the current competitive situation
7. Ensuring comparability with previous versions
8. Aligning the market opening discussion to the facts
9. Promoting liberalisation

What progress has been made by the individual countries in opening their markets?
The LIB Index 2011 takes account of the present framework conditions and ensures comparability.

1. Consideration of the directives of the European Railway Packages
2. Special focus on the new regulatory framework, as e.g.
   - Regulation 1370/2007/EC on Public Passenger Transport Services by Rail and Road
3. Publication of separate indices for passenger transport (PT) and freight transport (FT)
4. Differentiation between purely commercial passenger transport and railway services under a public service contract
5. Consideration of 27 countries: EU (excluding Malta and Cyprus), Switzerland and Norway

Comparability with the LIB Index 2007 is ensured thanks to the modular structure of the Index and the limited number of changes.
The market access barriers are measured from the point of view of railway undertakings (RUs) willing and able to enter.

**Law in the books**

What are the legal requirements for market entry and to what extent do regulatory authorities support external RUs?

**Law in action**

What are the practical market access possibilities and barriers from the point of view of external RUs?
Which market is actually accessible and what allocation procedures are used?

What practical and legal market entry barriers must be overcome by an external RU before it can offer its services?
The Rail Liberalisation Index 2011 makes a consistent distinction between market entry barriers and the development of competition.

<table>
<thead>
<tr>
<th>Market results</th>
<th>not considered market results</th>
<th>Prices, quality, public funds, …</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>COM Index</td>
<td>Competitive situation</td>
</tr>
</tbody>
</table>

- **LIB Index**
  - ACCESS Index: Practical market access barriers
  - LEX Index: Legal requirements

Causes and consequences of liberalisation are analysed separately.
A modular structure enables the LIB Index to be updated without changing the calculation logic.

### Consolidation levels of the LIB Index

1. **Overall Index**
2. **Sub-indices**
3. **Subject areas**
   - Information barriers
   - Administrative barriers
   - Operational barriers
4. **Determinants**
   - Licensing
   - Safety certificate
   - Homologation of rolling stock
5. **Sub-criteria**
   - Independent inspection authorities
   - Fees
   - Level of detail required

**Data level** (250 items of data per country)
Evaluation of responses on a scale of "one" to "ten" enables a high level of differentiation.

<table>
<thead>
<tr>
<th>Sub-index/Subject area/ Determinant/Sub-criterion</th>
<th>Weights 2011</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>L.II Regulation of market access</td>
<td>45%</td>
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<tr>
<td>1. Market access of foreign RUs</td>
<td>40%</td>
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<tr>
<td>A) Transit and access rights for international FT</td>
<td>50%</td>
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<td>Other answers</td>
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<tr>
<td>B) Transit and access rights for international PT</td>
<td>50%</td>
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<td>Other answers</td>
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<tr>
<td>2. Market access of domestic RUs</td>
<td>40%</td>
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</tbody>
</table>

Extract from the evaluation scheme
Various sources ensure the reliability of the data.

**Sources**

- Competent points of contact at:
  - Railway undertakings
  - Railway regulatory bodies
  - Ministries and public authorities
  - Incumbents and network operators
  - National statistical offices, Eurostat
- Railway experts
- Railway industry
- IBM Global Business Services Network
- Current studies and annual reports

**Evaluation**

- Non-responses are a component part of the scope of the results
- Verification of completed questionnaires on the basis of secondary sources
- Paired comparisons and plausibility checks
- Experts' assessments
- Feedback loop with the points of contact in the individual countries

**Additional information:**

250 items of data were collected for each country (6750 items of data in total). Only 2.1% of the questions did not receive a response.

The research results are reliable thanks to multiple validation and the methodical procedure adopted.
The weighting of the responses reflects the significance of the access barriers and therefore the relative cost of entry.

### Content of the LEX Index
- Organisational structures of the incumbent: 25%
- Regulation of market access: 45%
- Competencies of the regulatory body: 30%

### Content of the ACCESS Index
- Information barriers: 5%
- Administrative barriers: 20%
- Operational barriers: 45%
- Share of accessible domestic market: 25%
- Sales services in passenger transport: 5%

A consistent distinction is made between *law-in-the-books* values (LEX) and *law-in-action* values (ACCESS).

Adapting the weights of the sub-indices reflects the process of dynamic liberalisation since *law in action* is gaining more and more significance.
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LEX Index 2011 (passenger and freight transport):
All countries have developed positively in the LEX Index.

50% of the countries scored 803 points or more in the LEX Index. The average is 794 points.
ACCESS Index 2011 (passenger and freight transport):
The variance of the ACCESS index is lower than the LEX index.

50% of the countries scored 708 points or more in the ACCESS Index. The average is 687 points.
Comparison of LEX Index and ACCESS Index:
In General: law-in-action values lower than law-in-the-books values.

The ACCESS values are on average 104 points lower than the LEX values: Actual market opening often lags behind the legal provisions.
The status of rail liberalisation in Europe can be classified into three market opening categories.


<table>
<thead>
<tr>
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<tbody>
<tr>
<td>800 – 1,000</td>
<td>No country with more than 800 points</td>
<td>Advanced</td>
</tr>
<tr>
<td>600 – 799</td>
<td>On Schedule</td>
<td>On Schedule</td>
</tr>
<tr>
<td>300 – 599</td>
<td>Delayed</td>
<td>Delayed</td>
</tr>
<tr>
<td>100 – 299</td>
<td>Pending Departure</td>
<td>No country with less than 300 points</td>
</tr>
</tbody>
</table>

As a result of the continued positive development of liberalisation, the last category in 2002/2004 - Pending Departure - no longer applies since 2007. There is however a new top group since 2007 - Advanced.
Rail Liberalisation Index 2007 (passenger and freight transport)
More than 800 points were scored only in GB, DE, SE and NL.

<table>
<thead>
<tr>
<th>Country</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>GB Great Britain</td>
<td>827</td>
</tr>
<tr>
<td>DE Germany</td>
<td>826</td>
</tr>
<tr>
<td>SE Sweden</td>
<td>825</td>
</tr>
<tr>
<td>NL Netherlands</td>
<td>809</td>
</tr>
<tr>
<td>AT Austria</td>
<td>788</td>
</tr>
<tr>
<td>DK Denmark</td>
<td>788</td>
</tr>
<tr>
<td>CH Switzerland</td>
<td>757</td>
</tr>
<tr>
<td>PL Poland</td>
<td>739</td>
</tr>
<tr>
<td>CZ Czech Rep.</td>
<td>738</td>
</tr>
<tr>
<td>RO Romania</td>
<td>722</td>
</tr>
<tr>
<td>PT Portugal</td>
<td>707</td>
</tr>
<tr>
<td>SK Slovakia</td>
<td>700</td>
</tr>
<tr>
<td>NO Norway</td>
<td>698</td>
</tr>
<tr>
<td>EE Estonia</td>
<td>691</td>
</tr>
<tr>
<td>LT Lithuania</td>
<td>684</td>
</tr>
<tr>
<td>IT Italy</td>
<td>676</td>
</tr>
<tr>
<td>SI Slovenia</td>
<td>665</td>
</tr>
<tr>
<td>BG Bulgaria</td>
<td>652</td>
</tr>
<tr>
<td>LV Latvia</td>
<td>650</td>
</tr>
<tr>
<td>BE Belgium</td>
<td>649</td>
</tr>
<tr>
<td>HU Hungary</td>
<td>637</td>
</tr>
<tr>
<td>FI Finland</td>
<td>636</td>
</tr>
<tr>
<td>ES Spain</td>
<td>630</td>
</tr>
<tr>
<td>LU Luxembourg</td>
<td>581</td>
</tr>
<tr>
<td>FR France</td>
<td>574</td>
</tr>
<tr>
<td>GR Greece</td>
<td>559</td>
</tr>
<tr>
<td>IE Ireland</td>
<td>333</td>
</tr>
</tbody>
</table>

On Schedule
600 – 799 points

Advanced
800 – 1,000 points

Delayed
300 – 599 points
Rail Liberalisation Index 2011 (passenger and freight transport):
More than 800 points were scored in SE, GB, DE, DK, NL and AT.
Rail Liberalisation Index (passenger and freight transport) 2011 vs. 2007: Most countries could improve their points.
The level of competitive dynamics varies greatly.

All countries in the first group of the LIB Index also occupy the top places in the COM Index and vice versa. One exception is EE which is in the second group (On Schedule) in the LIB Index.

Content of the COM Index (measurement of competitive dynamics)
- Extent and development of the modal split of rail
- Number of licensed/active external RUs in relation to the length of the network
- Market shares and market share growth of external RUs
LIB Index 2011 - freight transport
EU-driven liberalisation is showing its effect.

High median: 806 points
High average: 803 points
Low std. deviation: 68 points
LIB Index 2011 - passenger transport
There are very different levels of development of market opening.

Comment
- Low median: 668 points
- Low average: 656 points
- High std. deviation: 117 points
LIB Index 2011 - passenger and freight transport comparison:
The higher the score, the smaller the difference between PT and FT.
<table>
<thead>
<tr>
<th></th>
<th>Agenda</th>
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<tbody>
<tr>
<td>1</td>
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<td>4</td>
<td>Conclusion</td>
</tr>
</tbody>
</table>
In most Eastern European countries purely commercial national passenger transport service is permitted, however, in Eastern Europe no external RUs are currently offering these services.

<table>
<thead>
<tr>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Market closed for commercial national rail passenger services.</td>
</tr>
<tr>
<td>Yellow</td>
<td>Open access, but no external RUs providing commercial national rail passenger services.</td>
</tr>
<tr>
<td>Green</td>
<td>Open access with external RUs providing commercial national rail passenger services.</td>
</tr>
<tr>
<td>Yellow</td>
<td>AT and CZ: commencing end of 2011, external RUs providing purely commercial national rail passenger services.</td>
</tr>
</tbody>
</table>
In Europe three organisational clusters of regulatory bodies for rail transport can be identified.

The three organisational clusters were defined according to the IBM study „Railway Regulation in Europe“.

- **Special Regulatory Body:**
  - AT, BE**, DE, DK, GR, FR, IT***, LU, NL*, GB

- **Regulatory Body within a Railway Authority:**
  - BG, CH, CZ, FI**, HU, LV, NO, PL, PT**, SE**, SK

- **Regulatory Body within a Ministry:**
  - EE*, ES, IE, LT*, RO, SI****

* Regulatory tasks performed by national Competition Authorities.
** Regulatory Body for various modes of transport
*** Regulator URSF is an independent authority reporting to the Ministry of Transport.
**** Reorganisation in a special regulatory body planned for April 2011.
In Europe three different organisational models of separation between operations and infrastructure can be identified.

<table>
<thead>
<tr>
<th>Model Type</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separation model (complete ownership separation of infrastructure manager):</td>
<td>BG, DK, ES, FI, GR, NL, NO, PT, RO, SE, SK, GB</td>
</tr>
<tr>
<td>Integration Model (legally and functionally separated infrastructure manager, located within a holding company that also owns at least one RU):</td>
<td>AT, BE, CH**, DE, EE**, HU***, IE, IT, LT**, LU**, LV**, PL*, SI**</td>
</tr>
<tr>
<td>Hybrid model (independent infrastructure manager that has delegated specific tasks back to the incumbent as part of an agency agreement)</td>
<td>CZ, FR</td>
</tr>
</tbody>
</table>

* Separation of the infrastructure manager from the incumbent is planned.
** Integrated infrastructure manager with specific tasks (e.g. train path allocation) transferred to the railway authority.
*** CH, HU: integrated infrastructure manager with a separate train path allocation body.
The number of external RUs and their market share within a country shows positive correlation with independence and competences of the rail regulator.
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Very different entry conditions despite of continuous market opening activities.

- Countries leading in terms of railway liberalisation have a high market share of external RUs.
- Countries from the leading group have scores significantly higher than countries from the second group.
- Generally speaking, a high positive correlation between the results of the LIB and the COM index can be identified.
- Most countries were able to improve their score compared with the 2007 edition of the LIB Index. Because of the EU infringement proceedings, several countries provided their regulatory bodies with more independence and greater powers.
- Countries with strong and independent regulatory bodies occupy top positions in the LIB index.
- Leading countries selected different organisational models with regard to the separation between infrastructure and operation. No identifiable correlation exists between the organisational model and the degree of market opening.
There are still large differences between the market opening of the passenger and the freight railway market. However, leading countries have smaller differences between freight and passenger transport than other countries.

International, purely commercial passenger transport in accordance to the directive 2007/58/EC is possible in most countries, but is currently being performed primarily in international co-operations.

To date, purely commercial passenger railway transport operated by external RUs have been marginal, although it is permitted by law in most countries. However, in AT, DE, IT and CZ external RUs are planning the market entry in this market segment.

In some countries national passenger railway services under a public service contract is still reserved for the incumbent, either by law or by concessions. This is the case in NL, BE, CH, FI, FR, NO, IE, PL and ES.

Most Eastern European countries remain confronted with a declining portion of railway traffic compared with other forms of transport. However, in most northern, central and southern European countries the modal split of the railway increased.
Thank you for your attention.
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