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Andreas Knorr

The Rail Liberalisation Index 2004 – A Critical Appraisal

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1. Introduction

Over a decade ago, EU directive 91/440 EEC initiated an ambitious programme of railway liberalisation (embedded in a universal reform package which extended to all transport modes and markets). With the general objective of revitalising the railway system, it reflected widespread dissatisfaction with the low efficiency and productivity of the member states' public railway monopolists which, in general, were characterised by vast over-manning, enormous debt levels and liabilities regardless of the massive state aid infusions they had received, and a substantial decline of competitiveness, translating into ever lower market shares on the overall transport market. Apart from the restructuring of national railway operators, opening up the national networks to third parties and the creation of a single EU-wide railway market were considered the adequate remedies. With the EU Commission's proposed Third Railway Package of March 3rd, 2004, which stipulates the full opening of cross-border passenger services in the EU by January 1st, 2010, it is quite obvious, however, that the lengthy process of railway liberalisation is far from complete.[1] It is also evident that member states continue to interpret and apply pertinent EU law (which, essentially, still comes in the form of directives) very differently – both with respect to the institutional framework adopted and the speed of implementation.

After its first release in 2002 and a subsequent revised update in 2004, the *Rail Liberalisation Index* (*LIB Index*)[2] has swiftly become the most influential status quo report of railway liberalisation in Europe. It is noteworthy, however, that its findings are not based on independent research conducted on behalf of and paid for by the EU Commission as the initiator and "supervisor" of the railway liberalisation process. Instead, this work was exclusively commissioned and financed by Deutsche Bahn AG (DBAG), arguably the EU's largest

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1 For details see *Gersdorf* (2004).

2 http://www.db.de/site/bahn/de/unternehmen/presse/mediathek/infomaterial/libindex2004.html. The *LIB Index 2002* (German version only) is available at http://www.db.de/site/bahn/de/unternehmen/konzern/verkehrspolitik/bahnineuropa/bahnineuropa.html.

railway company.[3] Elaborated by IBM Business Consulting Services in conjunction with Christian Kirchner, a professor at Berlin's Humboldt University, specialised in German, European and international civil law and company law and institutional economics, and also a member of DBAG's Council of Advisers (the so called BahnBeirat), the *LIB Index* has caught on very well with the media and policymakers alike. Both the 2002 and the 2004 versions are posted on the EU Commission's website, for example.[4] Its success in the political realm and as a PR tool notwithstanding, we argue in this paper that, from a competition policy perspective, and due to the *LIB Index 2004*'s highly questionable methodology, its key results fail to deliver an objective assessment of what it pretends to measure.

2. The *LIB Index 2004* – An Overview

2.1 Scope and Objectives

The *LIB Index 2004* endeavours to "describe the status of market opening in the European rail markets of the enlarged EU, Norway and Switzerland as of spring 2004",[5] encompassing both rail-bound freight and passenger services. The first-time inclusion of eight of the ten accession countries – lacking any rail networks, Malta and Cyprus were excluded – which collectively joined the EU on May 1st, 2005, represents a significant increase of its geographical scope over the 2002 version. However, as was the case with its precursor, the *LIB Index 2004*'s focus "is on the relative progress, and not the absolute state, of liberalisation for the countries examined in relation to each other."[6] The authors hold that that the absolute degree of market opening could only be determined properly "after clearly agreeing on a definition of complete market opening" – an exercise which in their opinion "does not appear to be either possible or sensible" as "the relevant

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3 In terms of track length, DBAG's network extends over 23 % of the EU 15's total. It carries more than 30 % of the EU 15's rail freight and, with a share of 22.6 %, ranks second to SNCF only in passenger traffic. See *Deutscher Bundestag* (2004, 3).

4 http://europe.eu.int/comm/transport/rail/research/studies_de.htm.

5 See *LIB Index 2004*, 1.

6 Ibd.

market opening steps represent a dynamic process, the assumptions of which change in relation to the progress made towards the opening of the markets."[7] This marked qualification notwithstanding, it is nevertheless claimed that the *LIB Index*' comparative approach permits it "to deliver information on the relative suitability of different national approaches to liberalisation." Declared beyond its scope are all "factors outside of reducing the market access barriers [which] are relevant for the markets in question",[8] such as "state-supported subsidies for networks and rolling stock and the charging schemes in the area of public passenger transport"[9] as well as the areas customer satisfaction, railway safety, social aspects of rail transport (universal service obligations etc.) and some technology-related issues (e.g. different national signalling and traction power supply systems).[10]

2.2 Contents

Formally, the *LIB Index 2004* is subdivided into the ninety-page main text – which, in turn, comprises eight subchapters – and a total of thirteen annexes (which, for lack of a consolidated text, are only separately available for download[11]). After a **Management Summary** (pp. 1-4) and an **Introduction** (pp. 5-11), a **Respective View: LIB Index 2002** is provided (pp. 12-14), which succinctly summarizes its background, motivation, results, diffusion and acceptance. The **Concept of the LIB Index 2004**, i.e. all methodological issues, is presented on pp. 15-24, followed by the **Results 2004** (pp. 25-35) and rather detailed country reports under the heading **National Summaries** (pp. 36-

7 Ibd., 7.

8 Ibd., 10.

9 Ibd.

10 While no direct mention of these additional qualifications is given in the *LIB Index* itself, they were conceded by *Auner* (2004), an IBM Business Services Consulting representative, on the occasion of the public symposium "Rail Liberalisation Index 2004", which was held on November 23rd, 2003, at Berlin's Humboldt University. The symposium's full programme and the list of participants are attached to the *LIB Index 2004* (Annexes XI and XII). The presentations are available for download at http://www.rewi.hu-berlin.de/jura/ls/knr/.

11 http://www.db.de/site/bahn/de/unternehmen/presse/mediathek/infomaterial/libindex2004.html.

85). Two final and very short subchapters – on the **Effects of Liberalisation** (pp. 86-87) and a **Summary and Outlook** (pp. 88-90) – wrap up the study.

The annexes include: the bibliography (Annex I), a list of abbreviations (Annex II), an overview of current legislative acts (Annex III), the three questionnaires used to collect the data upon which the *LIB Index*' two integral sub-indices *LEX* and *Access* plus the supplementary *COM Index* are based (Annexes IV-VI), the weightings and range of answers (Annex VII), the national results (Annex VIII.1), the score table (Annex VIII.2), the *LIB Index 2004* with values (Annex VIII.3), modal split statistics (Annex IX), an overview of the concept and results of the *Rail Liberalisation Index 2002* (Annex X), the programme of the symposium "Liberalisation Index 2004" as well as the list of participants (Annexes XI and XII), and, finally, a paper summarizing the results of select empirical studies on the effects of transport liberalisation, predominantly but not exclusively in the railway sector (Annex XIII).

2.3 Methodology

2.3.1 Index Composition

The *LIB Index 2004* covers three segments of the rail transport market to which attached different are weightings wherever this is deemed relevant for the calculation of the values of its two sub-indices:[12] freight transport (weight: 50 %), long-distance passenger transport (weight: 25 %) and short-distance passenger transport (weight: 25 %). Urban rail services, by contrast, are not considered at all.[13]

It is composed of two sub-indices, whose respective numerical values are aggregated to calculate a country's overall rank: the *LEX Index* (weight: 30 %) and the *ACCESS Index* (weight: 70 %). The maximum

12 A complete list of all weightings applied by the authors is provided in Annex VII.

13 *LIB Index* 2004, 15.

number of points attainable both for the overall index and its two sub-indices is 1000, with a minimum of 100.[14]

Finally, in addition to the *LIB Index 2004*, a supplementary index – the *COM Index* – is provided. Designed to reflect the "competitive dynamics", it formed an integral part of the *LIB Index 2002*, with a weight of, then, 25 % (the relative weights of *LEX* and *ACCESS Indices* were then set at 25 % and 50 % respectively). The authors' decision to treat it separately this time is owed to their objective to better distinguish between "the accessibility of rail transport market from the point of view of External RU on the one hand and the market development, which is subject to other influences in addition to the liberalisation, on the other."[15]

The *LEX Index* ("Law in the books") is meant to reflect how conducive a country's legislation is to market entrance, i.e. to identify and quantify the legal prerequisites for entry.[16] Areas covered primarily include:[17]

- the *organisational structure of the (former) state railway of the national railway system*, i.e. degree of the incumbent's legal and organisational separation from the state with respect to assets, budget, and accounting procedures plus the degree of vertical and horizontal separation (weight: 25 %);
- *market access regulations* affecting national as well as foreign railway undertakings for both freight and passenger services and including transit traffic (weight: 45 %);
- the decision-making *competences of the national regulatory authority* (weight: 30 %).

The *LEX Index* is complemented by the *ACCESS Index* ("Law in action"), which is used to identify and quantify the access opportunities – or rather any remaining de-facto barriers to entry – which might arise as a result of the national authorities in charge applying these

14 Ibd., 24.

15 Ibd., 4.

16 Ibd., 19.

17 For details see the LEX questionnaire in Annex IV of *LIB Index 2004*.

laws in practice.[18] Subject areas investigated cover a broad range of barriers:[19]

- *information barriers* such as process duration for obtaining information and information quality (weight: 5 %);
- *administrative barriers* such as operational licensing issues, safety certificates, and vehicle certification regulations (weight: 20 %);
- *operational barriers* such as price and non-price network access conditions and access to related services (traction current, diesel fuel etc.) (weight: 50 %);
- the proportion of accessible domestic market per submarket in the year 2003 (weight: 25 %).[20]

As mentioned above, the supplementary *COM Index* no longer forms an integral part of the overall index, “but is still compiled as an important part of the study – the so-called market test – and discussed in its potential dimensions.”[21] It is declared to serve as a market performance indicator which, representing “an ex post view of the liberalisation results”, “examines how the market for External RU has developed to date”[22] and is composed of the following data:[23]

- the development of the modal split 1991-2001 (weight: 5 %, with freight transport and passenger services accounting for 50 % each);
- the number of new rail undertakings in 2003 (weight: 45 %, with the number of approved and active rail undertakings – in each case excluding incumbents – in turn weighted at 40 % and 50 % respectively and the remaining 10 % weight attributed to the ratio of active to approved undertakings);

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18 *LIB Index 2004*, 20. – For details see the *ACCESS* questionnaire in Annex V.

19 Ibd., 20.

20 This is one of the areas where different weights are applied to the three market segments freight, long-distance passenger and short-distance passenger services.

21 *LIB Index 2004*, 19.

22 Ibd., 23.

23 Ibd.

- the market shares of external rail undertakings in 2003, measured as the accessible share of track kilometers (weight: 50 %, with their absolute market share receiving a 75 % weight, while their market share growth in percentage points from 2001/02 until 2003/04 enters with a 25 % weight).

All other results of the liberalisation process such as price and cost trends, subsidy volumes, changes in product quality, safety developments are excluded from the *COM Index*. Instead they are discussed – in rudimentary form – in the select empirical studies which were presented and summarized by the authors in Annex XII.

2.3.2 Data Sources

The vast majority of the data used in the *LEX* and *ACCESS* sub-indices were collected by means of expert interviews; the questionnaires are displayed in Annexes IV-VI. The two-month period of research ran from February 1st, 2003, to March 31st, 2003. A schematic overview of the selected interviewees' professional affiliation on a country-by-country basis is supplied.[24] In addition, IBM Business Consulting Services, European network of travel and transport experts was called upon to collect and validate information."[25] All answers were, "as a rule", not only "validated by several interview partners", but also double-checked "on the basis of secondary material such as legislative texts, network statements, or other studies."[26] Failure to find a "plausible answer for the *LEX* and *ACCESS* sub-indices"[27] during the research period automatically resulted in the minimum number of points being assigned for the issue in question, based on the assumption that any newcomer would have been unable to gather the relevant information as well. The data amalgamated into the *COM Index* were collected from a variety of "surveys, business reports and transport statistics from the EU and national authorities."[28] A bibliography is provided in the *LIB Index 2004*'s Annex I.

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24 Ibd., 16 (Figure 4.1.).

25 Ibd., 16.

26 Ibd., 15.

27 Ibd., 15.

28 Ibd., 23.

2.4 Key findings

The *LIB Index 2004*'s principal findings can briefly be summarized as follows. While demonstrating confidence that the "responsible persons in the individual member states are now convinced that the liberalisation process cannot be stopped" anymore, the authors point out that, generally speaking,[29]

- liberalisation of both freight-bound and passenger rail services "continues to develop at a slow pace" in general and is "driven largely" by member states implementing EU law, i.e. not by means of more progressive national policy initiatives;
- the "European liberalisation process is … still in the initial stage", and that
- in comparison with other network industries such as telecommunications and energy "the rail sector still has considerable backlog";
- from a country perspective liberalisation progresses at vastly different speeds.

Specifically they note that:

- despite increased internationalisation "market shares of External RU remain only marginal";
- regulatory oversight still is frequently inadequate and not vested with independent authorities;
- especially in the field of rolling stock certification, formal liberalisation has often not yet translated into effective market access "due to expensive and complex licensing and approval processes."

These observations are then elaborated in much greater detail. Based upon the number of points achieved by the individual countries, these are ranked and assigned to different groups, i.e. classified as more or less liberalisation-minded. The overall index is led by eight countries where the liberalisation process is praised for being "on schedule": Great Britain (score: 781 points), Sweden (729), Germany (728), the Netherlands (695), Denmark (693), Italy (688), Switzerland (677)

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29 Ibd., 1 ff.

and Portugal (668). By contrast, liberalisation is judged “delayed” in twelve countries which have accumulated from 303 points (France) up to 589 points (Norway). Liberalisation in Spain (148), Ireland (149), Greece (162), Lithuania (222) and Estonia (257) is still “pending departure”.[30]

While no significantly different picture emerges with respect to the *LIB Index 2004*’s two sub-indices, the level of legislative market access barriers is found to be “gradually converging”. In clear contrast, “the level of practical market access obstacles … continues to show significant differences.” These observations translate as follows into country rankings. The *LEX Index*’ Top 8 countries include – in that order – Great Britain (score: 282), Portugal (246), Denmark (236), Germany (225), Italy (223), Sweden (202), the Netherlands (199) and Finland (191), all of which receive credit for “External RU-friendly legislation.[31] The Top 8 list of “easy to access” countries according to the *ACCESS Index* sees Sweden (527) rank before Germany (503), Great Britain (499), the Netherlands (495), Switzerland (495), Italy (465), Denmark (457) and Portugal (422).[32]

Eventually, the *COM Index*, too, distinguishes two country groupings, designated as “starting competition” and “still monopoly” respectively.[33] The former is led by Great Britain (value[34]: 5.85), followed by Sweden (5.10), Germany (5.02), Switzerland (4.94), the Netherlands (4.53), Denmark (3.88), Slovakia (2.58) and Estonia (2.39). Interestingly, when compared to either of the *LIB Index 2004*’s two integral

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30 Ibd., 2, in conjunction with Annexes VIII.2 and VIII.3 (all figures rounded).

31 Ibd., 27, in conjunction with Annex VIII.2 (all figures rounded). – National legislation in Switzerland, Poland, Lithuania and Norway is also judged “External RU-friendly.”

32 Ibd., 29, in conjunction with Annex VIII.2 (all figures rounded). – Countries with “restrictive access” are Luxemburg, Slovakia, Hungary, France, Slovenia, Lithuania, Estonia, Ireland, Spain and Greece.

33 Ibd., 32, in conjunction with Annex VIII.2. – “Starting competition” status is also ascribed to Italy and Austria.

34 Interestingly, while Annex VIII.2 – in line with the stated methodology – does not provide country scores, but “values” for the *COM Index*, the pertinent graph in the study (*LIB Index 2004*, 29) nevertheless seems to be based upon scores. Obviously, the country values were multiplied by 100 before they were plotted into the standard scale ranging from 100 to slightly over 600 (unspecified) units.

sub-indices, the *COM Index* reveals a substantially higher degree of polarization between liberalisation leaders and laggards.

In sum, the authors conclude that currently “only one third of the countries is, in a positive sense, clearly distinguished from the rest of Europe in regard to market access barriers”, while a “harmonized domestic European rail transport market is not in sight for the foreseeable future.”[35]

3. Critique

3.1 Excursus: The “Art” of Indexation

In economics, the principal purpose of an index is to try to identify and quantify price movements over time. Therefore, the most frequently used indexes refer to consumer prices (CPI), housing prices, interest rates, asset prices (stocks etc.), wages, prices of natural resources, but also market concentration or trade flows (terms-of-trade).[36] Even if all relevant data can be collected at little or no cost, significant distortions may nevertheless arise with respect to alternative index compositions. This so-called index-number problem arises whenever “a quantitative expression [is wanted] for a *complex* that is made up of individual measurements for which no common *physical* unit exists.”[37]

Given that the index number problem is tricky enough to deal with even in those areas where indexation is most common and based on a comprehensive and representative set of “hard” (e.g. price) data – such as in the field of inflation measurement[38] – it cannot be solved unambiguously if only, or predominantly, qualitative observations (“soft data”) exist. In that unfavourable case the value judgments of the index-builders and the real or self-proclaimed experts they consult inevitably come to dominate the final result. In turn, this might result

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35 *LIB Index 2004*, 3.

36 See *Milbrath* (1982).

37 *Frisch* (1936, 1, both emphases in the original text).

38 Even the most widely used indexes – i.e. the *Laspeyres*-, *Paasche*-, and the *Fisher-Ideal*-Index – yield different results with respect to the measured inflation rate.

either in a substantial lack of robustness or a distorted representation of the "real world". In particular, value judgments affect three of the most crucial choices to be made in index composition:

- The definition of the relevant market(s) the index is supposed to cover and the relative weight attached to them;
- the decision what observations are (not) to be included;
- the decision about the relative weight of every single included observation.

As we will demonstrate now, none of these problems has been dealt with adequately and professionally by the authors of the *LIB Index 2004* despite its overwhelmingly qualitative nature.

3.2 Severe Data Collection Problems

As stated above, both the *LIB Index 2004* and its numerous Annexes fail to fully disclose the identities, professional affiliation or potential conflicts of interest on the part of the selected interviewees and the experts consulted. This omission prevents the uninitiated – other researchers, the media and other interested parties – from discerning both the direction and the extent of their value judgments. The only information provided is a chart (see **Table 1** below) depicting, for each country investigated, in which of the key areas of relevance for the *LEX* and *ACCESS* Indices interview-based information could be collected using the standard questionnaires.

Aside from not revealing which information was (not) double-checked, that very chart also reveals another blatant, and extremely serious, data collection problem. It proves that the authors did not manage to recruit qualified interviewees in any of the countries studies in all relevant categories, i.e. among incumbents, newcomers and/or regulatory bodies. This failure is particularly obvious in the case of Belgium, Finland, France, Ireland, Lithuania, Luxemburg, Norway, Slovenia and Spain, where interviewees were found only for one or two out of a total of seven categories. Even in the United Kingdom, only three categories were covered.

For lack of any further background information on the part of the authors on how they dealt with these substantial data shortages, serious doubts must therefore be raised with respect to the validity of a significant number of individual country results, their comparability and, hence, the merits of the country rankings as such.

Table 1: Affiliation of Interviewees by Country

	LEX		ACCESS					Homologation (ACCESS)		
Partners interviewed	Transportation Ministry	Regulatory Authority (or Rail Administration)	Infrastructure Manager	*Incumbent*	External RU	Licence-issuing Authority	Saftey certificate-issuing Authority	Rolling Stock approval Authority	Rail Industry	Other
Austria	x	x	x	x	x				x	x***
Belgium					x				x	
Czech Republic	x	x	x		x					
Denmark	x	x	x	x	x				x	
Estonia	x	x	x		x	x				
Finland	x			x						
France					x				x	
Germany		x	x	x	x	x	x	x	x	
Great Britain	x	x			x					x*
Greece				x					x	
Hungary	x		x	x					x	
Ireland	x									
Italy	x	x	x		x	x			x	
Latvia	x	x				x				
Lithuania	x			x						
Luxembourg					x				x	
Netherlands	x	x	x	x	x		x	x		
Norway			x						x	x**
Poland	x	x	x	x	x	x	x		x	
Portugal		x		x	x					
Slovakia	x		x		x				x	
Slovenia	x			x					x	
Spain	x			x					x	
Sweden	x	x	x			x	x			
Switzerland	x	x	x		x	x	x	x	x	

* e.g. *Strategic Rail Authority*

** Norwegian corporate consulting

*** Law firm in Vienna

Source: *LIB Index 2004*, 16.

3.3 Unrealistic Weighting of the Three Rail Market Segments

Functionally, the rail market may be disaggregated into the three sub-markets transport services, ancillary services and equipment. A further breakdown of the market for transport services, which is of overriding interest in this contest, might separate the segments freight, long-distance passenger services,[39] short-distance passenger services – each of which might be further subdivided into domestic and cross-border sub-segments –, and urban rail services.

Even if one accepts the authors' value judgment not to consider the urban rail segment in the *LIB Index 2004*, their weighting of the remaining three segments – freight: 50 %; short-distance and long-distance passenger services 25 % each – appears to have no solid empirical backing. Take the German market as an illustrative example. Out of a total turnover on the overall rail transport market (including urban rails with its 20 % share) of 17.6 bn € in 2004,[40] the market for short-distance passenger services is, with a volume close to 8 bn €, by a wide margin it largest segment. By contrast, long-distance passenger services and freight-bound services represent only about 17 % (i.e. a turnover of around 2.9 bn €) each.[41] Based on this observation, a realistic weighting – notabene: for the German market only! – would see freight transport and long-distance passenger traffic at 25 % each while short-distance services would double their weight to 50 %. As the relative shares of these types of service differ starkly in the 25 countries included in the index – while in some smaller ones such as Luxemburg it would not even be feasible to distinguish between short- and long-distance services anyway –, the *LIB Index 2004*'s undifferentiated weighing scheme risks to be a permanent source of substantial distortions.

3.4 Market Openness: Imperfect Measurement, Simplistic Conclusions

3.4.1 Flawed Coverage of Entry Barriers

The *LIB Index 2004* is propagated to be an objective and comprehensive measure of legal and de-facto barriers to entry. It is neither. While the *LEX Index* indeed appears to be a reasonably neutral and exhaus-

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39 Here, the market for high-speed rail services might be separated from conventional, i.e. slower, offerings.

40 See *SCI Verkehr GmbH* (2004).

41 DBAG – which controls more than 99 % of this market segment – reported, with a total turnover of 2.7 bn €, a slightly lower figure for 2004. See *DB Fernverkehr AG* (2004, 6).

tive description of the railway-specific "law in the books", comparable qualities with respect to the detection of de-facto barriers cannot be found in the more important *ACCESS Index*. Indirectly, this shortcoming is even admitted by the authors themselves. While claiming, on the one hand, "to take the position of an External RU which must pass through all required steps up to market presence",[42] they insist on the other hand that "[i]t cannot be the aim of the ACCESS Index to determine every conceivable obstacle and hindrance to market access and to classify these according to cost categories."[43] The obvious contradiction between these two mission statements does not only reveal a severe design fault of the *LIB Index 2004* (and the *LIB Index 2002*, too) in general and the *ACCESS Index* in particular: its incapacity to properly identify <u>all</u> significant barriers to entry and to express them in the only "currencies" which are of note for a newcomer's decision whether – or not – to enter that market: the total costs of entry and the cost disadvantage it subsequently faces vis-à-vis the incumbent.

What is more, it is also implicitly assumed that newcomers will encounter essentially the very same types of entry barriers, albeit in varying intensity, in all three rail market segments the index covers – otherwise the index-number problem would require separate *LIB Indices* for freight transport, short- and long-distance passenger services. This view is incorrect, given the vast differences concerning the legal frameworks governing access to the freight, to short-distance and to long-distance passenger markets as well as the organisational structures of the incumbents in many of the countries surveyed. As the following brief recourse to the realities of market access regulation in Germany demonstrates, some entry barriers may be unique to any one of these segments, yet completely absent in the two others. Let's consider the market for short-distance passenger rail services first. Under German law, access to this market segment is not controlled by the Federal Government, but by the sixteen State Governments under the provisions of their specific "regionalisation laws" ("Regionalisierungsgesetze").[44] The funds for these services, however, are provided by the Federal Government and have more than doubled in volume since

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42 Ibd., 21. – In the German version, which in case of linguistic doubts takes precedence over the English version, they even claim to do so "resolutely" or rather "uncompromisingly" ("konsequent").

43 Ibd., 9.

44 For details see *Püttner* (1997).

1994,[45] when Germany's railway reform took place. These acts do not universally mandate competitive tendering. Instead they frequently permit State Governments to discretionarily award long-term contracts (> 10 years) to a rail undertaking of their choosing. In the specific German context, the incumbent, i.e. the fully (both horizontally and, effectively, vertically[46]) integrated DBAG – in fact, its subsidiary DB Regio AG –, enjoys some significant advantages over newcomers in this heavily subsidized, and hence commercially very attractive, market; currently, its market share amounts to 96 % per cent in terms of revenue passenger kilometres, of 94.8 % in terms of track kilometers and 91.8 per cent in terms of train kilometres.[47] One of the reasons for this dominance might be that DBAG has repeatedly – and quite successfully so – threatened States, which had seriously considered to stage competitive tenders, to withdraw or reduce long-distance passenger services or to shut down maintenance and repair facilities in regions of high unemployment.[48] So far only two German states (Hesse and Schleswig-Holstein) have adhered to a rather strict policy of competitive tendering for all short-distance passenger services. Some other States prefer to put only large lot sizes to tender, i.e. their contracts mandate coverage of extensive geographical areas and/or schedule high frequencies. Both requirements have in the past been found to overwhelm the operational capabilities of newcomers – due to lack of experience and/or rolling stock – but not of the incumbent, DB Regio AG.[49]

With respect to long-distance passenger and freight-bound services, a different problem arises. Provided that it has met all regulatory requirements, managed to acquire sufficient rolling stock and have been able to secure the desired slots for access to the network, a newcomer will normally not face further obvious barriers to entry in the areas of freight and long-distance passenger services. However,

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45 See *Pällmann* (2004).

46 Legally, DBAG is functionally subdivided into five separate entities, including DB Fernverkehr AG (long-distance passenger services), DB Regio AG (short-distance passenger services) and DB Netz AG. Their activities are coordinated and controlled by the DB Konzern AG, the holding, which holds all their shares, through domination contracts and profit transfer agreements.

47 *Deutscher Bundestag* (2004, 18).

48 Ample anecdotal evidence is provided by *Tegner* (2004, 774).

49 Ibd., 776.

DBAG's integrated structure provides strong incentives for its subsidiary DB Netz AG, which controls a natural monopoly, to levy excessive (i.e. abusive) network access charges. While this would result in no additional financial burden for DBAG as a whole – the higher costs for its transport subsidiaries are identical to the higher revenues generated by DB Netz AG, it might discourage newcomers from entering the market in direct competition with DBAG's long-distance passenger and freight services. It is noteworthy in this context that these incentives might be reinforced by the fact that railway access charges are not subject to ex ante regulation by an independent body in Germany – although this is the standard procedure with respect to access charges in telecommunications and all fees covered by Deutsche Post AG's letter monopoly. Instead they can be challenged legally only ex post (with the regulatory authority and/or in court).

Finally, and more generally speaking, incumbents – almost all of which are still state-owned enterprises – enjoy substantial and unquantifiable informal advantages in the political realm through intense and long-running personal contacts which newcomers find impossible to match. These might, on purpose and unintentionally, result in them being granted more favourable treatment in the political and regulatory process ("regulatory capture").

Both the anticompetitive practices and advantages of incumbency described in the preceding paragraphs and the benefits of the more stringent alternative regulatory frameworks put to work in many other network industries – in particular the advantages of ex ante price regulation over ex post abuse controls – are standard fare for any competition expert.[50] Nevertheless, their potentially strong relevance for rail markets was not touched upon by the authors of the *LIB Index 2004*; however, they were marginally covered by the *COM Index*. As a result, the *LIB Index 2004* does only reflect quite a small share of the vast theoretical and empirical body of knowledge with respect to the nature of entry barriers. Moreover, its sub-indices are too narrowly defined and should be enhanced to incorporate the key provisions and concepts of EU competition law, both of which ought to be much more thoroughly reflected in the questionnaires.

50 See *Eisenkopf* (2002).

3.4.2 Market Openness and Effective Competition – No Clear Link

No less problematic, and equally misleading, is another of the index' implicit assumptions: the hypothesis that a strict one-way causal link exists between market structure, market conduct and, finally, market performance. To be more specific, the degree of market openness – as measured by the *LIB Index* and its two sub-indices *LEX and ACCESS* – supposedly determines the level of competitive dynamics on that very market (as measured by the *COM Index*) in a very reliable and predictable manner. This assumption does not stand up to closer scrutiny either, however. Not only has the underlying simplistic structure-conduct-performance paradigm long been considered an antiquated concept in industrial organisation studies and practical competition policy alike – and has since been replaced by the more sophisticated and realistic notion of an intense and not easily predictable feedback relationship between these three basic elements of any market process.

This view also ignores the fact that potential competition, even in the absence of legal and other entry barriers, typically is much less effective in safeguarding competitive market processes than actual competition[51] – a lesson learned, amongst others, the "hard way" by the architects of airline deregulation.[52] What is more, the *COM Index*, complemented by additional data from other sources, help to quickly refute this simplistic notion. Apart from the additional criticism that it is illusionary and meaningless to try and measure market shares as a function of accessible track kilometers (as a percentage of total network length) – instead of applying well-established indicators such as turnover or revenue passenger figures: A direct comparison of the Swedish and German markets – both of which are classified in the *LIB Index* as similarly open – shows tremendous differences with respect to the market shares controlled by incumbents in the area of passenger services (respective market shares in the freight business are comparable and reach around 10 %) In Sweden, the newcomers' overall market share has reached 27 % (10 % for long-distance, but touching almost 50 % for short-distance services – a huge positive difference

51 For the airline industry see *Arndt* (2004).

52 See *Baumol/Panzar/Willig* (1988).

compared to the meagre figures for Germany (which were already mentioned above in a different context).[53]

This astounding, yet crucial result, which cannot be directly derived from either index, cannot be discarded by pointing to the high absolute number of players on the German market compared to Sweden either. While numbering in excess of 280 entities on last count, one should not overlook the simple fact that most of them – being narrow gauge, museum, port and feeder railways – do not compete with the incumbent DBAG at all.[54] Moreover, as a profound analysis of market concentration on the basis of measure such as the Herfindahl-Hirshmann-Index would reveal beyond any reasonable doubt, none of them wields a degree of market power comparable to DBAG. In Sweden, by contrast, the incumbent's market power has substantially decreased in recent years.

In sum, neither the *LIB Index 2004* nor the *COM Index* provide reliable information on the intensity of competition or the "competitive dynamics" of the railway markets covered.

3.4.3 Objectives of Liberalisation – Achieved?

Market liberalisation is not an end in itself but a vehicle to achieve a range of economic and political goals. The specific objectives of rail liberalisation in the EU were mentioned in the first chapter of this paper. Unfortunately, both the *LIB Index 2004* and the *COM Index* largely evade the obvious question which of these objectives – if any – have materialised. Such an analysis must include detailed market performance data including but not limited to prices developments, quality aspects, customer satisfaction indicators, subsidy volumes and trends, debt levels, productivity figures and safety trends. For failing to provide this information in any meaningful way, the *LIB Index 2004* does not fulfil its authors' claim to assess the merits and demerits of alternative national approaches to railway liberalisation either.

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53 See *Stear Davies Gleave* (2004a and 2004b)

54 See *Pällmann* (2004, 129).

4. Conclusion

The *LIB Index 2004* is very rudimentary, superficial and frequently misleading both in its analysis and its findings. The acclaim and popularity is enjoys in the closely interconnected realms of politics and PR notwithstanding, it appears to be much more firmly based upon faith and opaque value judgments than upon the general and rigorous application of established economic principles and tested economic theories.

References

Arndt, Andreas (2004), Die Liberalisierung des grenzüberschreitenden Luftverkehrs in der EU – eine quantitative Analyse der Wohlfahrtswirkungen und des Anbieterverhaltens, Frankfurt/Main et al.

Auner, Alexander. (2004), Ziel des Lib-Index Bahn, paper presented at the symposium "Rail Liberalisation Index 2004", Berlin, November 27th, 2003 (http://www.rewi.hu.berlin.de/ jura/ls/knr/).

Baumol, William, John Panzar and *Robert Willig* (1988), Contestable Markets and the Theory of Industry Structure, 2nd edition, New York.

DB Fernverkehr AG (2004), Geschäftsbericht 2004, Berlin (http://www.db.de/site/bahn/de/unternehmen/investor_relations/finanzberichte/geschaeftsbericht/geschaeftsbericht_2004.html).

Deutscher Bundestag (2004), Antwort der Bundesregierung auf die Große Anfrage der Abgeordneten Horst Friedrich (Bayreuth), Daniel Bahr (Münster), Rainer Brüderle, weiterer Abgeordneter und der Fraktion der FDP, Drucksache 15/3430, Berlin, June 28th, 2004.

Eisenkopf, Alexander (2002), Ex ante vs. ex post Regulation in the German Railway Sector, paper presented at the WIP Workshop 2002, Technical University Berlin.

Frisch, Ragnar (1936), The Problem of Index Numbers, Econometrica, vol. 4, 1-38.

Gersdorf, Hubertus (2004), Marktöffnung im Eisenbahnsektor, Zeitschrift für das gesamte Handelsrecht und Wirtschaftsrecht (ZHR), vol. 168, 576-612.

Milbrath, Georg (1982), Probleme der Indexierung volkswirtschaftlich wichtiger Größen, Baden-Baden.

Pällmann, Wilhelm (2004), Zehn Jahre Bahnreform: Bilanz und Ausblick, Internationales Verkehrswesen, vol. 56, 127-133.

Püttner, Günter (1997), Der regionalisierte Nahverkehr, Baden-Baden.

SCI Verkehr GmbH (2004), Der deutsche Bahnmarkt: Marktanalyse 2004 bis 2009. Akteure, Volumina und Prognosen, Berlin.

Stear Davies Gleave (2004a), EU Passenger Rail Liberalisation: Extended Impact Assessment. Final Report March 2004, London (http://europe.eu.int/comm/transport/rail/research/studies_de.htm).

Stear Davies Gleave (2004b), EU Passenger Rail Liberalisation: Extended Impact Assessment. Final Report March 2004. Appendix B, London (http://europe.eu.int/comm/transport/rail/research/studies_de.htm).

Tegner, Henning (2004), Marktzugang im Schienenpersonennahverkehr – Eine politökonomische Analyse, Wirtschaftsdienst, vol. 84, 772-778.

Web resources last accessed on March 19th, 2006.