



Rail Liberalisation Index 2004

Comparison of the Market Opening in the Rail Markets of the Member States of the European Union, Switzerland and Norway

A study of the IBM Business Consulting Services in conjunction with
Professor Dr. Dr. Christian Kirchner, Humboldt University, Berlin



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English translation – in cases of doubt,
the original German version shall apply.

Contents

1	Management Summary	1
2	Introduction	5
3	Retrospective View: LIB Index 2002	12
4	Concept of the LIB Index 2004	15
4.1	Object of the study and researching	15
4.2	Legislative framework	17
4.3	Structure of the LIB Index 2004	19
4.4	Method of Calculation of the Index	24
5	Results 2004	25
5.1	The LIB Index 2004	25
5.1.1	Overall Results	25
5.1.2	LEX Index 2004	27
5.1.3	ACCESS Index 2004	29
5.2	COM Index 2004	31
5.3	Special Subject: Approval of Rolling Stock	33
6	National Summaries	36
6.1	Austria	36
6.2	Belgium	38
6.3	Czech Republic	39
6.4	Denmark	41
6.5	Estonia	43
6.6	Finland	45
6.7	France	47

6.8	Germany	48
6.9	Great Britain	51
6.10	Greece	55
6.11	Hungary	56
6.12	Ireland	58
6.13	Italy	59
6.14	Latvia	62
6.15	Lithuania	64
6.16	Luxembourg	65
6.17	Netherlands	67
6.18	Norway	69
6.19	Poland	70
6.20	Portugal	72
6.21	Slovakia	75
6.22	Slovenia	77
6.23	Spain	78
6.24	Sweden	80
6.25	Switzerland	83
7	Effects of Liberalisation	86
8	Summary and Outlook	88

List of Figures

Figure 3.1: Overall Result – Rail Liberalisation Index 2002	13
Figure 4.1: Interviewees – LIB Index 2004	16
Figure 4.2: Structure of the LIB Index 2004.....	19
Figure 4.3: Levels of the LIB Index.....	20
Figure 4.4: Evaluation model – LIB Index 2004.....	24
Figure 5.1: Results of LIB Index 2004	25
Figure 5.2: Results of LEX Index 2004.....	27
Figure 5.3: Results of ACCESS Index 2004	29
Figure 5.4: Results of COM Index 2004	32
Figure 5.5: Approval of rolling stock as market entry barrier.....	33
Figure 8.1: Geographical Distribution of Market Opening	89

Annex

- I. Bibliography
- II. List of Abbreviations
- III. Overview of Legislative Acts of Community Law
- IV. LEX Questionnaire
- V. ACCESS Questionnaire
- VI. COM Questionnaire
- VII. Weightings and Range of Answers
- VIII. National Results in Detail
- IX. Modal Split Statistics
- X. Concept and Results of the Rail Liberalisation Index 2002
- XI. Programme of the Symposium "Rail Liberalisation Index 2004"
- XII. List of Participants - Symposium "Rail Liberalisation Index 2004"
- XIII. Results of Liberalisation

1 Management Summary

1. In view of the enlargement of the European Union on 1 May 2004, the publication of this study presents an updated revision of the Rail Liberalisation Index (LIB Index). As already with the Rail Liberalisation Index 2002, the new LIB Index was commissioned by Deutsche Bahn AG from IBM Business Consulting Services in conjunction with Professor Dr. Dr. Christian Kirchner, Humboldt University, Berlin.
2. The study *Rail Liberalisation Index 2004* describes the status of market opening in the European rail markets of the enlarged EU, Norway and Switzerland as of spring 2004.
3. The liberalisation of the European rail transport markets, that is the markets for rail-bound freight and passenger transport, continues to develop at a slow pace. At the present time, this development is driven largely by reforms which the Member States have implemented on the basis of the new European railway legislation initiated by the European Commission. The European liberalisation process is however still in the initial stage. Consequently, as already in 2002, the focus of the study is on the relative progress, and not the absolute state, of liberalisation for the countries examined in relation to each other. Overall, the rail sector still has a considerable backlog compared with other network industries, such as telecommunications or the energy sector.

As for 2002, the current state of market opening (reference date 31 January 2004) for the countries examined allows their classification into three groups.

Compared with the other countries, the countries of the first group, which includes Great Britain, Sweden, Germany, The Netherlands, Denmark, Italy, Switzerland and Portugal, have made considerable headway in opening up their markets. In the LIB Index 2004, these countries were evaluated with scores of 600 or more points. With the exception of Italy and Portugal, in these countries there is already noticeable competition (see also COM Index) and the market access opportunities for External Railway Undertakings (RUs)¹ can be described as in proper order by a European comparison. This group, which is presently undergoing a process of dynamic liberalisation, is assigned the status *on schedule*.

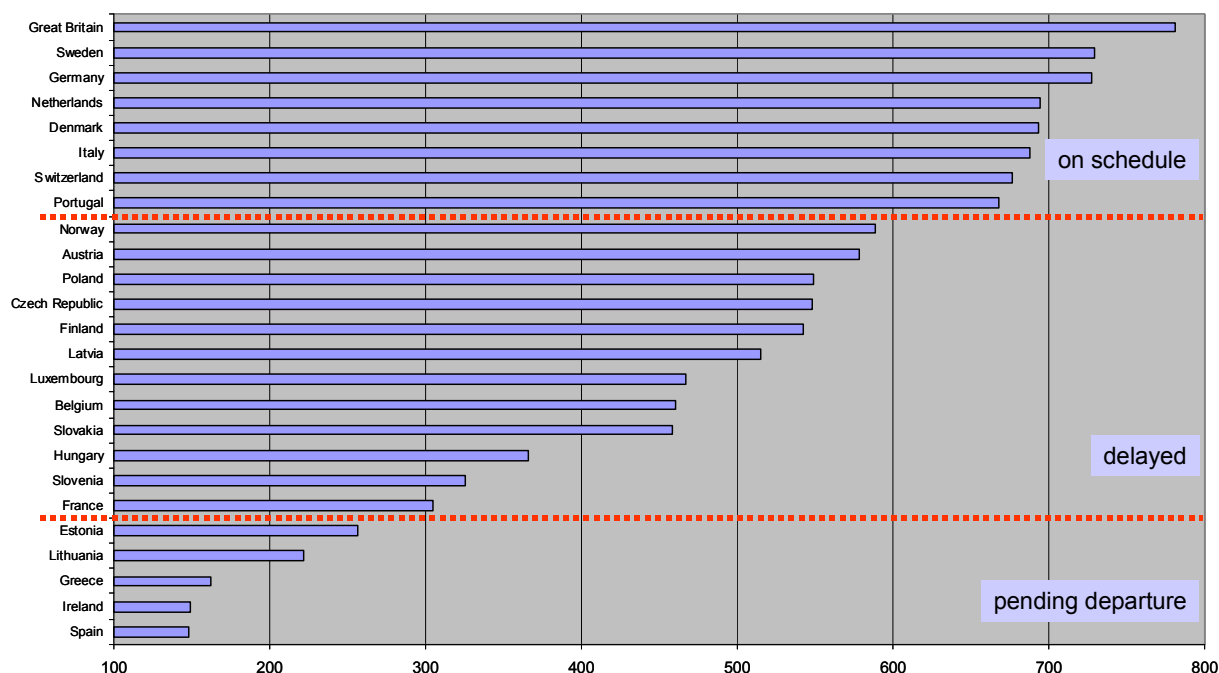
The market opening of the second group, which includes Norway, Austria, Poland, the Czech Republic, Finland, Latvia, Luxembourg, Belgium, Slovakia, Hungary, Slovenia and France, has made vastly less headway compared with the first group. The point total of these countries lies between 300 and 599 points. It is assigned the status *delayed*. Only in isolated cases are External RUs active or have obtained licences on the rail networks in these countries.

In Estonia, Lithuania, Greece, Ireland and Spain, the liberalisation process viewed overall is practically non-existent. Within this group, Estonia represents a special case in that it has materially privatised its railway system, including infrastructure. However, up to now no adequate regulation exists there for access to the network by External RUs. In freight transport the Estonian model can point to significant successes, as is reflected in both an overall positive economic development and an improved modal split² of rail freight transport. On the other hand, the market access barriers are, as in the other countries of this third and last group with the status *pending departure*, the highest in Europe.

¹External RU refers to all RUs with the exception of the (former) state-run railway systems, the so-called incumbents, of the respective home markets, thus e.g. *Fertagus* in Portugal, *Connex* in Sweden or *SBB* in Germany.

²The Modal Split measures, how the total transport volume (of a country) is split up among different forms of transport - e.g. 10% railways, 10% waterways, 10% air and 70% road. It can be distinguished between a modal split for freight transport and for passenger transport.

Figure: Rail Liberalisation Index 2004



Source: IBM Business Consulting Services and KIRCHNER (2004)

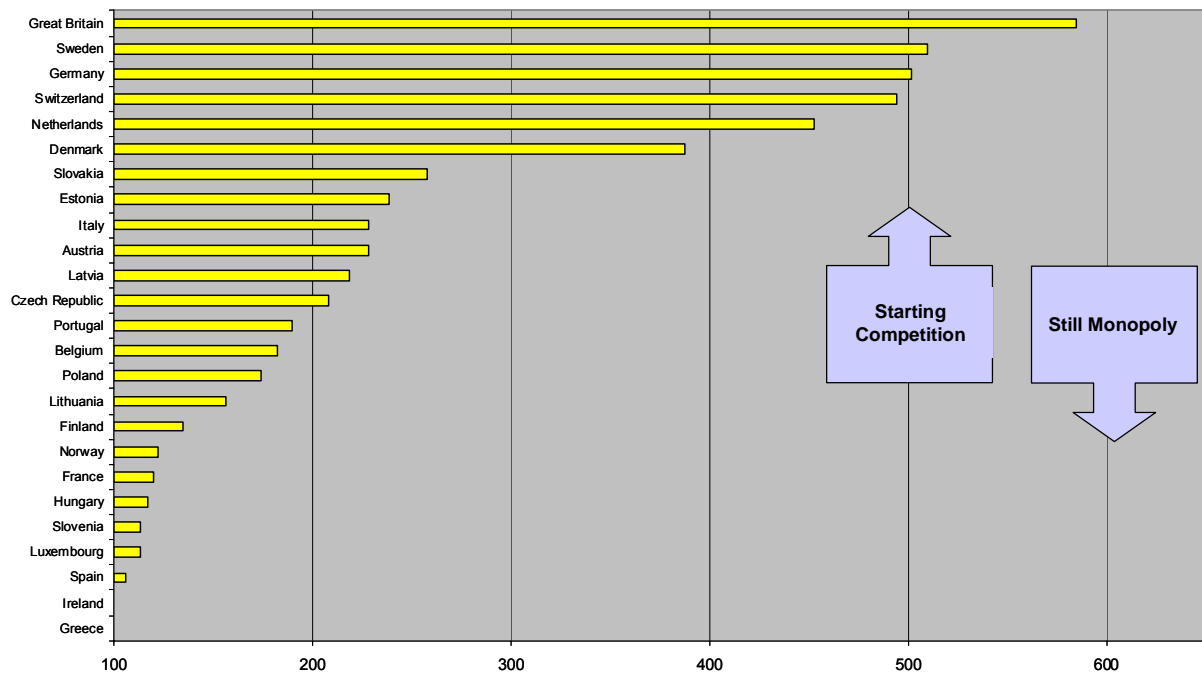
4. Considering the national results in detail, as already in 2002, significant differences in the extent of market opening can be recognised. While the level of the legislative market access barriers (LEX Index: *law in the books*) is gradually converging, the level of practical market access obstacles (ACCESS Index: *law in action*) continues to show significant differences. The concrete competitive situation, which the COM Index describes (see figure on following page) highlights these differences.

5. In general, it is found that
 - many countries, even though they grant documented, non-discriminatory access to the market, in practice do not allow this due to expensive and complex licensing and approval processes. In particular, the approval of rolling stock still represents a considerable market access barrier;
 - in many Member States, the structural changes announced over the last two years in essence frequently incorporate existing institutions under a different name;
 - the regulatory bodies to be set up are frequently located in the ministries of transport of the Member States without the necessary resources, which is inadequate in regard to the functions to be exercised and the present initial stage of the liberalisation process (it is precisely the initial competition which requires effective and independent regulation);
 - countries which have not yet fully implemented the first Railway Infrastructure Package can in practice in some cases offer better market access conditions than those countries which have already reported the implementation of the relevant Directives 2001/12/EC, 2001/13/EC and 2001/14/EC;
 - some of the accession States already have lower market access barriers than some of the existing Member States;
 - in spite of the distinct trend towards internationalisation observed, the market shares of External RUs remain only marginal;

- only one third of the countries is, in a positive sense, clearly distinguished from the rest of Europe in regard to market access barriers and
- in spite of the still present market access barriers, in the meantime more attempts are seen on the parts of RUs to gain a foothold as newcomers to the rail transport markets.

6. The results of the current study make clear that the responsible persons in the individual Member States are now aware that the liberalisation process cannot be stopped. Nevertheless, there are differences in reaction speeds. Moreover, in the manner in which the liberalisation steps introduced by the European Commission are implemented at the national level there are still considerable differences from one country to another, which can lead to distortions in competition. RUs with international strategies are compelled to concern themselves intensively with different economic, legislative and cultural market access barriers. A harmonised domestic European rail transport market is not in sight for the foreseeable future.

Figure: COM Index 2004



Quelle: IBM Business Consulting Services and KIRCHNER (2004)

7. Besides updating the data situation the *Rail Liberalisation Index* in the 2004 edition has also been further developed methodically and conceptually. The further development concerns especially the following aspects:

- On the basis of scientific discussion, a more advanced methodological concept has been used. The *Rail Liberalisation Index 2004* aggregates the results of the LEX and ACCESS Indices, while the COM Index is treated separately. In this way, the new study clearly subdivides the accessibility to the rail transport markets from the point of view of new RUs on the one hand and the market development, which is subject to other influences in addition to the liberalisation, on the other hand.
- Compared with the study from the year 2002, in the new version greater consideration is given to the theoretical and methodological background of the liberalisation strategies and the acquisition of liberalisation-relevant data.
- An important development is seen in the extension of the study to the new Member States, as far as rail transport exists in these countries. With 23 EU countries, as well as Norway and Switzerland, the study now includes a total of 25 European countries.
- Based on the experience of 2002, the data has been collected with greater attention to detail in order to better quantify the market access barriers.
- Due to a more extensive survey and response level, the information base is even broader than in 2002.
- For most countries, the present version has succeeded in describing more precisely the differences between market access in passenger and freight transport.
- Supplementary to the documentation of the sub-indices and the national reports, there is a separate report analysing the approval of rolling stock. This has proven to be especially critical for the market access of External RUs.
- Those aspects, lying largely outside the study, concerning the results of liberalisation, i.e. the effects for companies, public authorities and the consumer will be discussed at length in a special report (cf. Chapter 7 and Annex XIII).

2 Introduction

2.1 Purpose

Initial thesis

The *Rail Liberalisation Index 2004* serves to provide information about the relative openness of the rail markets in Europe in order to support progress in the liberalisation of these markets. At the same time, it must furnish information able to answer questions concerning the market opening effects of different national liberalisation concepts.

Initial situation

The advancing liberalisation of the rail markets in Europe, that is the markets for rail-bound freight and passenger transport, allows us to recognise the first successes. For a long time, the service providers on the national rail markets were organised almost entirely as integrated state monopolies. State-run railways controlled both the national rail network, in comparison with which only relatively unimportant rail networks existed, and the markets for rail-bound freight and passenger transport. Competition was practically only at the intermodal level, in particular with service suppliers on the road freight and passenger transport markets, and increasingly with air transport providers as well. Competition in the rail markets was possible only where competing railway undertakings (RUs) had their own networks over which they could offer alternative transport services. Due to the regionality of the networks, this was of practically no meaning.

Opening of the national rail markets as part of the internal market programme of the European Union

In view of the goal of integrating the national rail markets to a uniform European single market - one of the principal objectives of the European Community and today of the European Union - a coexistence of de facto closed national rail markets was and is unacceptable. Today, the opening of the national rail markets occupies a prominent place on the agenda of the European Union.

The opening of the national rail markets with orientation towards an internal European market for rail-bound freight and passenger transport shows certain parallels to other network markets. In particular, examples of such network industries are telecommunications and wire-bound energy supply. Both are sectors in which considerable liberalisation efforts have been made on the part of the European Union.

Network access as a prerequisite for the opening of network markets

In network industries, only providers with their own networks or access to an existing network can participate in the competition for the downstream markets, that is the markets for telecommunications services, rail-bound freight and passenger transport and energy supply. For economic reasons - keyword subadditivity of networks - a doubling or multiplication of networks often offers no suitable basis for the realisation of competition in the downstream markets. One therefore distinguishes between competition among networks (inter-network competition) and competition within a given network (intra-network competition). Assuming that, as is often the case for macroeconomic reasons - especially in the area of telecommunications - long-term preference of inter-network competition is probably not possible for the reasons given, competition in the downstream markets in the form of intra-network competition depends on the companies interested in taking part in this competition, that is the newcomers, in some manner having access to the existing networks. Different legal instruments are at present under discussion, which would open the way to such network access.

In the competition theory discussion, access to essential facilities is discussed as a restriction of property rights for the owner of such an essential facility, justified by competition law. In particular, the 'essential facilities' include the networks of the network industries. Section 19, Paragraph 4, No. 4 of the German Act against Restraints of Competition explicitly confirms this. Intervening in the property rights of the owner of an essential facility expresses itself as a restriction of contractual freedom. This is justified by the assessment that the refusal of the owner to open the network to competition is to be regarded as unfair abuse of the dominant market position - at the infrastructure level. In the regulatory model of a prohibition of abusive refusal of access to essential facilities the network operator, that is the former monopolistic undertaking (incumbent), and the undertaking newly seeking presence on the market, the 'newcomer', must regulate access to the network contractually. Here, the contract negotiations are subject to the provisions of competition law prohibiting an abuse of the dominant market position of the network owner at the network level. This concept of negotiated network access has been the object of much controversial discussion, especially for the wire-bound energy supply sector.

The regulatory discussion is a matter of granting the undertaking seeking access to the network, the newcomer, a right to network access in the form of an entitlement on the basis of sector-specific rule. Such access rights are then asserted by a sector-specific regulation - as a rule by a sector-specific regulatory authority (concept of regulated network access). Today, this 'regulated network access' plays a role for the telecommunications markets when network owners are in possession of considerable market power, and for the markets in wire-bound energy supply as well.

Opening of network access to railway markets as a prerequisite for market opening

In the rail sector the European Commission - and consequently the Council and the European Parliament - supports regulated network access. The objective pursued is to open the way for competitors of the former monopolistic undertakings (incumbents) to access the networks of the incumbents. The latter, for their part, are regularly active in the downstream transport services markets and have - by necessity - a position of considerable market power during the initial phase of liberalisation. For the performance of transport services, they can use their own networks. Effective competition in the transport service markets can be realised only when the newcomers are granted non-discriminatory access to the network. It is therefore necessary to ensure that newcomers can use these under the same conditions as the incumbent. Such a concept of regulated, non-discriminatory access to the network in turn means that the network operator actually has to promote its own competitors.

In order to avoid possible conflicts in regard to network access between the incumbent and the newcomers, it is necessary that the network access be arranged by a neutral authority (regulatory authority), which must then also oversee the conditions for network access. As an alternative to regulated network access, the full - that is both organisational and legal - separation of transport operations and infrastructure management is under discussion in the literature as well as in political circles. The network is then the property of an independent network provider, which is responsible for the operation, maintenance and required infrastructure investments. The problems of the separation solution lie in the potential losses of efficiency which result from the elimination - or greatly weakened - synergy effects between the infrastructure and transport services.

Between the concept of completely separating the infrastructure management from transport operations, with which the regulation is limited to price regulation in regard to the network access prices (train path prices), and the concept of network regulation, with which access to the network - which is integrated in the incumbent undertaking - is opened to newcomers, there is a continuum of other configuration variants. In particular, the degree of actual separation of transport operations and infrastructure management plays a role here. Such an actual separation can be achieved with specifications concerning the organisational structure of the incumbent and with accounting separation. The underlying goal, however, is always to ensure de-facto non-discriminatory network access without the loss of synergy effects.

Different national concepts in regulatory competition

At present, the individual Member States of the European Union are obliged to implement the standards prescribed by the Community on liberalisation in regard to the liberalisation of the rail sector in the form of national legislation (harmonisation of national law through directives). This also applies to the Members of the European Economic Area (such as Norway). Switzerland - which is linked to the European Union through a number of bilateral agreements - is pushing ahead with rail liberalisation by means of national legislative and regulatory measures, paying due attention to the compatibility with the regulations of the European Union.

Such a harmonisation concept for implementing Community Law directives as national legislation - or their counterparts in the case of non-Member States - differs from a uniform legislative basis which defines a uniform regulatory structure throughout the Community and without exception serves as the directly applicable law for all parties in the European Union. The disadvantage of a uniform regulatory structure lies in its elimination of the learning process, within the framework of which different national variants of the liberalisation concepts can be tested in regard to their suitability. On the other hand, the harmonisation concept initiates just this learning process. Within the scope of the directives, the respective countries can try out their own liberalisation variants. Nevertheless, the learning process assumes that these competing liberalisation variants are compared analytically in order to determine their suitability. The question then is what influence which different liberalisation concepts exert on the actual market opening process. This information is of value in connection with the continuation of the development of railway liberalisation at both the European and national levels.

In this way, it is also possible to test the proposed economic theses in regard to the superiority of one or another liberalisation model in the light of the actual developments. Ultimately, it is not a question of whether certain liberalisation concepts theoretically - under the respective price conditions - prove to be superior, but whether, how and over what periods of time they actually bring about a liberalisation of the markets.

Information about the relative degrees of market opening for the respective rail markets

In order to carry out a comparison of the different national liberalisation concepts as referred to above, reliable empirical information about how the market opening process actually progresses is required. Here, it is not the absolute degree of market opening which is of interest. This could be determined only after clearly agreeing on a definition of complete market opening. However, this does not appear to be either possible or sensible. The reason is that the relevant market opening steps represent a dynamic process, the assumptions of which change in relation to the progress made towards opening of the markets.

If it is not sensible to enquire after the absolute degree of market opening, we must then concentrate on the more modest objective of comparing the market opening in the respective markets. The heart of the matter is therefore the relative degree of market opening. Empirical evidence of substantial content consequently provides a good basis for the comparison of the relative effectiveness of national liberalisation concepts in regard to market opening.

Two components of the objective

In the process of liberalising the national rail markets in Europe and the realisation of the internal market concept in this sector, reliable empirical information about the status of market opening in the European rail markets is required. The first goal of the *Rail Liberalisation Index 2004* consists of improving this information base for the future liberalisation process. Here, the prerequisite is not the collection of data on the absolute degree of market opening of the individual national railway markets; it is sufficient to obtain data on the relative market opening for the respective markets, that is to obtain a clear picture of the ranking order of the markets in relation to market opening.

There are differences in the national liberalisation concepts. In spite of the common basis - namely the specifications of the European Union directives - a regulatory competition is emerging. The *Rail Liberalisation Index 2004* therefore serves as a basis for the comparison of these liberalisation concepts. Such a comparison permits conclusions about whether and how these concepts influence the market opening in the respective rail markets.

2.2 Concept and Methodology

Market access barriers

In order for the *Rail Liberalisation Index 2004* to reflect the relative market openings of the European rail markets at the national level, it must accurately describe those factors which are decisive for the opening of such a market. This concerns primarily the lifting of market entrance barriers. This requires requesting the External railway undertakings to describe, from the point of view of a newcomer, the hindrances to market access which they experience when seeking to enter a rail market.

Law in the books and law in action

With reference to possible obstacles to market access, it is necessary to distinguish between two levels:

- a. the level of national legislation and
- b. the level of the access opportunities and barriers actually encountered in practice.

The first level (LEX Index) represents existing law (*law in the books*). The second level is concerned with the actual effect of the laws (*law in action*). The ACCESS Index describes the opportunities and barriers for access as encountered in practice.

LEX Index

The LEX Index represents a kind of critical survey of the suitability of the respective national law for the market opening. The parameter measured is the target for the Member States of the European Union and the European Economic Area set by the directive package of European Community law. With reference to Switzerland, the question is to what extent a regulatory basis comparable with the implementation of these directives has been created by unilateral legislative changes.

If national law aimed at market opening of the rail markets goes beyond what European Community law declares to be mandatory, this represents a relative advantage in relation to market opening compared with a country which has in fact fulfilled the Community law requirements - that is, has implemented these in conformance with the directives and Community law as national legislation - but does not go beyond this. The LEX Index reflects how adequately the countries examined in the study have implemented the regulatory structure, without attempting to comment on the actual administrative implementation and the actual effectiveness of the respective legal regulations. It is just this which is described in theoretical legal discussions as *law in the books*. The factors examined in the LEX Index, while they are relevant for the market opening, are not of decisive character. With reference to the market opening process of the European rail markets, the formulation of national law in a way that is adequate for the market opening is a necessary but not a sufficient condition. Decisive for the actual market opening are the factors of the second level, that is the ACCESS Index.

ACCESS Index

The ACCESS Index ensures that the relevant access barriers encountered in practice are actually examined with respect to their relative importance. Although the concept of collecting data on market access barriers is largely unproblematic at the theoretical level, in practice a number of methodological problems arise when it is a matter of reporting on the actual obstacles facing a newcomer and their comparative analysis.

Network industries - such as the rail sector - are characterised by specific market power phenomena. Market power is not only the result of market shares, access to superior technologies, the vertical integration of an undertaking and economies of scale. In network industries, market power in upstream markets results first and foremost from the fact that monopolistic blockages - or bottlenecks - exist in the downstream markets, and that control of these bottlenecks is the key to controlling downstream markets. If access to this bottleneck is a prerequisite for competing in downstream markets - in the telecommunications sector essentially the service markets for local and long distance calls, in the rail sector the markets for freight and passenger transport, and in the energy sector the supply of the end users - the party which controls the bottleneck can also control which competitors are to be admitted to the downstream markets and the terms on which they can procure the primary products for their competitive activities. The network owner possesses what is referred to as a *network-specific market power*. Consequently, a regulation serving to promote market opening is applied to deal with these monopolistic bottlenecks. We therefore speak of bottleneck regulation.

For an examination of the opportunities for accessing a market characterised by such monopolistic bottlenecks, each of these must first be identified. This is a question of the essential facilities, referred to earlier. Data must be collected for each of these.

The first question for the examination of the accessibility of a market is therefore whether such essential facilities exist. Their presence indicates a market closure. If, however, access is possible - for example due to effective regulation - from the standpoint of the newcomer no obstacles remain. The point of view of the study, which is directed towards the actual market access opportunities, is thus oriented towards the regulation of the remaining obstacles. Therefore it does not deal with the existence of monopolistic bottlenecks as such, but more specifically their effect in the light of existing legislation. The market openness or market closure which this reveals then serves as an indication of whether such bottlenecks exist at all in the market in question. This does not however exclude the possibility of obstacles to market access even in the absence of monopolistic bottlenecks.

Bottleneck regulation and competition law governing access to essential facilities (essential facilities doctrine) concentrate on those facilities to which access is vital for companies seeking access to the market, since the companies cannot produce these facilities themselves (absolute access barriers). From an analytical perspective, here in the form of the ACCESS Index, in regard to market access it is also relevant whether obstacles exist which newcomers can in principle overcome, but only at considerable cost (relative barriers). These obstacles are no longer a matter of essential facilities in the sense described, but can still represent factually relevant obstacles. In the rail sector, this could refer to repair facilities, for which competitors of the former monopolist can gain advantage through user sharing rights, without referring to an essential facility. It could also refer to delays in the issuing of a safety certificate, which an RU requires in order to take up its activities.

It cannot be the aim of the ACCESS Index to determine every conceivable obstacle and hindrance to market access and classify these according to cost categories. The ACCESS Index is concerned with the relative weighting of the different hindrances. The result is - as emphasised - not a question of interest in the absolute extent of the hindrances for a national market, but rather to compare the situation for the different countries examined in the course of this study.

If the market entrance barriers are to be examined, it is necessary to consider that a newcomer considering market entry will also give very careful thought to the question of how high the market exit barriers are. This is relevant in the case that market entry does not prove to be successful. The level of the market exit barriers depends in particular on whether the value for the level of investments required for a second best application lies significantly below that required for the initial application. For such specific investments the value of a second best application is zero in the extreme case. The relevant investments are then sunk costs. Since the instrument of specific investments, as it were, can measure the extent to which the respective costs are sunk, the problem of the meaning of market exit barriers in relation to market access barriers must be viewed in terms of the specificity of the investments. If a newcomer must invest in his own rolling stock, since no leasing market for rolling stock exists, the degree of specificity of the relevant investments depends on the price reductions at which the undertaking can resell the rolling stock after a limited period of use.

The market entrance barriers, which are examined using the methodological concept explained for the ACCESS Index, have meaning only in that part of the national rail market available to competitors at all. If parts of the market are inaccessible to newcomers, this means that the overall extent of accessibility of the national rail market is reduced. In order to adequately account for this, a subject area "per cent of accessible inland market per sub-market 2003" is included as part of the ACCESS Index and weighted with 25 per cent.

Weighting

The weightings used in the LEX Index and the ACCESS Index are chosen so that the comparability with the *Rail Liberalisation Index 2002* is maintained in spite of the modified structure of the two sub-indices. Expert opinions taken from economic experts and representatives of the European Commission deviate in some cases from these weightings, which would however not result in serious changes in the results if the weightings proposed by these experts were used.

2.3 Impact of the Rail Liberalisation Index 2004

The *Rail Liberalisation Index 2004* can provide valuable information about the relative degree of market opening in the national rail markets investigated. In particular, it can make clear where concrete problems occur in connection with market opening in practice. Because of its comparative approach, it can deliver information on the relative suitability of different national approaches to liberalisation, without however commenting on which factors outside of reducing the market access barriers are relevant for the markets in question. In particular, it cannot determine the role played by different politics in regard to state-supported subsidies for networks and rolling stock and the charging schemes in the area of public passenger transport.

While the *Rail Liberalisation Index 2004* describes the state of the relative market openings for the rail markets at the point in time of the study, it gives no information on the *development of competition* in the respective markets, and thus no information such as the modal split is changing or market shares have shifted either. If we distinguish - as is frequently done in the theoretical literature and practice on competition - between market structure, market conduct and market performance, the *Rail Liberalisation Index 2004* then concentrates on market structure.

If we wish to examine the market result at the same time, this would weaken the impact of the index in regard to the central question, namely the relative market accessibility in the respective rail markets. If we wish to obtain - altogether revealing - information about how competition has in fact developed in the relevant markets, this data must be obtained and depicted separately. This is the function of the *COM Index*, which is part of the present study, but not integrated in the *Rail Liberalisation Index 2004*. While the approach in the *Rail Liberalisation Index 2002* was to collect data concerning certain facts relevant for the market result via the COM Index in order to integrate these in the *Rail Liberalisation Index*, at that

time this procedure could be justified by arguing that the market dynamics actually resulting represent an interesting point in connection with market access. In the interest of this improvement in the information presented, it was therefore acceptable that aspects of both the market structure and the market result were jointly represented in the *Rail Liberalisation Index 2002*. The expert level discussions which have taken place in the meantime however have clearly shown the advantage of separately presenting the market structure and the market result. This was especially emphasised in several presentations at the symposium *Rail Liberalisation Index 2004*, which was held in November 2003 at the Humboldt University, Berlin, and which was dedicated especially to the methodological questions of a rail liberalisation index. For this reason, the concept of the *Rail Liberalisation Index 2004* has changed compared with that of the *Rail Liberalisation Index 2002*, so that only those parts of the earlier COM Index which actually measure the market accessibility have been kept in order to reflect these views. The remaining elements of the COM Index are no longer part of the *Rail Liberalisation Index 2004*, but are described separately. In this way, the reader of the *Rail Liberalisation Index 2004* can undertake his own comparison of the influences of market structure on the development of the market result.

The question of how to examine this market result for rail markets in which a number of other factors are of importance for the market performance, in particular which methodology is advisable here, will be dealt with in a separate report in chapter 7 and Annex XIII.

3 Retrospective View: LIB Index 2002

3.1 Background and Motivation

On 18 December 2002, IBM Business Consulting Services and Professor Dr. Dr. Christian Kirchner presented the *Rail Liberalisation Index 2002* in Brussels. The complete version of the underlying study was published on 20 January 2003.

The study analysed and compared the status of the market opening in rail transport for the 15 EU Member States, as well as Norway and Switzerland, as at October 2002. The background for the study was given by, on the one hand, the efforts and directives of the EU towards liberalisation of the rail markets and, on the other hand, the perception of national differences in the legislative and practical implementation of rail reforms as reflected by individual experiences. The purpose of the study was therefore to provide a broad, methodologically uniform basis for these observations. The study incorporated comprehensive research and documentation on the 17 countries examined. It identified national particularities and weak points in the liberalisation processes³. The results were compiled in the form of uniform key figures, making the relative status of the market opening transparent for the countries investigated.

Such a systematic comparison of the European rail markets had not previously existed. Compared with similar instruments for other sectors, the *Rail Liberalisation Index 2002* stood out clearly for its wealth of detail. The study provided a well founded and widely respected contribution to an objectification of the market opening discussion in Europe.

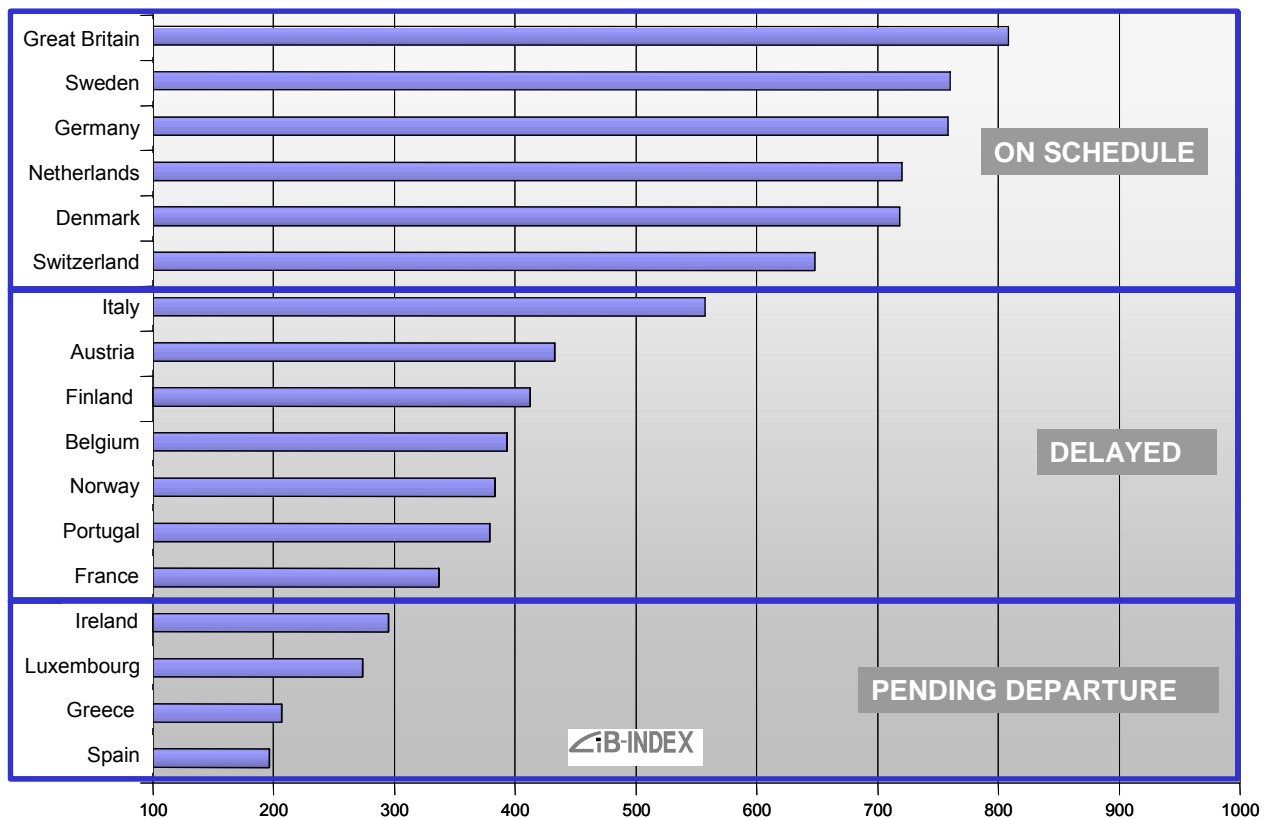
3.2 Results - LIB Index 2002

The following key results can be derived from the *Rail Liberalisation Index 2002*:

- The progress in the liberalisation of the national rail markets in Europe differed widely in 2002. The above-mentioned impression on the basis of individual experiences was thus largely confirmed.
- In a European comparison Great Britain, Sweden, Germany, The Netherlands, Denmark and Switzerland showed the market access conditions most conducive to competition.
- A high degree of market openness can be achieved with different approaches: with a purely calculational and organisational separation as well as the full separation of transport operations and infrastructure management and with competition for as well as with competition in the market.
- In spite of several EU directives for the step-wise introduction of competition, in some countries the rail markets were practically inaccessible in 2002.

² A description of the concept of the Rail Liberalisation Index 2002 is given in Annex X.

Figure 3.1: Overall Result – Rail Liberalisation Index 2002



Source: IBM Business Consulting Services and KIRCHNER (2002)

In the overall result for the *Rail Liberalisation Index 2002*, it was possible to divide the 17 countries into three groups⁴. The delimitation of the groups proved to be robust, with respect to shifts in the relative weight of the sub-indices.

In 2002 the first group, comprising Great Britain, Sweden, Germany, The Netherlands, Denmark and Sweden, already showed market access conditions conducive to competition. In these countries, significant competition was already present. The liberalisation process in this group was assigned the status *on schedule*. The market opening for the second group, comprising Italy, Austria, Finland, Belgium, Norway, Portugal and France, had made far less headway than in the first group. The liberalisation process in this group of countries was assigned the status *delayed*. In Ireland, Luxembourg, Greece and Spain, viewed in total the liberalisation process had virtually not begun at all and was assigned the status *pending departure*.

The result of the *Rail Liberalisation Index 2002* represented the momentary status for the year 2002. Against the backdrop of EU ambitions to open the way for intramodal competition, many countries were found to be considerably behind with their efforts. Normative statements concerning whether and in what form liberalisation will bring about advantages for the rail systems and their customers were not part of the study.

⁴ The results of the sub-indices 2002 are presented in Annex X.

3.3 Diffusion and Acceptance

The 2002 study was eminently successful in stimulating the discussion on the liberalisation of rail transport at the European and national levels. In addition to its mentioning and detailed description in numerous newspaper articles (e.g. the *Frankfurter Allgemeine Zeitung* of 20 December 2002, the *Süddeutsche Zeitung* of 20 December 2002, the *Deutsche Verkehrszeitung* of 21 December 2002, and *Le Lloyd* of 20 December 2002), it was also quoted as a source of information in many studies (e.g. *Steer Davies Gleave*, 2003 and *The Boston Consulting Group*, 2003) and political debates. Moreover, the value of the study was also confirmed by the significantly better response and the enhanced readiness to cooperate of the many national partners interviewed during the collection of the data for 2004. The LIB Index 2002 may even have contributed to the evolution of processes more favourable to market access. The authors have been informed, for example, that the survey sheet for the LIB Index is now being used as a check list for the liberalisation process.

Following its publication as mentioned above, *IBM Business Consulting Services* and *Professor Dr. Dr. Christian Kirchner* presented the study at numerous specialised symposia, which included:

- Transport Committee (RETT) of the European Parliament, Brussels, 22 January 2003;
- Bombardier Top Management Meeting, Berlin, 28 January 2003;
- Community of European Railways (CER), Brussels, 6 June 2003;
- EU Commission, Directorate-General for Energy and Transport, Brussels, 25 April 2003;
- Railway Advisory Council of Deutsche Bahn AG, Berlin, 13 May 2003;
- Railway Market Monitoring Scheme – Meeting of the EU Commission and EU Member States, Brussels, 16 June 2003;
- 1st Conference on Railroad Industry Structure, Competition and Investment (IDEI/ Transportation Centre of Northwestern University), Toulouse, 7 November 2003;
- 6th Annual IIR Conference: Rail Liberalisation, Vienna, 24 February 2004;
- Conference: The Future of European Rail (Adam Smith Institute), Paris, 1 March 2004.

In June 2003 the calculational and evaluation model for the liberalisation index was subjected to a number of simulations and sensitivity tests conducted by the Directorate-General for Energy and Transport of the EU Commission. Subsequently, the study was then published on the Internet pages of the Commission under the address:

http://europa.eu.int/comm/transport/rail/market/index_en.htm

In November 2003 the chair of German, European and International Civil and Economic Law and Institutional Economics (*Professor Dr. Dr. Christian Kirchner*) at Humboldt University, Berlin, organised an experts' *Rail Liberalisation 2004* symposium. On the basis of various presentations, international experts discussed the value, concept and potential further developments of the liberalisation index⁵. Individual aspects were critically examined and possible improvements proposed, while principal approach and value of the study were confirmed. The results of the symposium were considered, as already mentioned, in the conception and the collection of data for the new *Rail Liberalisation Index 2004*.

⁵ Programme and list of participants of the symposium are shown in Annexes XI and XII.

4 Concept of the LIB Index 2004

4.1 Object of the study and researching

The area investigated for the LIB Index 2004 encompasses the following countries:

Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, The Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and Switzerland.

In comparison with the LIB Index 2002, the new EU Member States have also been included in the area investigated in this study, with the exception of Malta and Cyprus, neither of which has rail networks. The study investigates the relative height of the market access barriers from the perspective of active External RUs and potential new market participants. Information has thus been collected which is of essential importance for the preparation of a business case and for the actual market entry.

The study analyses the following market segments

- Rail freight transport, evaluated with a weighting of 50 per cent,
- Long-distance passenger transport, evaluated with a weighting of 25 per cent and
- Short-distance passenger transport, evaluated with a weighting of 25 per cent.

Here it must be pointed out that, because of their geographical size or because of country-specific market segmentation, a few countries do not distinguish between long-distance and short-distance transport. Urban rail transport is not the object of this study.

The following figure presents an overview of the authorities, undertakings and other institutions available for interviews within the scope of the study. As a rule, the answers are validated by several interview partners, however a further check is carried out on the basis of secondary material such as legislative texts, network statements, or other studies.

The period of research began on 1 February 2004 and ended on 31 March 2004. If it was not possible within this period of time to find a plausible answer for the LEX and ACCESS sub-indices, the assumption was made that at the present time it would be too time-consuming and therefore too costly for a potential market participant to collect these data so essential for market entrance. In such cases, the minimum number of points (one point) was assigned.

Concerning the questions of administrative and operational obstacles in the ACCESS sub-index, a distinction is made between experiences and official specifications. Where no official information or sources thereof are available, there is room for arbitrariness. In such cases, the lowest number of points is therefore assigned. The first subject area in the ACCESS Index, the questions with regard to obstacles for obtaining information, is evaluated by the consultants assigned to this study from *IBM Business Consulting Services* and by External RUs.

The cut-off date for the LEX and ACCESS indices was 31 January 2004. The periods relevant for the different questions concerning the COM Index can be seen from the corresponding catalogue of questions.

The IBM Business Consulting Services research team was able to conduct the interviews in the following languages: German, English, French, Italian, Polish, Portuguese, Russian and Spanish. The survey forms are in the EU working languages German, English and French (cf. Annex IV – VI).

Besides the interview partners listed, the IBM Business Consulting Services expert network in the area of Travel&Transport in an expanded Europe was also called upon to collect and validate information.

Figure 4.1: Interviewees – LIB Index 2004

Partners interviewed	LEX			ACCESS				Homologation (ACCESS)		
	Transportation Ministry	Regulatory Authority (or Rail Administration)	Infrastructure Manager	Incumbent	External RU	Licence-issuing Authority	Safety 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

4.2 Legislative framework

Since the data collection for the *Rail Liberalisation Index 2002*, the legislative framework has developed further in accordance with the European reform in the rail sector. This in turn required a modification of the catalogue of questions for the *Rail Liberalisation Index 2004*. Of particular importance in this connection were the EC Infrastructure Package and also selected aspects of Railway Packages II and III.

The EC Infrastructure Package, which included three directives, was adopted by the Council on 26 February 2001 and published shortly thereafter in the Official Journal of the European Communities. The background for these measures was primarily the will to revitalise the - for many years - stagnating rail transport and, to the extent possible, to shift freight transport from road to rail. The deadline for implementing the EC Infrastructure Package expired on 15 March 2003. In October 2003 the Commission filed an infringement suit before the European Court of Justice against nine Member States (Germany, Greece, Ireland, Luxembourg, Austria, Portugal, Spain, Sweden and the United Kingdom), which had not yet notified transposition of the Infrastructure Package into the national legal frameworks. Germany, Austria, Sweden and the UK have were referred to the Court in spite of the fact that in the view of the Commission these countries had already partly opened their rail transport to competition.

The Infrastructure Package comprises Directive 2001/12/EC on the development of the Community's railways, Directive 2001/13/EC on the licensing of railway undertakings and Directive 2001/14/EC on the allocation of railway infrastructure capacity, the levying of charges for the use of railway infrastructure and safety certification. The essential objectives of these directives are to redefine the roles and functions of the active parties and to ensure a fair and non-discriminatory access to the infrastructure in all Member States of the EU.

A core requirement of the Infrastructure Package is the separation of the essential functions of train path allocation and pricing from the transport divisions of the railway undertakings. This should ensure that there is no discrimination against railway undertakings in competition with each other. Furthermore, the Infrastructure Package provides for the establishment of a regulatory body in each Member State, which is to be independent from other relevant bodies such as the train path allocation body. In addition, the general financial, economic and safety conditions under which railway undertakings satisfy the requirements for the granting of licences are regulated. The licences granted are valid for the entire area of the Community and must be communicated by the licensing authorities to the Commission. In addition to the licence, the allocation of transport capacities, the so-called train paths, are also required for the actual use of the railway infrastructure. The Infrastructure Package regulates this subject as well as the charging schemes for use and the issuing of safety certificates.

On 23 January 2002 the Commission introduced the second Railway Package. The legislative proceedings have in the meantime been concluded.⁶

The second Railway Package comprises four directives, designed to improve safety and interoperability and further promote the opening of the rail freight transport market. Furthermore, it provides for the establishment of a European rail agency. Questions about the new safety regulations introduced with this package - e.g. in regard to safety certificates and approval of rolling stock - are to some extent already covered in the *Rail Liberalisation Index 2002*. The objective of the directive concerning rail safety is to develop a common approach to safety and a common system for the issue, scope and validity of safety certificates. The basis for independent technical investigations of accidents is also defined here.

⁶ On 16 March 2004 an agreement between the European Parliament and the Council of the European Union was reached in the Conciliation Committee, which the European Parliament and Council formally accepted on 22 April 2004 and on 26 April 2004 respectively.

Moreover, and particularly for the *Rail Liberalisation Index 2004*, the aspect of the opening of the rail freight market is of importance. By opening also the domestic freight transport services, the changes to Directive 91/440/EEC should permit faster and more extensive advancement. The compromise of the Council and Parliament foresees that the international rail freight transport market will be opened by 2006. For the complete opening of the rail freight transport market, the date 1 January 2007 has been established.

Finally, on 3 March 2004 the Commission introduced the third Railway Package. This proposes opening international rail passenger transport to competition within the European Union by 2010, improving passenger rights in international transport, creating a system for the certification of train drivers, and improving the quality of rail freight traffic. The developments indicated by these proposals are still in the initial stage. Due to its relevance to market entrance, however, the subject of rail passenger transport is already considered in the *Rail Liberalisation Index 2004*.

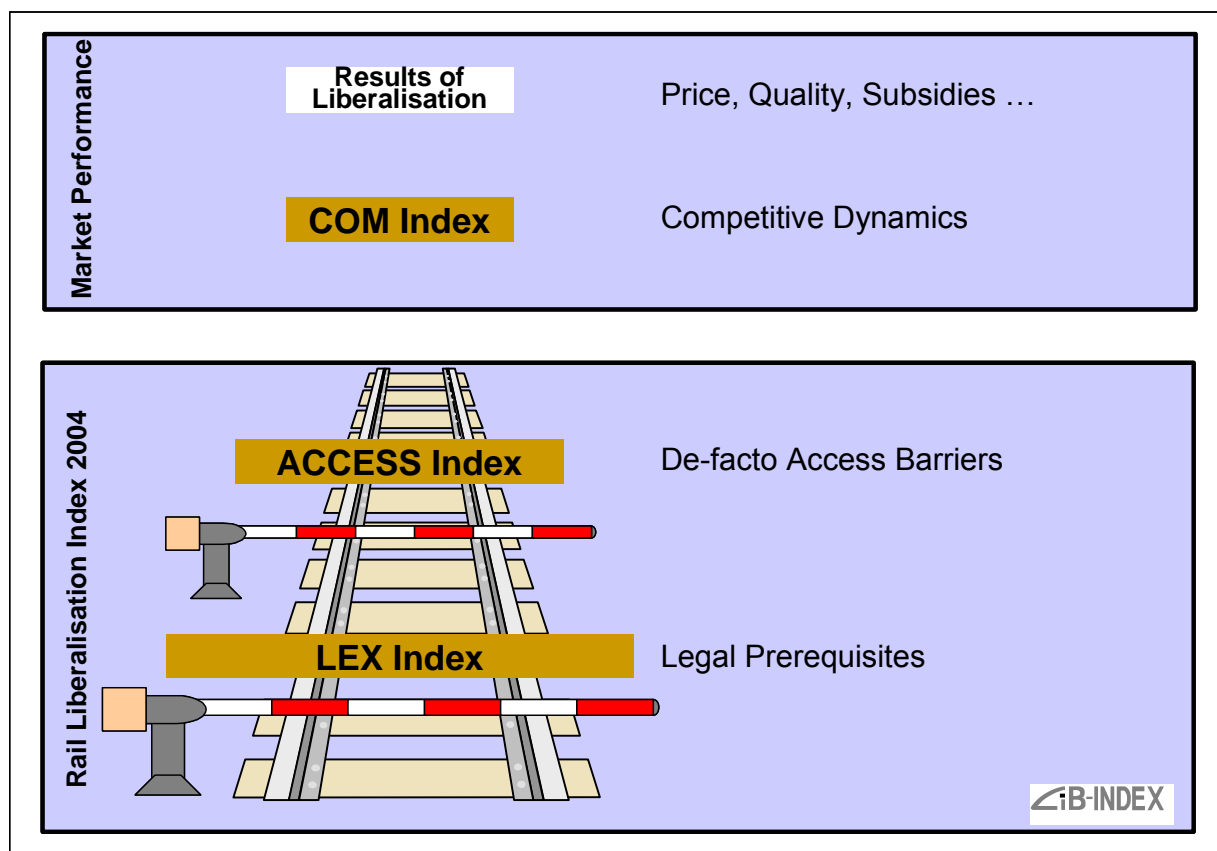
New movement is also seen in the discussions about a revision of Regulation 1191/69, which regulates the awarding of public service contracts in public passenger transport and, in this connection, regulates the compensations to be provided. Although an amendment to this Regulation was already proposed by the Commission in 2000, the proposal submitted at that time –as well as the proposal which followed upon this were not accepted. After the European Court of Justice, with its *Altmark* judgment of 24 July, 2003, recently made important clarifications on the relationship of state compensations and European state aid rules, a revision of the legislative framework for public services in the transport sector is now the subject of increasing attention again.

4.3 Structure of the LIB Index 2004

The LIB Index 2004 comprises the LEX and ACCESS sub-indices. The COM Index is not 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. The contents of the sub-indices are made up of the following:

- LEX Index: What are the legal bases for market entrance (*law in the books*)?
- ACCESS Index: What form do market access opportunities and barriers take in practice (*law in action*)?
- COM Index: What are the dynamics of competition in the rail transport market?

Figure 4.2: Structure of the LIB Index 2004



Source: IBM Business Consulting Services and KIRCHNER (2004)

The focus of this study was thus on two core aspects:

Firstly: How easy is it from the point of view of an RU, according to our present state of knowledge, to become active in a specific national rail market?

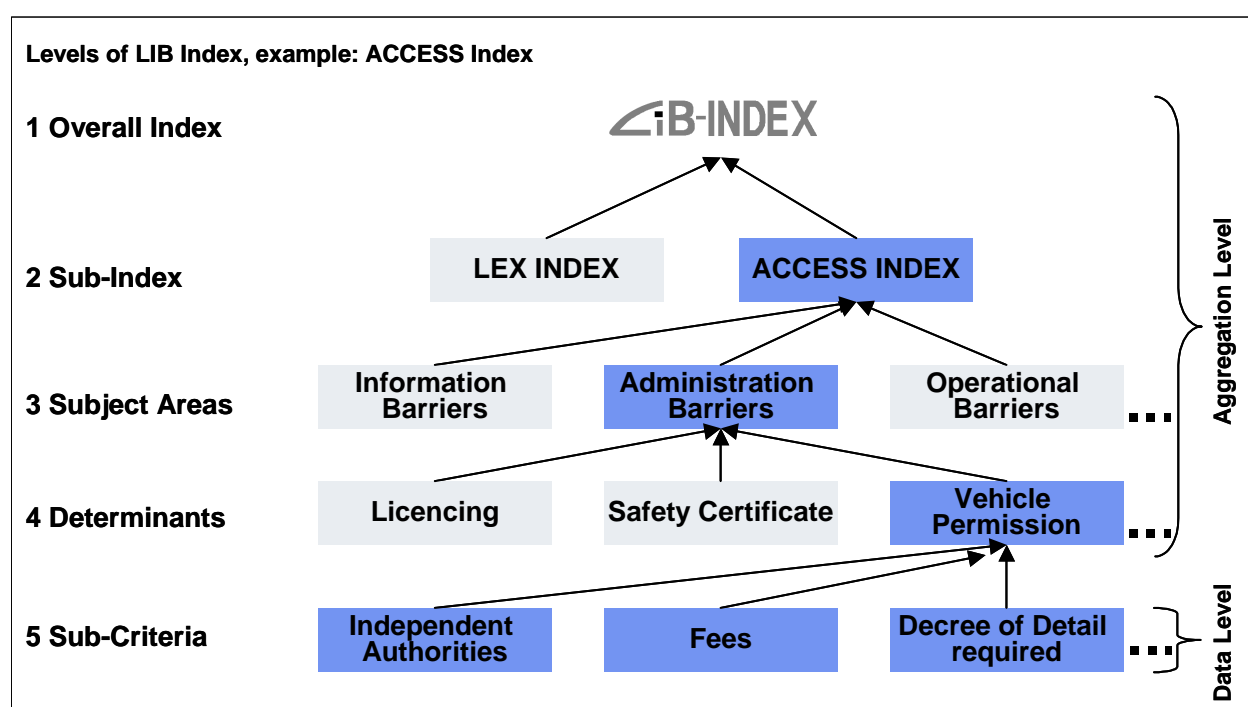
Secondly: How well does the market development reflect the market access conditions determined for External RUs?

The assertion sought by the study is not the absolute degree of liberalisation, but the relative degree of liberalisation in the different countries.

Each sub-index is the result of several subject areas. These in turn comprise determinants, which for their part are divided into sub-criteria. These determinants and sub-criteria determine the questions posed in the course of conducting research. As a result, the LIB Index is comprised of five levels:

- 1st level LIB Index
- 2nd level Sub-indices (LEX and ACCESS)
- 3rd level Subject Areas (I, II, III)
- 4th level Determinants (1., 2., 3.)
- 5th level Sub-criteria (A, B, C)

Figure 4.3: Levels of the LIB Index



Source: IBM Business Consulting Services and KIRCHNER (2004)

The sub-indices as well as the subject areas, determinants and sub-criteria are weighted relative to each other according to their importance. The weightings are assigned according to the monetary market entrance costs ensuing from the particular questions and is validated through expert queries, pair comparisons and plausibility checks. Special attention is given here to the continuity of the weightings in relation to the weightings of the *Rail Liberalisation Index 2002*. The detailed question catalogue relating to the LEX and ACCESS sub-indices, as well as the COM Index, the weightings of the respective questions and the ranges of answers can be viewed in detail in the following annexes:

- Annex IV: Questionnaire LEX Index
- Annex V: Questionnaire ACCESS Index
- Annex VI: Questionnaire COM Index
- Annex VII: Weightings and ranges of answers

The subject areas and determinants are presented in the following sections. The respective weightings within the sub-indices are also given.

The LEX Index

The basis for the market access of External RUs is the national legislation. For an undertaking wishing to invest in the rail market, a safe and transparent legislative basis is the prerequisite without which an investment decision cannot be made. Consequently, it is necessary to first examine the progress in the transposition of European Community law into national law, as well as the correct arrangements for the implementation of the EU directives in the interest of ensuring a non-discriminatory network access, i.e. the *law in the books*. Decisive here are the different aspects required by the directives and not the formal notification of the overall package. This sub-index is intended to reflect the extent to which the legal and regulatory conditions are in line with the goal of market opening for new competitors.

The LEX Index is comprised of the following three subject areas, each of which is further subdivided into two or three determinants.

LI Organisational structures of the (former) state railway of the national railway system (25 per cent)

1. Independence from the state (5 per cent)
2. Degree of vertical separation (80 per cent)
3. Degree of horizontal separation (15 per cent)

LII Regulation of market access (45 per cent)

1. Market access for foreign railway undertakings (50 per cent)
2. Market access for domestic railway undertakings (50 per cent)

LIII Competencies of the regulatory authority (30 per cent)

1. Existence of a regulatory authority (50 per cent)
2. Object of regulation (25 per cent)
3. Competencies of the regulatory authority (25 per cent)

The ACCESS Index

The second obstacle restricting competition from the point of view of a RU is to be found in the practical implementation of existing laws for liberalisation, i.e. the *law in action*. This results in a second sub-index, which classifies the individual countries according to the extent to which investments of External RUs in the railway sector are permitted in practice, the extent to which the planned market activity can be implemented in practice, and the extent to which the administrative processes are conducive to business on the part of the RUs.

The second sub-index thus deals with the question of the actual market entrance opportunities, that is the factual obstacles and the effort in time and money for External RUs required to obtain a licence, request train paths and in operation. On the basis of process key figures, the length and the complexity of the approval processes are described.

With the creation of the ACCESS Index, the authors take the position of an External RU which must pass through all required steps up to market presence. The most important aspects for the generation of a market strategy, such as access to qualified personnel, access to rolling stock, language barriers and network access, are analysed in the ACCESS Index. Thus, for example, it is also of interest how proper the licensing, safety certificate and rolling stock approval processes are or how the structure of a train path pricing system is set up. In regard to the train path pricing system, it is a matter of investigating e.g. the single-tier and multi-tier structure, a discount system disadvantageous to smaller competitors and the scope of performance of the train path price. As regards the application for train paths, among others the lead time required to apply for train paths is of interest.

Countries which, in regard to the network modalities, have a policy of holding back information, will only achieve a poor result in the ACCESS Index. In general, unclarifiable ACCESS determinants are evaluated with the lowest number of points, with the argument that it was not possible over a period of two to three months in spite of intensive researching to obtain the relevant information (see also Section 4.1). Missing information usually goes along with a lack of processes and preparations for market entrance. This causes additional loss of time and higher costs for the RU.

For selected determinants, not only the documented access rights according to the network access conditions count, but also relevant experience values, such as in the evaluation of access to service facilities or services of the infrastructure manager, such as maintenance facilities, storage sidings or train formation facilities.

Data is obtained primarily through the questioning of the relevant contact partners, including External RUs (if existing), state railways, infrastructure managers and authorities issuing licences, safety certificates and granting rolling stock approval, as well as through the evaluation of published network statements. In addition, leading vehicle manufacturers were also interviewed.

The market actually accessible to External RUs was also investigated and evaluated. Here, the object of investigation is to determine which part of the overall market is accessible and in what way. Basically, this examines whether tenders or transparent awarding procedures have taken place or not. This applies also to the case that a legally regulated *open access* in fact exists in a country (see LEX Index), but state compensation is provided for their awarding in the same market segment and this has a direct effect on the market entrance of the RUs not considered. An example of this is short-distance rail transport in Germany.

In detail, the ACCESS sub-index is made up of four subject areas, each of which is further subdivided into three determinants. This results in a total of 72 questions in regard to the actual market entrance (cf. Annex V).

AI Information barriers (5 per cent)

1. Process duration for obtaining information (40 per cent)
2. Quality of available impersonal information (30 per cent)
3. Quality of available personal information (30 per cent)

All Administrative barriers (20 per cent)

1. Licence (35 per cent)
2. Safety certificate (25 per cent)
3. Approval of rolling stock (40 per cent)

All Operational barriers (50 per cent)

1. Train path access conditions (25 per cent)
2. Train path pricing system (50 per cent)
3. Other service facilities and services according to Directive 2001/14/EC, Annex II (25 per cent)

AIV Proportion of accessible domestic market per sub-market – 2003 (25 per cent)

1. Freight transport (50 per cent)
2. Long-distance passenger transport (25 per cent)
3. Short-distance passenger transport (25 per cent)

The COM Index

The third question complex examines how the market for External RUs has developed to date. This represents an ex-post view on the liberalisation results.

On the basis of aggregated key figures such as market concentration, modal split and growth dynamics, the determinants of the COM Index measure the actual competitive development. As far as possible, a distinction is made here between the freight transport, short-distance passenger transport and long-distance passenger transport market segments. The greater the intensity of competition, the better are the opportunities for market entrance on the part of External RUs. The COM Index can therefore be seen as an indicator for the measurement of results in regard to access conditions. However, the determinants queried here, such as modal split and market share development, are not determined by the degree of liberalisation alone. The modal split depends strongly on the overall intermodal conditions in comparison with other transport modes outside the scope of this study. A pure consideration of market shares would also not be sufficient, since these depend also to a great extent on the relative efficiency of the undertakings and the characteristics of the network effects. Decisive for the intensity of competition is ultimately the potential for competition, as represented in the LEX and ACCESS sub-indices.

The data is collected e.g. from surveys, business reports and transport statistics from the EU and national authorities.

The three following subject areas and determinants are included in the COM Index.

CI Development of the modal split 1991-2001 (5 per cent)

1. Development of the modal split in freight transport (50 per cent)
2. Development of the modal split in passenger transport (50 per cent)

CII New RUs 2003 (45 per cent)

1. Approved RUs (without incumbents) in relation to the network length (40 per cent)
2. Active RUs (without incumbents) in relation to the network length (50 per cent)
3. Ratio of active RUs to approved RUs (10 per cent)

CIII Market shares of External RUs 2003 (50 per cent)

1. Market shares of External RUs in the transport services in percent (75 per cent)
2. Market share growth of External RUs in percentage points from 2000/1 to 2003/4 (25 per cent)

4.4 Method of Calculation of the Index

The result of the LIB Index consists of the two LEX and ACCESS sub-indices. The LEX Index contributes 30 per cent and the ACCESS Index 70 per cent to the LIB Index.

$$\text{LIB Index 2004} = 30\% \text{ LEX} + 70\% \text{ ACCESS}$$

The minimum number of points for the LIB Index is 100 points, and the maximum number of points 1000 points. The greater the number of points, the lower are the relative access barriers for an interested RU in the respective country, i.e. the greater the progress made in the liberalisation of the respective transport market.

In answering the questions relating to the LEX and ACCESS sub-indices, as well as the COM Index, scores are always given in whole numbers from "one" to "ten". The minimum and maximum number of points for the sub-indices correspond to those of the overall index, that is 100 and 1000 points.

Figure 4.4: Evaluation model – LIB Index 2004

Example: Sub-Index ACCESS

Criteria	Weightings	1	2	3	4	5	6	7	8	9	10
A.II Administration Barriers	20%										
1. Licencing	35%										
A) Decision maker	10%	dependent		Formally dependent							Formally + de-facto independent
B) Duration of Licencing	5%										
Legal Specification	50%	>= 6 months	to 5 months	to 4 months		to 3 months		to 2 months			1 month
Rule of Thumb	50%	>= 6 months	to 5 months	to 4 months		to 3 months		to 2 months			1 month
C) Scope of validity of a licence in relation to type of transport	5%	PT/FT = 2 licences									PT/FT = 1 licence
D) Scope of validity of a licence in relation to network	5%										
Freight Transport	50%	Sub-network									Entire network
Long-distance pass. transport	25%	Sub-network									Entire network
Regional passenger transport	25%	Sub-network									Entire network

Sub-Criteria

Determinant

Subject Area

Weighting Sub-Criteria

Weighting Determinant

Weighting Subject Area

Scoring of the answers on a scale from 1 to 10

Source: IBM Business Consulting Services and KIRCHNER (2004)

5 Results 2004

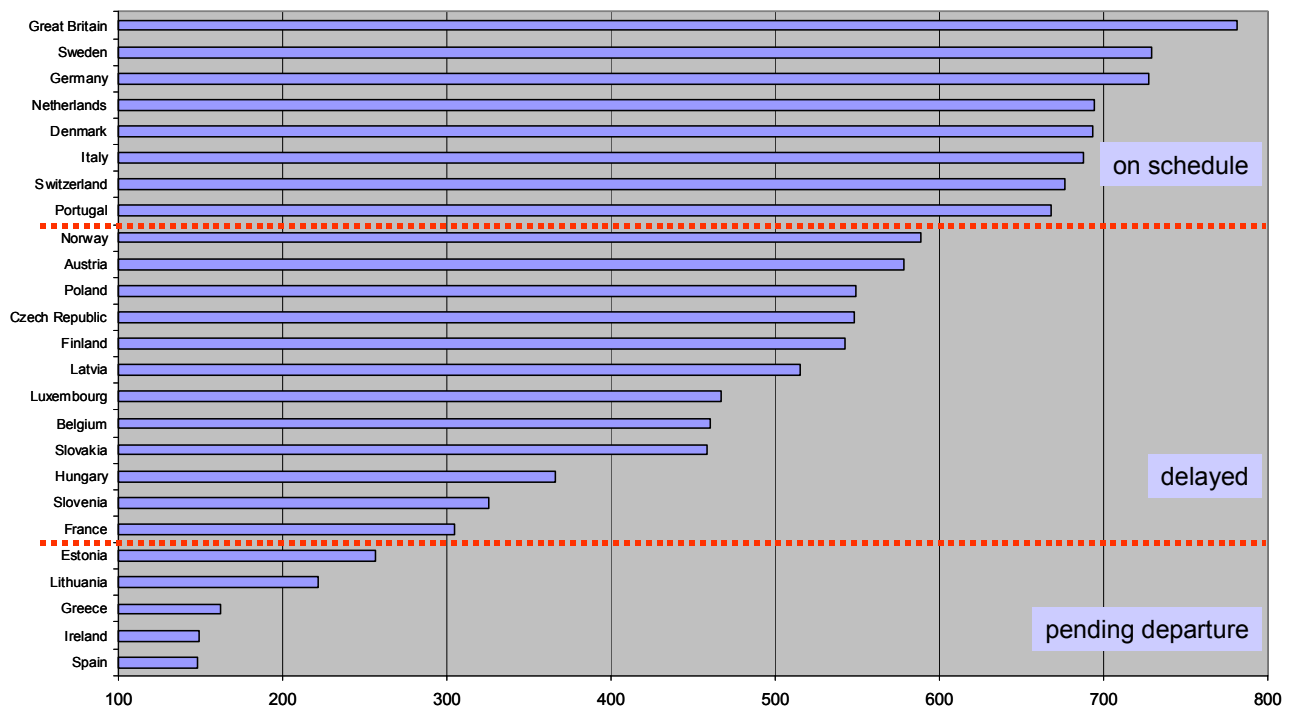
5.1 The LIB Index 2004

5.1.1 Overall Results

As in 2002, the current status of opening of the rail transport markets in the 25 examined countries can be allocated to three groups. The classification thresholds, again as in the 2002 LIB Index, are total scores of up to 300, 300 to 600, and more than 600 points.

The first group, comprising Great Britain, Sweden, Germany, the Netherlands, Denmark, Italy, Switzerland and Portugal has made relatively good progress in the market opening process. These countries were awarded 600 or more points in the index calculation. This group, which is in a process of dynamic liberalisation, is accorded the status entitled *on schedule*. These countries have an RU-friendly legislative basis (LEX Index) and fair and objective market access conditions (ACCESS Index). Newcomers to this group are Portugal and Italy. Italy had already obtained above average scores in the LEX and ACCESS Indices in 2002. Portugal has further improved the good LEX values it scored in 2002 and has also improved its scoring in the ACCESS Index. The other countries in the first group confirm their leading roles in the market opening process.

Figure 5.1: Results of LIB Index 2004



Source: IBM Business Consulting Services and KIRCHNER (2004)

The second group, comprising Norway, Austria, Poland, Czech Republic, Finland, Latvia, Luxembourg, Belgium, Slovakia, Hungary, Slovenia and France, has made substantially less progress than the first group in opening up their rail transport markets. The scores of these countries are between 300 and 599 points on the scale of the *Rail Liberalisation Index 2004*.

This group is accorded the status *delayed*. Newcomers to this group are Luxembourg and most of the new EU Member States.

Many of the new EU Member States already have lower market access barriers and better structures for competition on rail than some of the old EU Member States. Luxembourg was promoted to the second group (2002: group *pending departure*) following the improvement in its information policies, (network access conditions), owing to the fair procedures for the approval of rolling stock and the access to operational services.

The existing market barriers are highest in Estonia, Lithuania, Greece, Ireland and Spain, although Estonia is a special case (cf. National Summaries, Estonia). The scores of these countries are between 100 and 299 points. This last group is accorded the status *pending departure*.

The strengths and weaknesses of the individual countries in the liberalisation process can be indicated by analysing the sub-indices. The following National Summaries and the table of scores in the Annex provide supplementary information in addition to that analysis. On the whole it can be stated that compared with 2002, only Luxembourg, Italy and Portugal were able to improve their group classification. Some of the new Member States, which were not included in the 2002 Index, show better results in terms of market opening than countries which were already analysed in 2002.

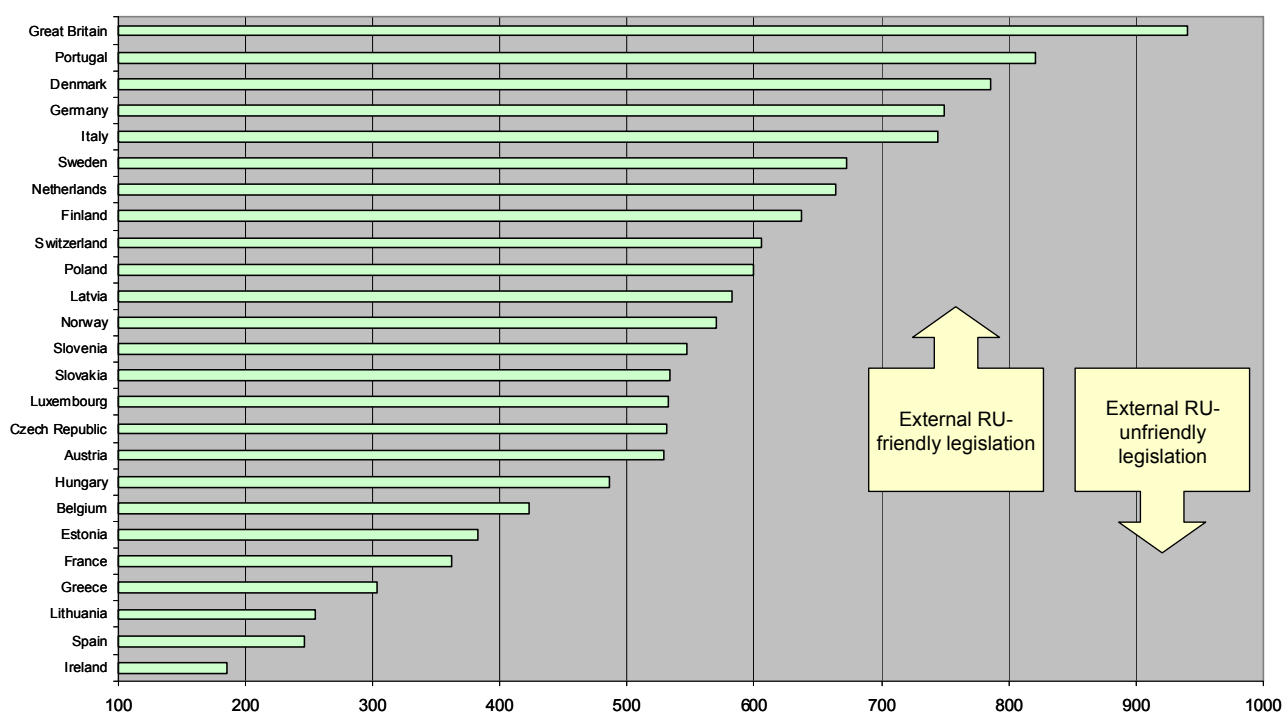
5.1.2 LEX Index 2004

The LEX Index accounts for 30 per cent of the LIB Index total. Within the LEX Index, the subject “Regulation of Market Access” (45 per cent) has the greatest weight, followed by “Powers of the Regulatory Authority” (30 per cent) and “Organisational Structures of the Incumbent” (25 per cent).

All the incumbents in Europe have legally codified rights of independence. The degree of vertical and horizontal separation, on the other hand, ranges between no separation and full separation. An assessment of the features of the organisational structures of the incumbent and the relative status of market opening reveals that highly diverse models can achieve similar success in opening up the rail networks. The determinant “Vertical Separation” accounts for 80 per cent of this subject.

Regulation of market access is most RU-friendly in the countries in the first group. Sweden and Switzerland received the lowest scores in this subject area compared with the other countries in the leading group owing to their relatively restrictive market opening. In Sweden, for example, the incumbent has exclusive rights to passenger train paths which can be operated without subsidies. That share currently amounts to 52 per cent of the total train path kilometres.

Figure 5.2: Results of LEX Index 2004



Source: IBM Business Consulting Services and KIRCHNER (2004)

The powers of the regulatory authorities are best developed in Germany, Great Britain, Portugal and Austria. These countries have adequate railway-specific regulatory bodies which can deal with emergent competition in a fair and objective manner. Portugal and Austria have the least experience of competition on rail (cf. COM Index). Although some countries claim to have regulatory bodies as defined in Directive 2001/14/EC, in terms of their powers and authorities, they cannot be compared with those of the above-mentioned countries. An example of this is Italy. In some of the other countries, on the other hand, the powers and authorities are currently divided amongst various institutions. Examples are Denmark and

Switzerland. The German Federal Railway Office (Eisenbahn-Bundesamt - EBA) and the British Office of the Rail Regulator (ORR) can currently be regarded as the European benchmarks in terms of the regulation of competition.

Poland, Slovenia, Latvia and Finland are well placed in the LEX Index in relation to the overall results. These countries have above-average scores for *law in the books*, but then lose ground in the overall LIB Index owing to the relatively low scores in the Index ACCESS (cf. next chapter). Poland, for example, has granted the incumbent PKP grandfather rights.

The following fundamental principle applies: the higher the position a country achieves in the LEX sub-index, the more RU-friendly its legislative basis.

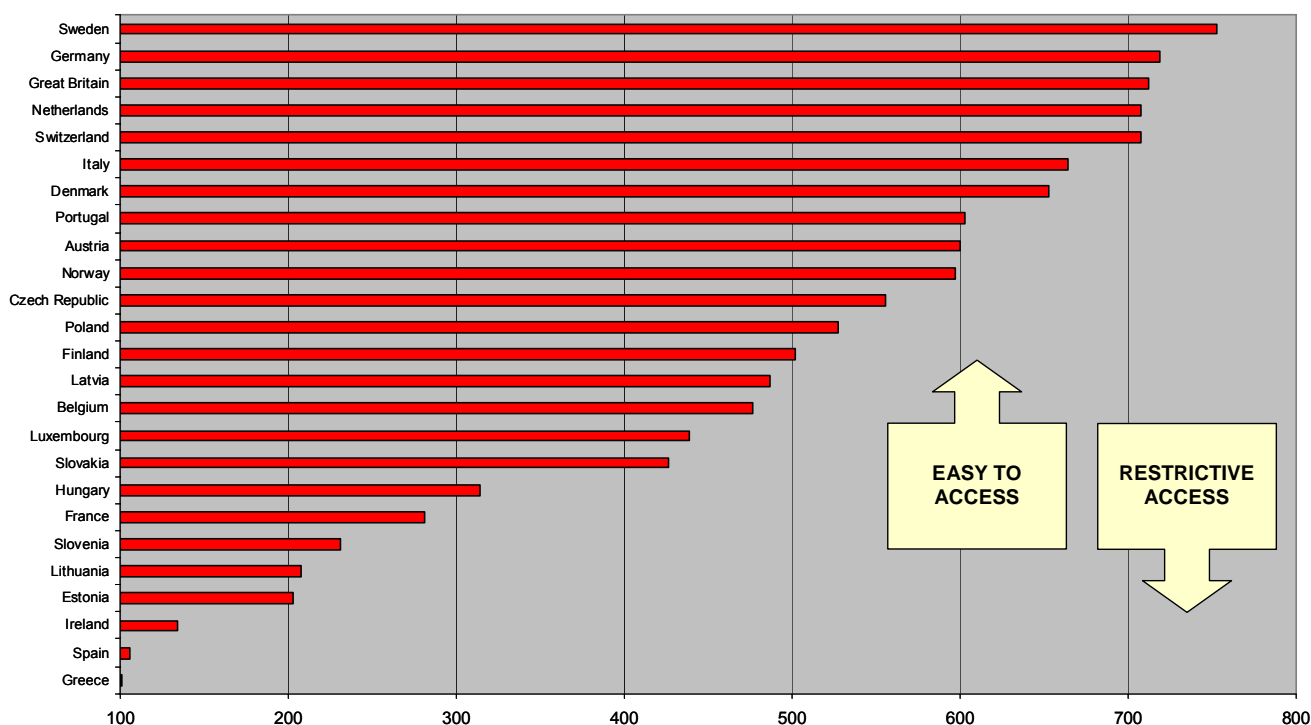
5.1.3 ACCESS Index 2004

The ACCESS Index is weighted at 70 per cent of the overall Index. In the analysis of those access barriers which play an important role in practice, the *law in action*, the countries differ more strongly than in the LEX Index. Again, the principle applies that the higher a country is positioned, the lower its barriers to market entry. As in the overall Index, Sweden, Germany and Great Britain lead this field.

The willingness of a country to provide information, which accounts for 5 per cent of the sub-index ACCESS, is a first fundamental indicator of the openness of the country. Nevertheless, there are some countries which supply highly comprehensive information, but still have a relatively low degree of market opening. An example of this is Slovakia, which provides its network statement in several languages. Switzerland is the European leader in terms of providing of personal and impersonal information.

Administrative barriers such as licence issue, safety certificate and approval of rolling stock make up 20 per cent of the ACCESS Index. In this sector, there are occasionally strong differences between the legal specifications and the empirical values experienced by External RUs. The most objective licensing processes can be found in the countries in the first group. A noticeable exception in that respect is Luxembourg, which has one of the most transparent processes in Europe for the approval of rolling stock.

Figure 5.3: Results of ACCESS Index 2004



Source: IBM Business Consulting Services and KIRCHNER (2004)

Operational barriers such as train path access conditions, train path prices and access to other operational facilities, which are given the greatest weighting at 50 per cent of the ACCESS Index, are also lowest in the countries in the first group of the overall Index. Exceptions, as in the above-mentioned example of Luxembourg, are Finland and Belgium. Both these countries have exceptionally low operational barriers, but nevertheless have a practically closed market for domestic competitors and thus no relevant experience in the provision of services to External RUs.

The last subject area of the ACCESS Index analyses the level of the de facto accessible national market in 2003 in relation to the stated market volume (25 per cent of the sub-index). In contrast to other subject areas of the sub-index, this revealed immense differences between the individual market segments. Whereas all countries in the first group have open access for the domestic rail freight market, only Germany and Italy have also chosen this access regime for the long-distance passenger market.

In Germany new contracts were awarded for approx. 2 per cent of the total train kilometres in short-distance passenger transport in 2003. In Great Britain, for example in Kent and Scotland, new franchises were awarded for passenger transport in 2003.

In many countries, it was not possible to identify any transport services at all in the passenger transport segment awarded on a competitive basis in 2003. Italy and Norway, for example, are planning to conduct the first-ever tender procedures for short-distance passenger transport in 2004.

5.2 COM Index 2004

In the COM Index, which indicates the dynamics pace of competition in the rail transport markets, all countries from the *on schedule* group, with the exceptions of Portugal and Italy, rank in the top third. In contrast to the other countries in this group, Portugal and Italy cannot yet back up their overall good results in the LIB Index 2004 with corresponding results in respect of competition developments. In Portugal, there is still only one single private RU active on a route of approx. 22 kilometres over the *Ponte de 25 Abril* bridge. In Italy, despite the issue of safety certificates to more than 30 national RUs, who so far offer services primarily on their own networks, and to *SBB Italy* in the last quarter of 2003, competition on the RFI network is still marginal.

In relation to the length of the network, the Netherlands have a relatively high number of active and licensed RUs. In Switzerland, the rail freight sector is one of the most dynamic markets in Europe. In 2003, *BLS Cargo*, the most important competitor of *SBB Cargo*, had a market share of more than 12 per cent (net tonne kilometres). In Denmark, *Arriva* has operated transport on an important network section in the short-distance passenger transport segment.

In view of its exceptional approach to liberalisation, Great Britain is a special case, as the British market by definition meanwhile consists solely of External RUs. The situation is examined in detail in the National Summary.

Germany has the highest number of active RUs in Europe on its rail network.

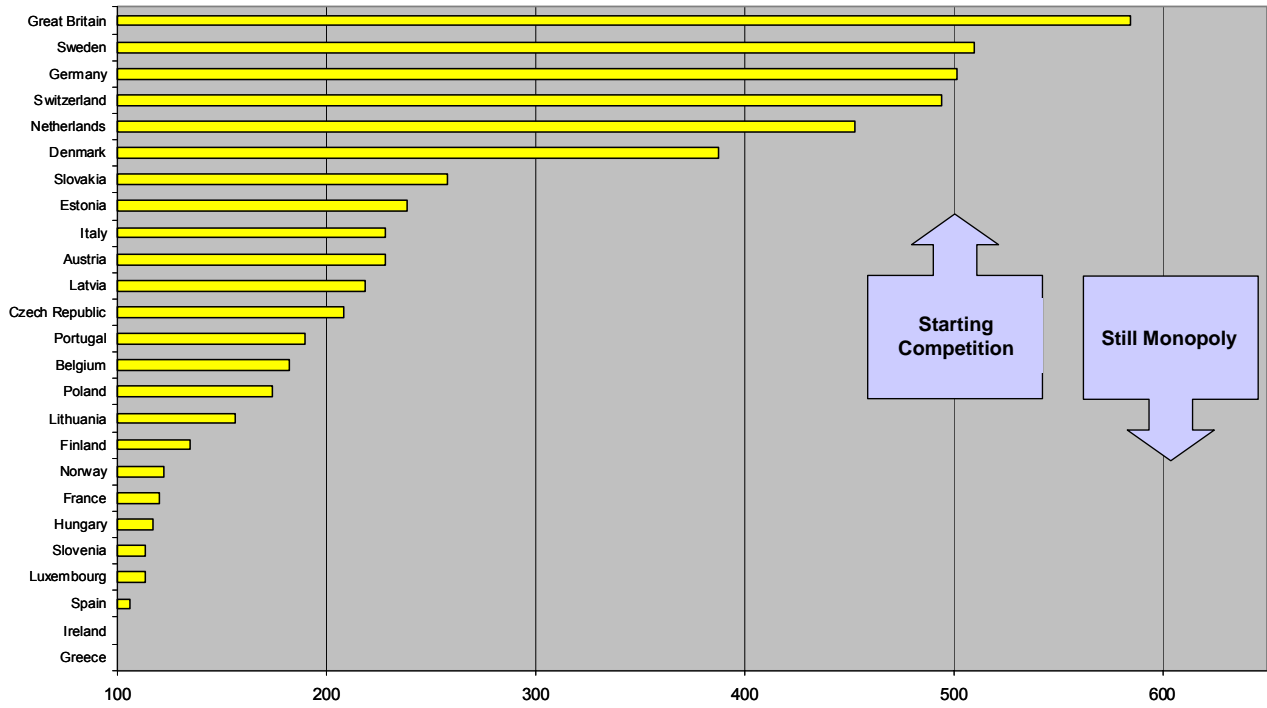
Sweden succeeded in improving the modal split share for rail passenger transport by 32 per cent between 1991 and 2001 and leads the European field in that respect.

In Estonia, the state railway and the infrastructure have been privatised. The two major private Estonian RUs, which also own and manage the two infrastructures, permit only restricted competition. Two further RUs are active on the networks of the fully integrated RUs.

Of the new Member States, the Czech Republic, Slovakia, Latvia and Poland have the highest number of active External RUs. In Latvia, for example, in addition to the incumbent there are two private Freight Operating Companies active on the network. In Belgium, there are four licensed RUs in addition to SNCB, but only one of them is actually active in cross-border transports.

In the countries in the final third of the chart, the results are driven solely by the improvements in the modal split (cf. Annex IX). No dynamics of competition can be observed in these countries.

Figure 5.4: Results of COM Index 2004



Source: IBM Business Consulting Services and KIRCHNER (2004)

5.3 Special Subject: Approval of Rolling Stock

While licence issue is meanwhile practically no longer a bureaucratic market entry barrier in Europe, not least because of the harmonisation based on Community laws, safety certificates and approval of rolling stock (homologation) frequently involve processes which in some cases drag on for years and which can be very expensive. The approval of rolling stock is the most time-consuming and high-cost barrier for new providers of rail transport services.

In some countries there are documented and legally codified network statements and open access provisions for freight transport, which cannot be used by External RUs owing to the prolonged, non-transparent and expensive processes for the approval of rolling stock. It is important to note that this refers to rolling stock which has already been in use in various EU Member States for many years. This chapter therefore deals separately with the subject of approval of rolling stock.

The survey has shown that some External RUs which have obtained approval of rolling stock often treat their experience with the approval process like a state secret, as they believe that this knowledge constitutes a competitive advantage over other RUs. At the moment, it is apparently not the actual business model of an RU that leads to a strategic advantage, but the ability to overcome bureaucratic barriers. Rolling stock manufacturers who have taken a keen interest in improving interoperability are more willing to report openly about their experience in the individual countries.

The following figure provides an overview of the countries in which the approval of rolling stock is a relatively high or relatively low entry barrier. The questions that were put to manufacturers, authorities and RUs in the course of the survey are contained in the ACCESS questionnaire (cf. Annex V).

The following reports by manufacturers and RUs from selected countries about their experience of initial class approval convey an impression of the great variety of approval processes in Europe and the resultive difficulties.

Unless otherwise specified, the empirical values stated are based on electric multiple-system locomotives or diesel multiple units. The total costs are based on rough estimates and do not include the cost of train control systems, for example.

A distinction is made between the total costs of approval (material, personnel, capital etc.) and approval fees.

Figure 5.5: Approval of rolling stock as market entry barrier

Vehicle Permission: „low“ entrance barrier	Vehicle Permission: „high“ entrance barrier
<ul style="list-style-type: none"> ▪ Denmark ▪ Germany ▪ Great Britain ▪ Luxembourg ▪ Netherlands ▪ Sweden ▪ Switzerland 	<ul style="list-style-type: none"> ▪ Austria ▪ Belgium ▪ France ▪ Italy ▪ Spain
<p>Lack of experience: New EU Member States, Finland, Greece, Ireland, Norway, Portugal</p>	

Source: IBM Business Consulting Services and KIRCHNER (2004)

Approval of rolling stock in Austria

There is only one official test body, which belongs to the ÖBB and cooperates with the BMVIT. According to empirical values, this test body has only limited availability. In some cases, applicants had to wait up to seven months. The degree of technical detail must be rated as high. Amongst other things, Austria has the strictest noise control and fire safety specifications conditions in the EU, and these make the approval process more difficult. However, also seemingly banal things, such as an outside mirror, or the colour of locomotives, can also delay or complicate the approval process, for instance because no agreement can be reached between the responsible bodies and the trade unions with regard to the rear view equipment to be mounted. The fees, on the other hand, are low. The entire process costs approx. 800,000 euros. The process takes between two months and three years.

Approval of rolling stock in Denmark

According to manufacturers, the Danish authority *Jernbanetilsynet* attaches too much importance to the problems of interference current. This has substantial consequences for the approval process. The applicant has to expect costs amounting to 200,000 euros and a period of approx. one month for an interference current test in the course of initial class approval. For the subsequent series approval, they are then faced with further costs of approx. 20,000 euros and roughly three days for interference current testing. The other subject areas are handled pragmatically, very promptly and objectively by the authority. On a European comparison, the degree of technical detail can be rated as low to medium.

In Denmark there are also two recognised, independent technical test bodies. Foreign measuring or test reports are partially recognised. The fees for the approval of rolling stock are comparatively low by European standards. The total costs of initial approval are approx. 400,000 euros. Once all the necessary documents have been submitted, approval is granted after approx. four weeks. The total process, once all measuring or test reports have been submitted, takes approx. six weeks, provided that these reports are approved. The approval process can be rated as transparent.

Approval of rolling stock in France

The case of an application for approval, which was pursued jointly by the freight division of SNCF, a European RU and the manufacturer, is an example of the substantial difficulties relating to the approval of rolling stock in France. In December 2003, after the procedure had dragged on for 1½ years, the electric multiple-system locomotive in question, which is already in operation on many routes in Europe, was approved only for a limited period of six months. Moreover, the technical approval of the locomotive is restricted to a certain route segment in France. According to the manufacturer, technical or safety-related aspects cannot be the reason for this restriction in terms of time and geographical use. As regards the time required for the approval process, it must be noted that once all the relevant documents had been submitted to *Certifer*, the authority responsible for approval, approval was in fact issued within four weeks. However, prior to that stage, there were considerable delays, e.g. because there is only one technical test body in France, and that belongs to SNCF. Foreign measuring and test reports are not recognised in France and the degree of technical detail can be rated as very high on a European comparison. The total costs of initial class approval amount to more than 3.5 million euros.

For high-speed traction stock (HST traction stock), France also demands crash tests, which again lead to additional costs running into millions, not only because of the material deployed, but also because of the complicated test preparations and execution. This also applies to HST traction stock which is already approved in other Member States.

Approval of rolling stock in Germany

The degree of technical detail is regarded as comparatively high. The approval fees range between 50,000 euros and 100,000 euros. According to the EBA, approval is issued within eight weeks of submission of all the necessary documents, although empirical values were also two weeks in some cases. The entire process takes approx. seven months for stock which has been manufactured for the German market. In the case of stock designed for other EU Member States, this process can take up to three years.

Germany has a well-developed market of independent test bodies and experts which are recognised by the EBA. The entire approval process is rated as predominantly transparent.

Approval of rolling stock in Italy

The degree of technical detail can be rated as high. There is only one technical test body and its experts come from Trenitalia. Certain test reports from issuing bodies which conform to Italian standards (such as EBA, BMVIT, BAV and SNCF) are however recognised. Approval is granted three months after all the necessary documents have been submitted, although empirical values indicate that this period is sometimes as little as three weeks. The entire approval process takes between one and three years.

As regards the necessary technical conditions in Italy, it must be stressed that on some routes, there are no train control systems. The locomotives therefore have to have two fully equipped driver positions with the same visibility conditions, as there always have to be two drivers on board. The approval process also pays much more attention to the brake systems than in other European countries. The total costs of initial approval in Italy amount to more than 1 million euros.

Approval of rolling stock in Luxembourg

One of the leading manufacturers of rolling stock states that Luxembourg is a model country with regard to the approval of rolling stock. On a European comparison, the degree of technical detail is very low and the majority of measuring and test reports from other European countries are recognised. Approval is issued approx. two weeks after all relevant documents have been submitted to the independent authorities. The entire process takes approx. three months and the total costs are approx. 300,000 euros.

Approval of rolling stock in Spain

The approval process is generally rated as time-consuming (lasting more than one year). A high-speed train is currently going through the approval process. The competent Spanish authority is currently being restructured, and closer alignment with TSI standard (high-speed traffic standards) is emergent.

Approval of rolling stock in Sweden

The applicant obtains approval approx. one month after all the required documents have been submitted. The entire approval process takes approx. five months and the total costs of a complete initial approval amount to approx. 600,000 euros. The degree of technical detail can be rated as low.

Despite the high technical standards, the Scandinavian countries generally have pragmatic and objective approval processes. As a rule, foreign test reports, e.g. issued by the German EBA, are recognised.

Approval of rolling stock in Switzerland

Depending on the work involved, homologation fees of up to 200,000 euros can be sustained. Technical adjustments (pantographs, train control systems, two rear mirrors etc.), which are required in all countries, are not included in these fees. With regard to the technical specifications, Switzerland pays great attention to detail. In some cases, however, test reports from the EU Member States are recognised, and the entire procedure is described as highly pragmatic and objective. Despite the high approval costs and the high degree of technical detail, manufacturers and RUs nevertheless rate the approval of rolling stock in Switzerland as objective and transparent.

6 National Summaries

6.1 Austria

On the basis of its overall results, as in 2002, Austria is allocated to the group *delayed*.

LEX Index

ÖBB is wholly owned by the state and is organised as an integrated railway undertaking with separate accounting for the separately managed sectors of infrastructure and transport. The Federal Railway Structure Act of 2003, which has meanwhile been approved by the Austrian Parliament, governs reform and organisational changes at ÖBB. One section of the Act, for example, prescribes the organisational separation of ÖBB into several joint-stock companies under the umbrella of a holding (including: *ÖBB Personenverkehr AG* (passenger transport), *Rail Cargo Austria AG*, *ÖBB Infrastruktur Betrieb AG*, *ÖBB Infrastruktur Bau AG*). The amendment of the Railway Act of 1957, which is primarily aimed at transposition of the EU directives, is currently going through the legislative process and is expected to be adopted during the second half of 2004. Amongst other things, the amendment envisages the allocation of infrastructure capacities to third parties, regulations for capacity bottlenecks, the levying of charges for the use of railway infrastructure and the issue of safety certificates for private RUs. It also governs the independence of the RUs from regional and local authorities. The amended version of the Act no longer contains provisions for the auction of train paths.

ACCESS Index

Train path access is granted by the infrastructure sector of ÖBB, which will in future be represented by *ÖBB Infrastruktur Betrieb AG*. To date, there have in practice been priority regulations for the incumbent or its passenger transport services. There is also a uniform, single-tier train path pricing system and ÖBB maintains a liaison office for "external" network access (OSS manager⁷).

The main barriers for competition are the award of licences on a reciprocity basis and the very extensive safety regulations. Examples from practice have proven that the approval of rolling stock can drag on for years, even though stock with identical design has already been approved in other EU countries. The availability of approved rolling stock for External RUs also still constitutes a barrier.

COM Index

At present, there is a low degree of competition in the freight transport sector only, whereas long-distance passenger and short-distance passenger transport are provided almost exclusively by ÖBB. In the past one to two years, there have been neither new RUs nor any new transports of any significant extent. In addition to ÖBB freight and passenger transport, ten other RUs operate on the ÖBB network, including three foreign companies, which have however already run these services for years/decades. In some cases, the state or municipal authorities hold interests in the few External RUs, such as the city of Vienna in *Wiener Lokalbahnen AG*. At the moment, there are no tender procedures for the award of rail transport services.

⁷One Stop Shop: central point of contact for all questions relating to the sale of train paths

Conclusion

In terms of liberalisation, Austria has made some initial progress on the basis of the Federal Railway Structure Act of 2003, even if these provisions have not yet led to any noticeable effects. The amendment of the Railway Act of 1957 will promote the process.

The actual competitive situation has hardly changed since the last survey in 2002. Network access is still theoretically possible on a wide scale, but in practice it fails, for instance on grounds of the approval of rolling stock. Neither freight nor passenger trains can run on the ÖBB network without first obtaining individual approval. On the whole, there has not yet been any stimulation of competition, nor are any effects to be expected in the near future as a result of the legislative amendments.

6.2 Belgium

As in 2002, Belgium is allocated to the second group, *delayed*, on the basis of the overall results.

LEX Index

Since March 1991, the Belgian state railway *Société Nationale des Chemins de fer Belges* (SNCB) has been formally independent of the state in terms of assets, budget planning and accounting. During the course of 2003, Belgium notified the EU Commission that it has transposed the first Infrastructure Package. It should be emphasised that

- the SNCB business units of infrastructure and transport are separate only in terms of accounting, and that
- the freight and passenger transport divisions are not yet separate (see also the annual report, *rapport annuel*, SNCB 2002).

Foreign passenger train operating companies without a domestic licence have access rights only as part of international groupings. SNCB and the Ministry of Transport decide individually on contracts for cross-border transports from case to case. At present, such contracts have been signed with DB AG, CFL, NSR and Railion. Although it is possible to found a Belgian RU, the domestic market is not open to SNCB competitors. The Belgian Ministry of Transport is named as the regulatory authority pursuant to Directive 2001/14/EC.

ACCESS Index

The Belgian Ministry of Transport, in some cases in cooperation with SNCB, is responsible for issuing licences, safety certificates and approval of rolling stock. The main sources of information for interested RUs are the relevant Belgian law gazettes and the Belgian *document de référence du réseau* (Belgian network statement, DRR). It took the only active Belgian RU apart from SNCB approx. two years (cf. also *Rail Liberalisation Index 2002*) to obtain all the necessary certificates. The licence is valid for five years, the safety certificate for three years. The Belgian train control system, which has to be purchased as part of the rolling stock approval process, is available solely from SNCB. According to the DRR, apart from facilities for refuelling, storage sidings, maintenance facilities and pre-heating of passenger trains, External RUs have access to all other service facilities pursuant to Annex II of Directive 2001/14/EC.

COM Index

In recent years, the modal split share of rail freight transport has fallen by more than 37 per cent. The share of rail passenger transport, on the other hand, has remained stable. In addition to SNCB, there are four more Belgian licensed RUs, only one of which, *D&L Cargo*, operates on the Belgian network.

Conclusion

There are defined administrative processes and specifications for the admission of an RU and also a network statement. However, these are hardly applied, as the Belgian rail transport market must be regarded as closed. There is no evidence of a change aimed at further liberalisation of the Belgian rail transport market compared with 2002.

6.3 Czech Republic

On the basis of the overall results for 2004, the Czech Republic is allocated to the group delayed.

LEX Index

On 1 January 2003, *České dráhy a.s.* (ČD - Czech Railways joint stock company) was established by the Railway Act 77/2002. ČD is the former incumbent and the state holds 100 per cent of the shares in the company. On the basis of a three year contract with *Správa železniční dopravní cesty* (SZDC), the Czech Railway Infrastructure Administration, the infrastructure management responsibilities were delegated to ČD, which is also the main railway transport operator in the Czech Republic. Thus, access to the infrastructure is managed by directly ČD.

ČD is obliged to keep separate accounting regarding the infrastructure, transport of passengers, transport of goods and activities financed from public funds.

Open access is granted for international groupings and combined transport as far as freight transportation is concerned. Also in the market segment passenger transport, open access applies to international groupings (Directive 91/440/EEC). The access is regulated through open access and transport contracts according to the Transport Ministry.

The market regulation is under the responsibility of *Drážní úřad* (DU). This regulatory body, which is supposed to be independent as far as decision-making is concerned has few vital competencies. The monitoring of the infrastructure charging principles, for example, is executed by the *price regulator* within the Ministry of Transport. Capacity allocation is within the responsibility of SZDC.

ACCESS Index

DU deals with licensing and safety certification. A licence takes 40 to 60 days to be issued and costs approximately € 610. A licence is usually valid for the entire network and for passenger and freight transport at the same time. Licences are valid for various time periods, depending on the decision of DU (usually indefinitely), and do not lose their validity if not used. A review takes place every five years. No specific requirements are in place as to the sum of insurance coverage or paid up capital. The licences from Member States of the European Union are recognised in the Czech Republic and the verification procedure lasts up to one month.

A safety certificate takes up to 60 days to be issued. The fee costs approximately € 7 and is valid for both types of transport and for the entire network. The validity period depends again on the decision of DU and no timeframe for the loss of validity or a review is set.

The Czech Republic is not yet a member of RNE. Train path allocation rules will be defined in the future Network Statement. The access is currently regulated by a legal act from 1994 with subsequent amendments. This act includes priority rules e.g. for public transport or specific freight services for national manufacturers. In the upcoming months this principle is expected to be removed.

A railway undertaking must apply for capacity allocation at least 12 months before the annual schedule, but there is also an ad hoc procedure for capacity allocation.

The current train path allocation process is not very detailed. The new process is supposed to be published in a more transparent way in the upcoming network statement.

Periodic train path allocation as well as framework agreements for capacity allocation for longer than one timetable period are generally possible. Track allocation conflicts are expected to be sorted out within a reasonable timeframe by the SZDC. The mechanism applied seems to be regulated in detail.

COM Index

The Czech Republic has one of the world's densest railway networks. However, most of the network is single track. Being situated in a traditionally industrial region with two pan-European railway corridors crossing its territory, the Czech Republic has high potential for rail freight transport development. Nevertheless, both freight and passenger transport volumes have been falling considerably in recent years.

Altogether, there are seven RUs on the Czech market, excluding the former incumbent, narrow gauge and non-profit operators. Most of them provide freight transportation services, but their service volume expressed in tkm amounts only to about two per cent of the total freight transportation market. Two of the mentioned licences are held by coal mines (carriage of bulk products).

Conclusion

The structure of the network of the Czech railway institutions is of a rather complex nature. This is exemplified by the fact that the infrastructure is supposed to be managed by SDZC but the operational responsibility has been contractually assigned to the incumbent. A current project led by the Ministry of Transport is aiming to define new structures for the railway regulation and organisation and a draft is already on the way.

However, in comparison to other Eastern European countries and even in comparison to some Western European countries the market access and the legal prerequisites seem to be quite developed.

6.4 Denmark

On the basis of the overall results, Denmark can be allocated to the group *on schedule*, as in 2002.

LEX Index

In 1997, infrastructure management was separated from the provision of transport services and transferred to *Banedanmark* (formerly: *Banestyrelsen*). *Banedanmark* is fully owned by the state and responsible to the Danish Ministry of Transport. Transport services are provided by *Danske Statsbaner (DSB)*. Since 1999, DSB has been an independent company, which is wholly owned by the Danish Ministry of Transport. In June 2001, DSB sold off its freight segment, *DSB Gods*, to *Railion Danmark*. Since then, DSB has been involved only in the passenger sector.

Foreign RUs have transit and access rights pursuant to open access provisions (no cabotage) in both freight and passenger transport. Domestic rail freight companies also have access to the network pursuant to the open access principle; in the passenger sector, access is governed by transportation contracts.

DSB holds interests in various companies in Denmark and abroad, which in addition to transport services also provide additional services for the rail transport market. DSB is aiming for a stronger internationalisation of its activities: the plans envisage that at least 20 per cent of DSB revenues are to be generated abroad in 2007. The most important target regions are Sweden, Germany and the United Kingdom.

The regulatory authority *Trafikstyrelsen* was founded in July 2003. *Trafikstyrelsen* has assumed functions which were previously the responsibility of the infrastructure manager *Banestyrelsen*, the Secretariat of the Ministry of Transport and DSB. The primary tasks of *Trafikstyrelsen* are the planning of railway infrastructure, advising the Ministry of Transport on questions of strategic development of the Danish railway and handling tender procedures.

In addition to *Trafikstyrelsen*, there is also the rail regulatory office *Jernbanetilsynet*, which is responsible for issuing licences, safety certificates and approval of rolling stock. These two institutions will be amalgamated during the course of 2004. The new institution will have a workforce of approx. 70, will be responsible to the Ministry of Transport and will constitute the regulatory body pursuant to Directive 2001/14/EC.

ACCESS Index

As already stated above, *Jernbanetilsynet* is currently responsible for issuing licences, safety certificates and approval of rolling stock. The merger with *Trafikstyrelsen* will however lead to some changes. There are plans, for instance, to create the institution of a Safety Officer, which will be responsible for issuing safety certificates.

Licences and safety certificates are valid for both passenger and freight transport, and the processes are set forth transparently and in detail in separate descriptions.

Jernbanetilsynet is primarily responsible for the approval of rolling stock. *Banedanmark* issues the necessary declarations of conformity. Regarding the approval of rolling stock, Denmark also accepts test certificates from Germany and Sweden. One point of criticism with regard to the generally transparent and objective approval process is that according to the manufacturers, the problem of interference current is given too much weighting in the approval process.

The train path pricing system is governed by law and is uniform for all market participants. No discounts are granted and it has no discriminatory effects on new RUs. As in 2002, however, it still has some exceptional features. In addition to the

relatively low charge per kilometre travelled, additional lump-sum charges are levied for the use of special infrastructure, such as bridges. These charges can lead to a substantial increase in infrastructure charges for long-distance services.

COM Index

According to information supplied by *Jernbanetilsynet*, there are currently six RUs operating on the state railway network in Denmark. There are also a number of mostly very small RUs in Denmark, which however run exclusively on their own networks and are therefore not a result of the liberalisation process. Some of these small RUs are in public ownership (e.g. regional authorities).

Compared with other transport modes, railway plays a relatively insignificant role in freight transport in Denmark. The railway's share of the modal split for freight transport amounts to approx. 9 per cent. Although access to the freight transport market is open (open access), *Railion Danmark* still has the dominant role in that sector, with a market share of 95 per cent. In the modal split, rail passenger transport has a share of approx. 7 per cent.

In long-distance passenger transport, DSB is currently the only provider in Denmark. In short-distance passenger transport, in December 2000 the Danish Ministry of Transport conducted the first tender procedure for the network in Western and central parts of Jutland: in addition to DSB, bids were also submitted by *Deutsche Bahn*, *Connex*, *Serco Rail* and *Arriva Danmark A/S*. *Arriva Danmark*, a subsidiary of the British railway company *Arriva*, was awarded the contract and, since 2003, has sole rights to run passenger transport on these routes. The market share of *Arriva Danmark* amounts to approx. 5 per cent, measured in terms of the total number of passengers. To date, no other routes have been put out to tender, and the next tender procedures are not expected to be held for another two to three years. DSB operates on the remaining state network on the basis of exclusive contracts which it has signed with the Danish Ministry of Transport.

Conclusion

In Denmark there are very low market access barriers with regard to administrative, information and operational factors. This is evident on the one hand from the restructuring of the public institutions in the railway sector, and also from the processes for issuing licences, safety certificates and approval of rolling stock, as well as the provisions governing access to operational service facilities.

6.5 Estonia

On the basis of the overall results, Estonia is allocated to the group *pending departure*.

LEX Index

The Estonian railway network consists of two part networks which are in private ownership *Eesti Raudtee Ltd.* (approx. 690 km railway network) and *Edelaraudtee Ltd.* (approx. 320 km railway network). Both these companies also offer transport services: *Eesti Raudtee Ltd.* operates freight transport, and *Edelaraudtee Ltd.* passenger transport. The transport services and infrastructure divisions have only separate accounting. The Baltic country is an interesting special case as regards the structure of its rail market, as the Estonian railway system is completely privatised and is simultaneously fully integrated, which means that this service market is totally independent of the state.

Foreign RUs without an Estonian licence can only use railway infrastructure within the scope of bilateral agreements or if they enter into corresponding agreements with private infrastructure managers. According to the *Railway Act* currently in force, at least 20 per cent of the total train paths available for domestic RUs per allocation period must be put up for new contract award in public tender procedures by the infrastructure managers. At the discretion of the infrastructure manager, train paths can be awarded to the RUs for a period of between one and three years. *Raudteeamet (Estonian Rail Administration, ERA)* is responsible for licences, safety aspects, approval of rolling stock and for market regulation. However, its powers in respect of market regulation are limited vis-à-vis private companies, as the laws currently in force grant the infrastructure managers substantial scope. According to ERA, this will change in the course of 2004. Nevertheless, the validity of the safety certificate of a private company was rejected on grounds that the American traction stock used by the company was too heavy for the Estonian infrastructure.

ACCESS Index

The information barriers are high compared with other European countries. As explained above, applications have to be submitted to the ERA for licences, safety certificates and approval of rolling stock. Information about the approval procedures is available only in the form of laws. If specific inquiries are submitted with regard to these processes, the ERA refers them to the Ministry of Transport. It therefore has to be assumed that the Ministry of Transport is also strongly involved in all licensing processes. Licences are issued for an indefinite period of time, but can be revoked if unused six months after issuance. By law, safety certificates and licences have to be issued within one month after all documents have been submitted and deemed complete.

It is easier to obtain approval of rolling stock for Russian traction stock, since the specifications are adapted to the Russian railway system for historical reasons.

The multiple-tier, degressive train path pricing system is not transparent; train path prices have to be negotiated individually with the infrastructure managers. No network statement is available.

COM Index

Four RUs are active on the approx. 1,000 km long network: two in the passenger sector, and two in the freight sector. The Estonian rail market is dominated by freight transport. In the modal split, this increased by 7 per cent between 1991 and 2001, whereas rail freight's share of the modal split for the EU 15 dropped by 20 per cent over that same period. The modal split for the rail passenger market in Estonia on the other hand lost more than 78 per cent in the same period.

Conclusion

At the moment, Estonia – like several other Member States – is still in the process of adjusting its railway system to the regulatory framework of the EU. It remains to be seen whether the future regulatory body, for example, will actually be vested with more powers or whether only new names will be given.

It is interesting to note that by means of a privatisation concept which is unique in Europe, Estonia has achieved one important objective of the EU Commission's transport policies: an improvement of the modal split share of rail freight transport. Passenger transport, on the other hand, has shifted almost entirely onto the road. Buses and private cars appear to be the means of transport preferred in Estonia.

6.6 Finland

As in 2002, on the basis of its overall results, Finland is allocated to the group *delayed*.

LEX Index

In 1995, infrastructure and transport were separated in terms of ownership in Finland. Since then, the infrastructure has been managed by *Ratahallintokeskus* (RHK) and transport operations by *VR Group Ltd*. Pursuant to the Railway Act (198/2003), VR Ltd. is the only domestic RU on the RHK network and although the company is owned by the state, it can make decisions independently of the state. Although the VR Ltd. business units of freight and passenger transport have separate accounting (bookkeeping), their balance sheets are not separate.

Foreign RUs wishing to offer international transport services have open access.

However, there is no opportunity of setting up an RU in Finland with the option of access to the national railway network, as the Railway Act grants *VR Group Ltd*. exclusive rights for national freight and passenger transport.

Finland named an office at the Ministry of Transport as regulatory authority as defined in Directive 2001/14/EC. Pursuant to the Railway Act, the Ministry of Transport in its capacity as regulatory authority has the power to review all conditions and criteria of use for the railway network. The Ministry of Transport issues a separate regulation stipulating the charges for the use of infrastructure.

ACCESS Index

The responsible contact for market access and licence issue can easily be established. As a general rule, any information requested is supplied in writing within a few days. A wealth of information on market access, such as access regime, licence issue, approval of rolling stock, safety certificate and applications for train paths is available on the internet in English, Finnish and Swedish. The network statement can also be downloaded. Relevant information is also available from the RHK OSS office and from the Finnish Ministry of Transport. The staff at both these offices speak English and Swedish as well as Finnish.

There is a uniform train path pricing system for freight and passenger transport. The pricing system is published in the Finnish network statement. There are no provisions for the granting of discounts.

At present, there is no binding, uniform and transparent station and asset pricing system for all market participants.

COM Index

The modal split share of rail freight transport increased by 14 per cent between 1991 and 2001. For the rail passenger transport sector, the modal split share dropped by 10 per cent between 1991 and 2001. The incumbent is the only licensed railway undertaking in Finland. The state railway has a monopoly on the national market by law.

Conclusion

Finland has introduced processes for the licensing of future railway undertakings and has thus made many steps towards liberalisation of railway transport. However, VR Group Ltd. is still the only licensed national railway undertaking. According to the Ministry of Transport, the main arguments against opening up the Finnish rail market for more competition are as follows:

- the low attractiveness of the market owing to the different rail gauge,
- the pressure exerted by Russia if the railway network were to be opened up to RUs from other EU states, and
- the poor condition of the infrastructure (most rails have not been replaced for roughly 30 to 40 years).

6.7 France

As in 2002, France is allocated to the group, *delayed* on the basis of the overall results.

LEX Index

A department at the Ministry of Transport is named as regulatory authority as defined in Directive 2001/14/EC. TERFN has been implemented and in so far EU licences are recognised. However, there is as yet no market access for RUs with a national licence. The state-owned *Société Nationale de Chemins de Fer* (SNCF) is the sole provider of transport services. The infrastructure manager, *Réseau Ferré de France* (RFF), also state-owned, is separate from SNCF in terms of ownership rights. However, SNCF and RFF have signed a contract for services which specifies that SNCF is also responsible for infrastructure maintenance and plays a decisive role in the allocation of train paths.

ACCESS Index

The information barriers in France are relatively high. As a general rule, there are no responsible bodies available as contacts.

Europort 2 (Eurotunnel Fret, EF) was the first External RU to obtain a licence for freight transport alongside SNCF. This precedence case provides several insights into the de facto conditions of access to the French rail transport market, which cannot otherwise be validated by practical experience. The EF licence is valid only on the TERFN network sections and for international combined transports on the RFF network. The law does not prescribe any specific coverage sum for insurance, but negotiations on that issue are in progress between EF and the authorities. EF also had to provide a capital contribution of 1.5 million euros, whereas no fee was charged for issue of the licence. If EF fails to become operative on the RFF infrastructure within twelve months of licence issue, the licence is revoked. The required safety certificate and the corresponding approval of rolling stock have not yet been submitted. There are indications that the latter, in particular, causes problems in France. For example, it can take up to 1.5 years to obtain approval of rolling stock for an electric multiple-system locomotive, even although such a locomotive has already been approved and is in operation in other countries. Safety certificates and approval of rolling stock are valid only for a certain route. Moreover, measuring and test reports issued by neighbouring European countries are not recognised. There are no independent test bodies other than SNCF.

The train path pricing system published by RFF is relatively complex, has a two-tier structure and thus provides clear competitive advantages in favour of SNCF. The operational services are stated in the network statement of 11 July 2003. External RUs are not entitled to use SNCF maintenance facilities, and applications for fuel supply can only be submitted to SNCF according to the network statement.

COM Index

Between 1991 and 2001, the modal split share for rail freight transport lost more than 22 per cent, i.e. more than the European average of minus 20 per cent. Rail passenger transport lost 4.6 per cent during the same period. Apart from SNCF, there are no further RUs active in France.

Conclusion

By issuing the licence to *Europorte 2*, France undertook the very first step towards liberalisation. It has also notified the EU Commission that the Infrastructure Package has been transposed. Nonetheless, France is still one of the most thoroughly screened off rail transport markets in Europe.

6.8 Germany

On the basis of the overall results, Germany is allocated to the *on schedule* group, as in 2002.

LEX Index

Germany offers open access in the freight and long-distance passenger market to all RUs with a domestic licence. RUs have to provide freight and long-distance passenger transport on a commercial basis and in a competitive environment. As a general principle, open access is also possible in the short-distance passenger sector, although in practice the fare revenues do not cover the costs, so that no RU actually makes use of open access. The short-distance transport sector (regional transport) is therefore provided on the basis of transportation contracts between the RUs and orderer organisations at Federal Land level. These transportation contracts include funds to be provided by the state, known as orderers' fees, with which the state satisfies its public service obligations in this segment. The contracts are awarded on a competitive basis, either in discretionary procedures or – increasingly – after Europe-wide invitations to tender.

In addition to access rights pursuant to Directive 91/440/EEC, foreign RUs also have the right to open access on a reciprocity basis. Implementation of the already defined TERFN routes (*Trans European Rail Freight Network*) is in preparation.

Deutsche Bahn AG is a privatised railway company which is integrated under the umbrella of a holding. It is still wholly state owned, but provides transport and infrastructure services according to commercial criteria. The infrastructure (DB Netz AG and DB Station & Services AG) and transport divisions of DB AG are separate in terms of legal status, organisation and accounting. The Federal German government has expressed its desire and is currently investigating options for a material privatisation in the form of an IPO. Its decision is to be announced in 2005. It has not yet notified the EU Commission of full transposition of Directives 2001/12/EC to 2001/14/EC into national legislation. The specifications of the Infrastructure Package including functional independence will however be satisfied with the forthcoming re-enactment of the General Railway Act (AEG), which is expected to be implemented before the end of 2004.

The *Eisenbahn-Bundesamt* (EBA = Federal Railway Office) acts as the railway-specific regulatory authority. As such, the services of the EBA are also used by External RUs. On a European comparison, the EBA has the most comprehensive and farthest-reaching powers and responsibilities, which also include monitoring non-discriminatory access to infrastructure. The *Federal Cartel Office* has a deciding division which is responsible for the transport sector and which also monitors compliance with competition legislation in the rail markets.

ACCESS Index

The practical market access conditions to the German rail transport market are exemplary on a European comparison. Administrative and information barriers are very low in Germany, compared with other countries. Train path allocation is effected by *DB Netz AG* in accordance with uniform and transparent criteria for all RUs. There is a single-tier train path pricing system that is applied uniformly to all RUs. All information required for market access can be obtained easily. Clearly defined and competent contacts support the market access process. An OSS Manager is available as central contact for the RUs. DB AG also has a Competition Officer to whom External RUs can address any complaints directly.

External RUs without a registered office in Germany receive a licence for the use of railway infrastructure from the EBA, whereas domestic External RUs receive a licence at Federal Land level. This division of responsibilities resulting from the federal system is still regarded as a bureaucratic obstacle. In the same way as in Italy, for example, transport companies circumvent the approval process in Germany by purchasing interests in existing RUs. In Germany, the EBA still does not demand a separate safety certificate, contrary to EU requirements. This will change on full transposition of the Infrastruc-

ture Package, when the General Railway Act is re-enacted. Since the last survey in 2002, new suppliers of rolling stock, such as *Angeltrains* and the Siemens subsidiary *Dispolok*, have become established.

With regard to the approval of rolling stock, despite the high technical standards and detailed specifications of the requirements of the EBA as licensing body, Germany ranks amongst the leading group in Europe thanks to a well functioning market of independent test bodies and experts for vehicle technology, and thanks to the largely transparent processes. Test certificates issued by the EBA are also accepted in some other European countries.

Operational barriers such as conditions of access to infrastructure-related services are also comparatively low for External RUs. The relatively high number of private maintenance facilities shows that emergent competition not only takes place directly on rail.

COM Index

With more than 160 RUs – not counting construction companies, comparatively inactive and other RUs – the German rail transport market has the highest number of licensed and active companies alongside the incumbent anywhere in Europe.

The freight rail market has undergone particularly dynamic developments. In 2003, competitors of *Railion Germany AG* (formerly DB Cargo) succeeded in raising their transport volume by more than 50 per cent to a figure of 5.8 billion tonne-kilometres, booking a market share of 6.9 per cent. In the regular service freight train sector, these competitors achieved a market share of between 8 and 10 per cent. In the block train segment, railways with strong financial partners are particularly active. These include mainly spin-offs of international logistics groups or foreign state railways, such as *TX Logistik* which handles hinterland transport for the seaports of Hamburg and Bremerhaven as well as transporting new cars for BMW and VW, *rail4chem* which deals with inter-plant transport for *BASF* between Ludwigshafen, Schwarzheide and Antwerp, *Connex Cargo Logistics*, *Rhenus-Keolis* and *SBB Cargo*.

In the regional rail passenger market, there has been a steady increase in the market shares of External RUs since regionalisation (transfer of responsibility for services and expenses for regional transport to the Federal *Laender*) in the year 1996. In terms of train performance, their share amounted to 9.4 per cent in 2003. Regional passenger transport is characterised by competition for the market and relatively long contract terms. In 2003, approx. 2 per cent of the market was put out to tender for the first time and the relevant contracts awarded. The competitive award of transportation contracts to RUs generally does not lead to a wider quantitative range or to lower fares for the end customer. However, the quality of services has increased. Moreover, according to several RUs, savings have been achieved for the public purse in the form of orderers' fees.

The spectrum of competition in the award of regional transport services ranges from Europe-wide invitations to tender to price inquiries, through to discretionary award. Since 2002, three major lines have been put out to tender: the rapid transit services (*S-Bahn*) in the Rhine-Neckar region, the Hamburg-Westerland and Offenburg-Konstanz routes. The Federal *Laender* used their legally guaranteed scope for decision on the choice and configuration of contract award procedures. The greater part of services has to date been awarded directly. This benefits not only *DB Regio AG*, but also its competitors. To date, External RUs have obtained roughly 60 per cent of the services they provide in the form of direct contract award and, since 1998, have won more than half the tender procedures. It can be assumed that in the short-distance passenger sector, competition will increase in the form of tender procedures and price inquiries. The forecast for 2004, for example, predicts invitations to tender and price inquiries for a total volume of 32.2 million train-kilometres, which corresponds to a revenue volume of approx. 3 billion euros.

In the long-distance passenger sector, competition has only evolved to a low extent. This is because funding is exclusively from ticket revenues, and because of the high capital costs, in particular for rolling stock. After just a few months, Connex discontinued a interregional train between Neuss and Rostock (*InterConnex*) in October 2003. Since then, there have been two regular services run by Connex (Gera-Berlin-Rostock and Cottbus-Berlin-Stralsund) and one night train service operated by Georg Verkehrsorganisation in cooperation with Swedish SJ, in addition to the DB AG products in the long-distance passenger sector. There are also a large number of seasonal and charter services offered by private companies in the non-subsidised long-distance passenger sector.

Conclusion

Germany ranks among the leading European group in terms of liberalisation of its railway infrastructure. The relatively well structured, transparent and objective access conditions, and not least the attractive market have brought competitors from all market segments. As was already the case in 2002, companies from other countries are thronging onto the German market, although in some cases German RUs are not being granted even remotely comparable access conditions in these countries. On consideration only of the quantifiable barriers to network access and the attractiveness of the market, it has to be assumed that DB AG will continue to cede market shares to External RUs in the coming years.

6.9 Great Britain

Based on the overall results, Great Britain is allocated as 2002 to the group *on schedule*.

LEX Index

The Railways Act of 1993 (since amended by the Transport Act 2000) provides the statutory basis upon which Great Britain's railway system was privatised in 1996. *British Rail*, the integrated national railway provider, was split into over 100 companies. There is no national incumbent train operator in Great Britain, only separate private passenger and freight operators. Railway matters in Northern Ireland are devolved to the Department for Regional Development in Belfast.

Full separation of train operations and infrastructure management was followed by the creation of 25 *Train Operating Companies* (TOCs) and 4 *Freight Operating Companies* (FOCs). *Railtrack* was created as infrastructure manager, and an independent economic regulator - the *Office of the Rail Regulator* (ORR) - was established. *Railtrack* was responsible for the maintenance, renewal and ongoing development of the rail network. In autumn 2001 *Railtrack* was placed into Railway Administration by the then Secretary of State for Transport. Following a period of administration, *Network Rail* was established and took over *Railtrack's* responsibilities on October 3, 2002.

Network Rail is owned by its members but run by a PLC-style board. The membership group is drawn from a wide range of industry partners and interested parties, including members of the public. Members have clearly defined and limited powers; they do not run the company. However, the board is directly accountable to *Network Rail's* members who oversee the conduct of the business. *Network Rail* receives part of its income in the form of grants issued by the SRA and the other part is through the track access charges paid by the TOCs and FOCs for the train paths provided.

As stated above, there is no national incumbent in Great Britain: the structure of the Railway consists of *Network Rail* (the infrastructure provider), *Passenger Train Operating Companies* (TOCs), *Freight Train Operating Companies* (FOCs), *Maintenance Contractors* and *Renewal Contractors*. The Government departments involved are the *Treasury* (the Finance Ministry) and the *Department for Transport*, which is the government body that oversees the railway industry. In addition, there are three statutory public bodies that oversee the railway: the *Strategic Rail Authority* (SRA), the *Office of the Rail Regulator* (ORR) and the *Health and Safety Executive* (HSE).

The Regulator published model clauses for passenger contracts in June 2003; in March 2004 he published the corresponding documents for freight contracts. These new models intend to provide a stronger, simpler contractual basis for the relationship between the franchisees and Network Rail. Track access contracts for 19 of the 25 franchisees expire(d) in 2003 or 2004 and the new model will be the basis for their replacement contracts.

ACCESS Index

The ORR acts as a *one stop shop* for licencing issues: details regarding access can be found in Network Rail's Network Statement. ORR's website acts as a gateway to all relevant information, documentation and contacts concerning rail access in Great Britain. In order to obtain the appropriate safety certification or clearance, licence applicants must contact the HSE, which oversees rail safety. There are also consumer protection conditions within the licences, which are the responsibility of the SRA. The Rail Regulator will not grant a licence unless the SRA is content with the applicant's consumer protection arrangements and the HSE is content with the safety of the operations. The ORR provides contact details for both the HSE and SRA to applicants if they do not already hold them.

The SRA awards passenger franchises on the basis of competitive tenders. The resulting franchise contracts are obligatory to operate most rail passenger services in Great Britain. Next to these core services, there is room for open access operations, which are however restricted by the Contractual Moderation of Competition mechanism (MoC) which provides passenger train operators with the right to be protected from on-rail competition on the flows they serve. MoC protection was devised principally because of a concern at the time of railway privatisation that unrestricted inter-operator competition would be perceived as a major risk by bidders for passenger franchises. According to the “Franchising Policy Statement 2002” from the SRA, the franchising policy for rail passenger transport is undergoing change. The key areas of change are the operating obligation, service reliability, passenger journey quality, cost risk, revenue risk, duration of franchise agreements, variation mechanisms, incentives for long term improvement, remedies and investor issues. The term of a franchise contract will generally be between 5 to 8 years under the new policy. There is also scope for open access passenger services subject to the approval of ORR.

There are five types of licence: passenger train, non-passenger train, station, network and light maintenance depot. The non-passenger train operator’s licence gives permission to operate several types of vehicle and includes freight trains being used to transport goods. Licences granted by the *Rail Regulator* are not restricted in geographical scope; they grant permission to operate a class of railway asset in Great Britain. Licences may be revoked for non-use if licenced activities have not begun one year after the date the licence came into effect, and if licenced activities have ceased for any continuous period of at least one year. Licences can also be revoked in the event of a breach and by mutual agreement.

Licence applications usually have a fixed fee of £ 250. An applicant may apply for one, all or a combination of the types of licences at the same time using the same application form and under one application fee. No further fee is payable unless a licence is granted and thereafter the licence holder pays an annual licence fee. The ORR’s minimum timescale for processing licence applications is 16 weeks from the date of submission of a complete application including all of the required supporting information. The achievability of this timescale is highly dependent on the applicant providing all the required information in a timely manner to the ORR and to the SRA and the HSE.

All licences, unless the Secretary of State for Transport gives permission to the contrary, must include a condition requiring the licence holder to maintain third party liability insurance. The SRA approves the terms of the insurance including the level of insurance that a licence holder must maintain. The current level of insurance cover required is £155 million in respect of all liabilities.

The safety certification regime is based on Safety Cases which are accepted by the HSE. The HSE is independent of train operating companies. The degree of detail required in a safety case is high in comparison to other European countries. The current hourly charge for assessment and acceptance of a safety case is approximately 100 euros. Safety certificates from other countries are not valid in Great Britain.

The track access charges payable by franchised passenger train operators to Network Rail are structured as follows:

- a. variable track usage charge;
- b. variable traction electricity charge;
- c. variable capacity charge; and
- d. fixed charge.

The variable usage charge is defined in pence per vehicle mile. The usage rates take account not only of distance but also of the characteristics (such as average speed and weight) of the vehicle being used, because these characteristics influence the level of wear and tear on the network and ultimately the maintenance and renewals costs to Network Rail. The

electricity for traction charge is in pence per electrified vehicle mile. The capacity charge is defined in pence per train mile and is set at an average rate per service group.

While the variable charges are designed to be reflective of the incremental cost of running an additional service, the fixed charge is paid regardless of the number of miles run by an operator (although the proportion of the aggregate fixed charge allocated to an individual operator is related to the proportion of total vehicle miles run by that operator).

The level of franchised passenger operators' track access charges was determined by the Rail Regulator's 2003 access charges review. The details can be found in the "Access Charges Review: final conclusions" document published on the ORR website.

The structure of track access charges for open access passenger and freight operators is broadly the same as for passenger operators with the following differences:

- a. for freight operators, the usage charge and electricity for traction charge is payable per gross tonne mile, which is reflective of distance, vehicle tonnage and suspension type;
- b. the capacity charge for freight operators is based on 'contract miles', which is effectively train miles;
- c. freight operators only pay variable charges for the existing network as of the 2001 review, while the fixed element is funded by the government; and
- d. open access operators only pay the variable charges.

The level of freight usage charges was determined by the 2001 review of freight charging policy: details are on the ORR website.

As well as track access charges, all train operators are required to pay access charges for the use of stations and light maintenance depots. The level of these charges, by station, to cover the cost of maintenance and renewal incurred by Network Rail, was determined at the time of the 2000 access charges review. These total charges, by station, are then proportionately split amongst all operators using the station.

Station access charges are calculated as a proportion of a "long term charge", which is the main component of the rent station facility owners pay to Network Rail in return for leasing a station. Users (train operators) of the station pay a contribution towards the long-term charge, based on the number of their vehicles that call at the station. Long-term charges are set by the Regulator as part of his access charges review (see "The Periodic Review of Railtrack's Access Charges: Final Conclusions" Volume 1, chapter 13, & Volume 2, Appendix T on the ORR website). The price system for the provision of train maintenance services is not a tariff structure. Charges are negotiated bilaterally between the parties, and are set out according to template schedules to depot access agreements that require individual elements of the charge to be itemized. However, charges for light maintenance services, as with all other access agreements, are subject to the approval of the Rail Regulator.

Passenger train operators also have a restrictions of use regime in their track access agreement that compensates the operator when Network Rail takes possession of the network to carry out engineering works. If a possession causes the cancellation of a train then a payment will be required under this regime. The level of this payment is unique to individual train operators and is related to the notification of the possession because early notification leads to a discount in the compensation payable.

A performance regime is included in every track access agreement. The regime provides financial incentives on both the infrastructure manager and the railway undertaking, and it draws on information on the causes of delay and cancellations already captured for the process of performance management and improvement.

COM Index

All rail transport services in Great Britain are provided by private companies. Passenger transport services are run by 28 train operating companies (TOCs), of which 25 operate under franchises awarded by the SRA. Companies that do not operate under franchise agreements are Eurostar, Heathrow Express and Hull Trains Ltd. Seven TOCs offer long-distance passenger transport, ten TOCs provide regional transport and ten TOCs operate in the Greater London area and South East.

In some cases the SRA was forced to renegotiate franchises to recognise the growing cost base of the railways or some changes in external circumstances. In 2002 for instance the SRA agreed new franchise payments for the South Eastern franchise run by Connex. Weaknesses in the financial management of the company led the SRA to give notice of pre-mature termination.

There are currently four companies in Great Britain providing rail freight transport. The two largest freight companies are *English Welsh & Scottish Railway (EWS)* and *Freightliner Limited*.

According to the SRA's National Rail Trends, total passenger kilometres have increased 2.8 per cent between Q3 2002-03 and Q3 2003-04. While long-distance travel has had no change in comparison with the preceding year regional operators had an increase of 9.6 per cent.

There is a widespread view in Great Britain, that the way the railway reforms were carried out was mistaken. Owing to insufficient investment in the British railway infrastructure, especially under the separate provider Railtrack, there is a vast increase in state aid for infrastructure maintenance and renewal. In July 2000, the Government announced that it would double railway investment over a 5 year period. Total investment in the four years to 2006 would be almost three times the investment at the time of privatisation. The recent Regulatory Review published in December 2003 confirms that the cost of upkeep of Britain's railways is £1.5 bn a year more than was thought necessary just 3 years earlier.

Conclusion

Great Britain pioneered one of the most radical versions of liberalisation. Since its adoption, the British approach has been reviewed (Transport Act 2000) and is currently undergoing further review. While safety has improved since privatisation - and the overall number of train incidents has fallen - there has been discontent as a result of a couple of high-profile accidents in recent years. At the same time, the costs increased and the performance of the railway system declined against a significant increase in traffic. Due to various perceived co-ordination problems in the complex structure, the government has therefore announced another review of the railway system to be reported in summer 2004. The review is expected to redefine the role of regulatory agencies and to complement several changes already put in place. For example, the maintenance contractors that were privatised in 1996 are now being taken into Network Rail. By summer 2004 all maintenance contractors will be part of Network Rail. Another trend is to reduce the number of franchise operators in Great Britain. One should also realize that the policy for franchising has been modified based on experience gained as a result of the former franchise policy. These changes are being currently implemented into the issue of new-style franchise agreements.

6.10 Greece

As in 2002, Greece is allocated to the group *pending departure* on the basis of the overall results.

The Greek railway is currently undergoing a reform and modernisation process, as legislation is being adapted in line with the EU directives this year and the new laws are to be adopted by parliament before the end of 2004. Greece will then no longer exercise the previously granted exemption rights in respect of transposition of the first Railway Package. The infrastructure of the Greek railway is currently also being modernised. New tracks are being constructed (e.g. a new rail corridor in Western Greece), some route sections modernised (e.g. a 36 km long section between Athens and Thessaloniki) and new rolling stock purchased.

LEX Index

In Greece, infrastructure management and the provision of transport services have not yet been separated, and both are currently handled by the state-owned railway OSE. The new legislation, however, is expected to include the separation of infrastructure and transport. There are also plans to establish a regulatory authority under the umbrella of the Ministry of Transport.

ACCESS Index

At present it is relatively difficult to research information on network access. The websites of the Greek state railway OSE and the Greek Ministry of Transport are only available in Greek. An English translation of the Greek network statement is to be published in summer 2004 to improve the provision of information.

At present, all decisions relating to licensing, safety certificates etc. are made by the Greek Ministry of Transport or by OSE, the current infrastructure manager. The new legislation will envisage the establishment of appropriate institutions for these tasks.

COM Index

At present, there is no competition in the Greek rail market. The market is dominated by OSE, the state-owned railway. In mid-2004, two new RUs – *Proastiakos* (subsidiary of OSE) and *AmeI* – are scheduled to go into operation. They will offer local transport services (e.g. the new route between Athens and the international airport) and are a first sign of the structural changes in the Greek rail market.

Conclusion

The Greek railway is currently undergoing a process of change. The legislative procedure for transposition of the first Railway Package is still in process and is not expected to be completed until the end of 2004. The anticipated licensing of two new RUs, one of which is however a subsidiary of OSE, in July 2004 will mean a first step towards rail reform for Greece.

6.11 Hungary

On the basis of the overall results for 2004, Hungary is allocated to the group *delayed*.

LEX Index

The Act 1993/XCV on Railways (modified by Act 2001/CIX) constitutes the legal basis for the rail market in Hungary. This act defines an integrated railway undertaking (that is passenger and freight transport and infrastructure management) as a "railway company".

There is accounting separation of the infrastructure and transportation departments of the *Incumbent Magyar Államvasutak Részvénytársaságot* (MÁV). Additionally, MÁV keeps separate accounts for its freight and passenger transport which is in line with Directive 2001/12/EC. This was accomplished in 2002 at the level of separate balance sheets and profit and loss statements. In 2003, MÁV started to publish separate balance sheets for all of its five divisions (infrastructure, freight, passenger, rolling stock, other).

According to the Hungarian Transport Ministry, market entry of foreign RUs is regulated on rules similar to *Open Access* based on reciprocity and *Open Access* for international groupings. TERFN routes are defined by the Agreement on Hungary's Accession to the European Union. The Decree of the Minister on opening of TERFN routes is not due to be published until 1st May 2004. According to the Hungarian Transport Ministry, national freight RUs have *Open Access* to the Hungarian market. The passenger market is partially closed and partially accessible through transport contracts.

A regulatory authority exists, but the full definition of its responsibility is still under preparation. The modification of Act 1993/XCV is due to be adopted by 1st May 2004 and will form the legal basis for establishing an Appeal Body within the General Inspectorate for Transport.

ACCESS Index

Licenses are issued by the Central Inspectorate for Transport, which is defined as a "regional body of the General Inspectorate for Transport", the nationwide Transport Authority under the guidance of the Minister of Transport who appoints its Director General. The regulation on safety certification is currently under preparation and is due to be in force by 1st May 2004.

Győr-Sopron-Ebenfurti Vasút Részvénytársaság (GySEV), Hungary's second RU, is a member of RailNetEurope. MÁV as well as GySEV have not yet published a network statement.

COM Index

At the moment there is a MÁV – GySEV duopoly in Hungary. Still no other RUs are licenced for railway operations in Hungary. GySEV is a state owned company as well, 61 per cent of its shares belong to the Hungarian State and 33.3 per cent to the Austria State. It mainly operates between Ebenfurt (in Austria) and Győr (in Hungary) and has its own railway infrastructure. It offers both passenger and freight transport. However, its main activity is cross-border freight transport.

An interesting feature of the market is the large share of passenger transport. In recent years, the passenger market has not declined in absolute terms as it can be observed in other CEE countries. The reasons are:

- Maintaining of many unprofitable railway routes in rural areas
- Extensive system of passenger discounts. Recently about 85 per cent of all passengers have not paid the full fare.

These factors are very attractive for passengers, but very disadvantageous for MÁV and GySEV.

Conclusion

In the Hungarian railway market competition has not yet started. It is dominated by two RUs, which offer freight and passenger transport on their own network. However, Hungary has started to implement several EU directives.

6.12 Ireland

Based on the overall results, Ireland is allocated as 2002 to the group *pending departure*.

LEX Index

While Ireland has prepared the legal framework to comply with Directives 2001/12/EC, 2001/13/EC and 2001/14/EC actual transposition of these directives have not yet taken place. The EU granted Ireland special permission to delay its implementation of several elements of the first railway package for a period of five years starting on 15 March 2003. Therefore, they are not required to have full implementation until 2008.

The Incumbent *Iarnrod Eireann* is a subsidiary of the state-owned statutory corporation *Coras Iompair Eireann* (CIE). *Iarnrod Eireann* is partially funded by a government subsidy. It receives its instructions and guidelines from CIE and the Department of Transport concerning strategic decisions related to public transport. *Iarnrod Eireann* owns and operates the state infrastructure but separate accounts are maintained for infrastructure management and operations in compliance with Directive 91/440/EEC. Regulatory tasks are currently being handled by the Department of Transport.

ACCESS Index

Processes in accordance with Directives 2001/13/EC and 2001/14/EC have not yet been implemented. The special characteristics of Ireland (island location, small network and technical circumstances) and the exemptions granted by the EU in respect of the periods for implementation of the first railway package account for the lack of processes regarding access for new railway undertakings. According to the Department of Transport, it is theoretically possible to establish a new railway undertaking in Ireland, but to date there have been no requests. Thus for pragmatic reasons, Ireland has not created the legal framework and administrations that would be necessary to support a liberalized market.

COM Index

Iarnrod Eireann holds still the monopoly in Ireland. The length of the rail network is 1,947 kilometres. According to the incumbent there have been no changes of the market situation since the publication of the LIB Index 2002. The modal split share of passenger and freight traffic has fallen drastically in the past decade (freight minus 47 per cent and passenger minus 35 per cent).

Conclusion

Due to the above-mentioned special characteristics of the Irish rail market and the fact no external railway undertakings have shown interest in the Irish market, *Iarnrod Eireann* still has a monopoly on the Irish railway market. The reality of the situation pertaining to the rail market has been acknowledged by Parliament and the EU Council in the derogations granted to Ireland regarding the implementation of the first railway package. It should be noted that Ireland is in the process of transposing the requirements, in particular the Directive 2001/14/EC.

6.13 Italy

On the basis of the overall results, Italy has now been allocated for the first time to the group *on schedule*. Italy has thus improved its position compared with the LIB Index 2002.

LEX Index

With *Decreto Legislativo* No. 188 of 8 July 2003, which came into force on 23 October 2003, Italy has undertaken a further legislative step towards implementing the EU specifications. There are legal provisions to safeguard the independence of the infrastructure manager *Rete Ferroviaria Italiana* (RFI) from the transport provider *Trenitalia*. However, both companies belong to the holding *Ferrovie dello Stato* (FS). Italy has also notified the EU Commission that the first Infrastructure Package has been transposed.

Pursuant to the principle of open access, foreign freight operating companies with registered office in the EU have market access to the entire national network for international freight transport, thus satisfying the EU requirements regarding TERFN. The open access regime also applies to all foreign TOCs with EU licence which operate international passenger transports, and for international groupings pursuant to Directive 91/440/EEC as amended in 2001/12/EC (cf. Art. 16, *Decreto Legislativo* No. 188). For national transport, however the reciprocity principle applies (Art. 2 *Decreto Legislativo* No. 188). The same applies to the establishment of an RU in Italy with network access options. Italian RUs enjoy legally guaranteed open access in long-distance passenger and freight transport. Short-distance passenger transport is organised solely in the form of public tenders for exclusive contracts, which include regional subsidies and, pursuant to *Decreto 422*, are the responsibility of the *regioni* (regional authorities).

An office at the Ministry of Transport is named as regulatory body as defined in Art. 30 of Directive 2001/14/EC, which will shortly be given the official name *Ufficio Regolamentazione del Servizio Ferroviario* (ORSF) pursuant to the *Decreto del Presidente della Repubblica* and is to be vested with further powers. At present, the personnel resources of this authority are limited to one person and according to RFI, it neither has the authority to impose fines nor to initiate investigations into charging principles.

ACCESS Index

The current *Prospettivo Informativo Rete* (PIR), the Italian network statement can only be downloaded from the internet in Italian at the moment. However, some of the relevant contacts at the Ministry of Transport and at *CESIFER* (see below) speak English. There are no leaflets which could serve as guidelines for joining the market. A knowledge of Italian is essential to overcome the administrative barriers.

The licence, which is valid for the entire network, is issued by the Ministry of Transport. The authority is obliged to notify the RUs of its decision within three months and in case of a negative decision, to state its reasons. Licences which have been issued in the EU and in Switzerland are approved for international transport without any long processing periods. The conversion of an EU licence issued pursuant to Directive 95/18/EC into a national licence takes approx. two months (application of the reciprocity principle). If an RU fails to commence operation within six months of licence issue, the licence is revoked. Licensing fees amount to approx. 3,000 euros.

Safety certificates and approval of rolling stock are issued by *CESIFER*. *CESIFER*, which has approx. 18 employees, can be regarded as the bureaucratic interface between the relevant departments at the incumbent FS and the applicant. Tests and expert opinions for the safety certificate and for the approval of rolling stock are conducted by FS itself, which has a national monopoly in respect of the technical testing locations.

In comparison with other countries, obtaining the safety certificate is both time-consuming and expensive, as appropriate personnel has to be assigned by the RUs. The fees for the safety certificate alone amount to a minimum of 31,000 euros. Established RUs, such as SBB, obtained their safety certificate after approx. nine months, whereas smaller RUs have to wait up to two years. In order to obtain the safety certificate, each RU has to provide, for example, instructors for the necessary vocational groups, such as train drivers, at its own company. A potential explanation for this regulation could be the difficulty in recruiting skilled personnel. This problem appears to affect not only the new RUs, but also *Trenitalia*. During the first quarter of 2004, the company placed advertisements of vacancies in Swiss daily newspapers in an attempt to recruit skilled personnel.

Some test certificates from other European countries (e.g. TÜV Süd, Germany) are accepted for the approval of rolling stock. The degree of detail of the technical specifications for approval is relatively high and parts of the overall process are regarded as illogical by both manufacturers and RUs.

An assessment of the structure and level of train path prices puts Italy in the middle bracket in Europe. Access to the necessary service facilities is rated as above average, although few empirical values are available. A target of criticism is that although refuelling is handled by RFI, the facilities belong to *Trenitalia*.

External RUs currently have no access to the *Espressi Notturmi* (Intercity overnight connections) and a service contract with subsidies grants *Trenitalia* exclusive rights to this non-profitable service for roughly another two years. In the short-distance passenger sector, no tenders have been conducted to date, but this is to change in the course of this year with invitations to tender in Venetia (RFI network), in Lombardy (private network of *Ferrovie Nord* and thus not a network of the former state railway) and in Liguria (RFI network). The national rail freight transport and long-distance rail passenger transport markets are open to national RUs in the scope of open access procedures.

COM Index

The share of rail freight transport in the modal split dropped by almost 14 per cent in Italy between 1991 and 2001. During the same period, the share of rail passenger transport fell by almost 15 per cent. In addition to FS, there are currently 33 RUs in Italy which have a licence and a safety certificate and are licensed for the national market. Since the new timetable came into force (14 December 2003) twelve of these 33 have been active on the RFI network. The remaining RUs offer transport services on their own networks or are not operationally active.

The regionally operating RUs which offer services on their own networks are not the results of the market opening, but already existed prior to 2001. Examples are *Ferrovie Nord*, *Ferrovie Centrali Umbra* and *Strade Ferrate del Mediterraneo*. The fact that all of those RUs which had only a licence in 2002 also received the safety certificate in December 2003 (2002: 27 licences without safety certificates, 2004: 33 licences with safety certificates) can be attributed to the market opening process.

Since External RUs began to offer services on the RFI network on 10 June 2001, there has been only a marginal increase in competition for FS. In the freight transport sector, the market share amounted to approx. 2 per cent of the tonne kilometres carried last year. In long-distance passenger transport, that share is null per cent and in regional passenger transport, the companies described above accounted for approx. 1 per cent of the pkm volume.

Conclusion

The greatest entry barriers are still the safety certificate, the approval of rolling stock, the lack of locally available qualified personnel and an understaffed regulatory authority for a market which is in the process of opening up. For foreign companies, purchasing interests in the 33 local RUs could prove to be a more direct and less expensive route onto the Italian network. In 2004, SBB is the first and only foreign RU to generate business in Italy with its Italian subsidiary *SBB Cargo Italy*. The Swiss railway company presumably had fewer reservations than other RUs about this venture owing to the language skills of the SBB staff.

6.14 Latvia

On the basis of the overall results for 2004, Latvia is allocated to the group *delayed*.

LEX Index

The *Restructuring Action Programme for 2000-2003* is the basis for the restructuring of the incumbent railway company *Latvijas dzelzceļš* (LDz). The aim is to establish a holding company that controls the shares of about 13 subsidiary enterprises and functions as the manager of railway infrastructure. The subsidiaries include companies for passenger and freight transport as well as rolling stock and traction repair companies. Currently LDz is completely owned by the state, privatisation will be considered at a later date.

An open access regime applies to national RUs for freight transport. No TERFN has been implemented to date in Latvia.

The regulation of the rail market in Latvia is complicated in comparison to other EU countries, as several regulatory bodies exist. The *State Railway Administration* is responsible for freight transport licensing. Railway safety falls within the competence of the *State Railway Inspectorate*. Both are under supervision of the Ministry of Transport and Communication and have been working independently since 1999. The *Public Utilities Commission* (under the supervision of the Ministry of Economy) assumes the tasks of passenger transport licensing and regulates prices for infrastructure usage. The current infrastructure manager LDz is responsible for track access.

ACCESS Index

In both freight and passenger transport, licences are issued for the entire network within 30 days. The licence is valid for 5 years and does not need to be verified within this time. The issue of a safety certificate takes up to 30 days and the degree of detail regarding the requirements is relatively high. The safety certificate is free of charge and is only valid on appointed routes for a maximum of two years.

Train path applications must be submitted at least six months prior to the new annual schedule. Periodic allocation of train paths is possible. No fines are imposed for cancellation of previously ordered train paths. Most of the necessary services are accessible to RUs and are provided by the infrastructure manager LDz.

COM Index

The railway network of Latvia has a length of 2.270 km and is the densest of all Baltic countries. The Trans European East-West railway corridor (CIS–Latvia–Western Europe) crosses the country and the reopening of the railway traffic on the route Via Baltica (Tallinn-Riga-Kaunas-Warsaw) is also planned. Latvia has some importance as a transit country for freight transport as almost 84 per cent of the rail cargo volume is transit. The number of rail passengers has dropped significantly in the past ten years. Passenger transport is mostly domestic travel.

At the moment, five new RUs have a licence for the Latvian railway network (excluding narrow gauge and former incumbent subsidiaries) of which two operate actively and are specialized in freight transport. Currently these two new entrants have a market share of only 2 or 3 per cent. Passenger transport is still monopolized by the incumbent LDz.

Conclusion

Latvia has already harmonised parts of its railway legislation with EU directives. However, the process of restructuring the railway sector has not yet been completed. Above all, the split of the competences on the issue of licences and safety certificates can be considered an obstacle for external RUs that enter the Latvian rail market. However, there are first signs for competition in Latvian rail freight transport. There are now two new RUs active in this market segment.

6.15 Lithuania

On the basis of its overall results, Lithuania is allocated to the group *pending departure*.

LEX Index

Lietuvos Geležinkeliai (LG), the Lithuanian state railway, is run as a private-law enterprise and has its own accounting. Infrastructure and transport in Lithuania are integrated under the umbrella of LG, but only accounting has as yet been separated for these two sectors. In the course of amending Lithuanian legislation to the requirements of Directive 2001/12/EC, there will in future be a stronger separation of infrastructure and transport and, according to the Ministry of Transport, further opening up of the Lithuanian rail market will be encouraged on transposition of the first Railway Package. Preparations are currently under way for legislation which will govern the market opening. In 2002, for instance, Lithuania established the State Railway Inspectorate (SRI) which handles the functions of a regulatory authority and is responsible to the Ministry of Transport. Further laws for the regulation of Lithuanian railway transport are currently being discussed, but will not be adopted until Lithuania accedes to the EU.

ACCESS Index

The SRI is responsible for issuing licences, safety certificates and for resolving conflicts between infrastructure managers and RUs. In principle, Lithuania grants both domestic and foreign RUs free and non-discriminatory access to its railway infrastructure. Legislation for the issue of licences and safety certificates and on train path access and the train path pricing system is currently being reformed.

COM Index

The importance of the railway is declining, both in the passenger and freight transport sectors. Although the transport of goods on rail has increased over the past few years, according to information supplied by the Lithuanian Ministry of Transport, the share of freight transport on rail compared with other transport modes fell by more than 30 per cent between 1994 and 2002. During that same period, passenger transport on rail also lost ground to other transport modes to the same extent. At present, there is no competition in the Lithuanian rail market. LG has a de-facto monopoly for both the freight and passenger transport sectors. Four more RUs currently have a licence for the Lithuanian network, but do not make use of it.

Conclusion

The Lithuanian railway is currently undergoing a development process in connection with accession to the EU. At the moment, there is no competition on rail in Lithuania and the share of rail passenger transport has lost substantial ground to its intermodal competitor, road transport, as is the case in many Central and Eastern European Countries (CEEC). It cannot yet be foreseen to what extent transposition of the EU directives will promote on-rail competition and the railway's competitiveness compared with other transport modes. Some initial tendencies could become apparent by the end of 2004.

6.16 Luxembourg

On the basis of its overall results, Luxembourg is allocated to the group *delayed*. Luxembourg has thus improved its position compared with the LIB Index 2002.

LEX Index

Chemins de Fer Luxembourgeois (CFL) is responsible for the national transport and infrastructure services. At present, these two sectors are separated only in terms of accounting. The freight and passenger transport segments have separate balance sheets under the umbrella of CFL. Luxembourg has notified the EU Commission that the first Railway Infrastructure Package has been transposed.

Market access for foreign RUs without a national licence is governed on a reciprocity basis as an open access procedure. TERFN has been fully implemented, although there are capacity bottlenecks. Domestic RUs (there are none at present) would also have open access to the network.

Non-discriminatory network access is governed by the *Ministère de Transport* (MdT), the Ministry of Transport, which has comprehensive powers, although it is not authorised to impose fines.

ACCESS Index

Official CFL departments, such as the OSS, show little inclination to cooperate when it comes to answering essential questions relating to network access. It must again be repeated here (cf. attached questionnaire) that this refers to information which should be freely available to the general public and interested RUs. A reluctance to provide personal information can also be observed in France and Belgium. The impersonal provision of information, on the other hand, is ensured via the *Document de Référence du Réseau* (DRR), the official terms and conditions of network access, which comply with the RNE Standard and with Directive 2001/14/EC (Art. 3, Annex 1).

Licences and safety certificates (fees: 4,000 euros each) are issued by the MdT. Owing to the fact that there is only one RU, there are no empirical values available for contract award processes. Licences from EU Member States are recognised without any problems (submission of a certified copy). No statements could be obtained on the term of validity of the licence. The safety certificate is issued for a period of five years.

The MdT is also responsible for the approval of rolling stock. Measuring and test reports from other European countries are also recognised by and large. On a European comparison, the degree of detail required in the technical specifications is very low, and there are independent test bodies such as *Luxcontrol*. Once all the relevant documents have been supplied to the independent authorities, the licence is granted within approx. two weeks. The entire licensing process takes approx. three months. The total costs of initial series approval amount to approx. 300,000 euros. The approval of rolling stock is handled fairly and objectively (according to type, the data specified here serve as an example for an electric multiple-system locomotive for freight transport).

There are standard contracts, as specified by RNE, which govern the relations between the future RUs and the infrastructure manager CFL. Framework agreements pursuant to Directive 2001/14/EC are not possible at present. The lead time for allocation of a regular train path is twelve months and there are also provisions for train path allocation in the course of a current year.

The train path pricing system is complex, is multiple-tier and includes discounts for early bookings. There are provisions governing train path cancellation charges. Only the administrative fees are charged for cancellations 30 days prior to circulation.

COM Index

The modal split share of rail freight transport lost more than 34 per cent between 1991 and 2001. The rail passenger transport share, on the other hand, gained more than 25 per cent. In addition to the incumbent CFL, there is to date no other licensed RU in Luxembourg.

Conclusion

Luxembourg has satisfied certain minimum requirements. Nevertheless, the Luxembourg rail market is regarded by External RUs as practically closed and firmly under the control of the state railway CFL. In 2003, open access applied in only between zero and 1 per cent of the freight transport market capacity, while the passenger transport market was practically inaccessible for competitors, despite statutory open access regulations.

6.17 Netherlands

Based on the overall results, the Netherlands is allocated to the group on schedule.

LEX Index

The railway undertakings in the Netherlands are formally independent from the state. The incumbent *Nederlandse Spoorwegen* (NS) has complete institutional division including legal separation of proprietorship from the infrastructure provider ProRail. Both firms are publicly owned beneath the Ministry of Transport. The former national rail freight transport company is now part of the Stinnes/Railion group.

Foreign freight RUs are granted access and transit rights for international freight services. The TERFN is defined and open, also other parts of the network are open for international freight RUs. However, a new regulation regarding capacity for freight in case of conflict can jeopardize growth of freight. The access and transit rights for foreign passenger services are in compliance with Directive 91/440/EEC. In order to offer domestic passenger and freight services (cabotage), it is necessary to obtain a national licence.

A regulatory body in accordance with Directive 2001/14/EC has not yet been put in force in the Netherlands. Once the Dutch Railway Act will be implemented, the regulatory body in the Netherlands will be the Office for Transport Regulation of the Dutch Competition Authority (NMA). However, in conformity with Directive 2001/14/EC the infrastructure manager, ProRail, will first try to find a solution with the RUs in case of a conflict. Only when no resolution can be found and the infrastructure is declared to be congested the NMA can eventually be called in.

ACCESS Index

Identification of the contact persons for licensing, access regime, approval of rolling stock, safety certification and train path allocation is comparatively difficult in the Netherlands because the data available on the internet is mainly in Dutch. One very helpful first contact is the infrastructure provider ProRail via its OSS manager. However, according to private RUs the OSS does not yet operate successfully with regard to obtaining market attractiveness through timetables.

The Ministry of Transport (through ProRail) is currently the independent licensing authority in the Netherlands. The legal specification of time required to issue a licence after the submission of the completed application documents is two months. The scope of validity for a licence depends on the application. One can apply for either a passenger or freight licence or both and the licence can either be valid for a part of the network or the entire network depending on the scope of the application. Licences from other EU countries are valid for international traffic. There is no paid up capital required for the issue of a licence.

The Railway Safety Inspectorate (Inspectie Verkeer en Waterstaat, IVW) issues safety certificates. The issue of a safety certificate takes three months, and, like a licence, its scope of validity depends on the application. The degree of detail regarding the requirements for a safety certificate is relatively high. There are no fees for the issuance of a certificate and it is valid for a maximum of three years. The decisions and examination criteria for the process of granting a certificate is published in Dutch.

The IVW is the first contact point for a rail undertaking seeking the approval of rolling stock. In the Netherlands there are independent examining places for engines and traction (e.g. Kema and Luxcontrol). The test reports must be presented to the IVW. The IVW then decides on the approval and whether any further steps (technical modifications etc.) are required. There are no charges for the approval of rolling stock at present.

COM Index

In 2003, 15 railway undertakings, 18 including the incumbent and its subsidiaries, held valid licences and were active on the network. While the market for rail freight transport is liberalised and six private operators are active on it, the passenger market remains dominated by the incumbent. NS is currently negotiating a 10-year contract with the government for a monopoly of the passenger rail services on the main network.

Conclusion

While many procedures have been established, the first Railway Package has not yet been completely implemented according to the respective authorities interviewed. The fact that the incumbent is negotiating for exclusive rights of passenger transport services shows that this segment of railway transport is in the danger of remaining monopolised. The degree of liberalisation, which is still relatively high, is likely to be negatively affected by these developments in the future. Furthermore, the Dutch pragmatism regarding administrative barriers will probably be replaced by more regulation, i.e. increasing transparency and extra barriers at the same time.

The main concern in this respect is the fair allocation of infrastructure paths for freight transport. This is highlighted by the fact that concessions for the infrastructure manager, *ProRail*, and the passenger railway, NS, are negotiated by the Directorate General Passengers at the Ministry of Transport, which is the sole shareholder of both the rail infrastructure and the passenger transport operator. All in all, it seems that the Netherlands want to step backwards as far as liberalisation is concerned.

6.18 Norway

On the basis of its overall results, Norway is allocated to the group *delayed*, as in 2002.

LEX Index

Infrastructure in Norway is completely separate from the transport services segment in institutional terms. *Jernbaneverket* (JBV) is the infrastructure manager and simultaneously the Norwegian railway authority. JBV was founded on 1 December 1996 and is responsible to the Ministry of Transport and Communications (MTK). *Norges Statsbaner (NSB)*, the Norwegian state railway, has been separated into two companies: NSB BA is responsible for passenger transport, and *CargoNet AS*, in which NSB holds a 55 per cent interest, is responsible for freight transport. Both sectors are wholly owned by the state.

In the passenger transport sector, international groupings have access to the network pursuant to Directive 91/440/EEC. Foreign freight operating companies without a national licence have cabotage rights on TERFN routes, which are defined and implemented, on a reciprocity basis. In practice, the entire Norwegian railway network belongs to the TERFN.

Rail freight companies with a national licence have open access to the network. In the national rail passenger transport market, in the same way as in Sweden, there is access (on the basis of contracts granting exclusive rights) only to those train paths which are no longer used by NSB. At the moment, this does not apply to any route.

A regulatory authority as defined in Directive 2001/14/EC has not yet been established in Norway. Complaints about train path allocations can however be filed with *Statens Jernbanetilsyn* (SJ), also known as the *Railway Inspectorate*. The competition authority "*Konkurransetilsynet*", which is not responsible exclusively for rail, also deals with questions of competition law.

ACCESS Index

Licences, approval of rolling stock and safety certificates are issued by SJ. Documentation on access to service facilities and the efficiency of administrative processes are above the European average. In view of the absence of NSB competitors, no empirical values are available. As part of a pilot project, passenger transport train paths, for which foreign NSB competitors can apply, are to be put up for tender for the first time this year.

COM Index

Despite TERFN, open access to the network and access to infrastructure-related facilities, the modal split share of rail freight traffic has lost more than 40 per cent over the past decade. Despite the monopoly position of NSB, the rail passenger transport share in the modal split increased by more than 16 per cent during the same period.

Conclusion

The forthcoming pilot tender procedures in the Norwegian passenger transport market, which are also to be open to foreign RUs, will be an initial test for the existing market access conditions.

6.19 Poland

On the basis of the overall results for 2004, Poland is allocated to the group *delayed*.

LEX Index

Polish RUs are independent from the state. The former Polish incumbent *Polskie Koleje Państwowe* (Polish State Railways) was transformed into *Polskie Koleje Państwowe S.A.* (PKP joint stock company), which has a holding structure. The state holds 100 per cent of the shares of *PKP S.A.*. The ten subsidiary holding companies include *PKP PLK S.A.* (infrastructure operator), *PKP Cargo Sp. z o.o.* (freight transport), *PKP Intercity Sp. z o.o.* (long distance passenger transport), *PKP Przewozy Regionalne Sp. z o.o.* (short distance passenger transport) and *PKP Linia Hutnicza Szerokotorowa Sp. z o.o.* (freight transport on one broad gauge line).

Open access is granted for international groupings in both freight and passenger transport. EU requirements for TERFN have not been implemented to date, but have already been defined by the Polish authorities. Furthermore, Poland (and Hungary) negotiated a special transitional period concerning TERFN implementation with the EU Commission.

The *Urząd Transportu Kolejowego* (Office for Railway Transport, UTK) was created on the basis of the *Railway Transport Act* on 1 June 2003. The UTK is responsible for the regulation of railway transport, for railway transport licensing, for the technical supervision of rolling stock, for railway tracks exploitation and maintenance and for the supervision of railway traffic security.

ACCESS Index

The UTK is the responsible authority for licensing. A licence is valid for the entire network. There are three types of licences: for freight transport, passenger transport and for the disposal of traction vehicles. Licences are valid for an indefinite period of time. However, periodic verifications are performed upon decision by the UTK.

The issue of the safety certificate lies also within the responsibility of the UTK. A safety certificate is valid for the entire network for both passenger and freight transport and does not lose its validity, if not used.

Several track access priority rules exist. These rules include date of application, length of co-operation with the infrastructure manager, frequency and length of track usage and volume of current track usage. If requests for capacity allocation from several RUs lead to conflicts, the negotiation mechanism described in the network statement is applied. Train path prices include a fee for basic services, a fee for additional services and a 5 per cent profit uplift. Quantity discounts for freight and passenger trains are also available. If the train is cancelled less than 14 days before departure, then 40 per cent of the total fee has to be paid. The train path pricing system seems not to be transparent and subject to frequent changes.

COM Index

There are 21 licensed national RUs in the freight transport market. It can be assumed that most of them operate actively, as they are mostly large industrial enterprises (sand mines, power plants, refineries), which transport their bulk products or supplies. Currently, *PKP Cargo* carries approximately 97 per cent of all freight volume. *PKP S.A.* is the only passenger carrier in Poland.

Although Poland is a very attractive rail market with several pan-European railway corridors, the share of railway transport of the total volume of freight and passenger transport dropped in the last few years. This may be due to several factors: rise of ticket prices, poor technical conditions of the infrastructure and strong competition from road transport.

Conclusion

As far as the legal framework is concerned, Poland has already adopted many EU directives in the railway sector. Further implementation will take place after Poland's accession to the EU. However, most of the processes and procedures are new and not very well tested in practice, so it may take time until RUs feel the positive effects of liberalisation in day-to-day operations.

6.20 Portugal

On the basis of its overall results for 2004, Portugal is allocated to the group *on schedule*. In 2002, Portugal was allocated to the group *delayed*.

LEX Index

Portugal has separated infrastructure management from the provision of transport services. The separation was effected as early as 1997 on the basis of Act 104/97 and concerns not only accounting, but also institutional separation (in terms of ownership rights). Horizontal separation, i.e. the separation of freight and passenger transport, has to date been effected only in terms of accounting, but not in terms of balance sheet.

Since then, infrastructure has been managed by *Rede Ferroviária Nacional* (REFER). REFER is answerable to the Portuguese Secretary of State for Transport and obliged by law (Act 270/2003) to grant foreign freight operating companies network access for international transport on certain corridors, for international groupings and for combined transport. Open access and cabotage, however, are granted on a reciprocity basis. There are statutory provisions governing all defined TERFN routes and other routes, which are accessible, so that the EU requirements are more than satisfied. Foreign passenger transport undertakings, on the other hand, are granted network access only in the form of international groupings. In Portugal it is possible to establish RUs in both the freight and passenger transport sector with network access options. The access regime for the national rail market in the freight transport sector is open access, in passenger transport open access and transportation contracts.

The *Instituto Nacional do Transporte Ferroviário* (INTF) was established as regulatory authority in 1998. The INTF is a public institution with autonomous administrative and financial powers. Its mission is to regulate, monitor and develop the Portuguese railway sector and is responsible for the investigation of all railway network access conditions and/or criteria pursuant to Annex I of Directive 2001/14/EC. The Portuguese regulatory authority is also authorised to initiate investigations into allocation procedures, fee regulations, the level and structure of infrastructure charges and safety certificates. Regulation processes are transparent and the criteria and methods of regulation are logical and comprehensible (Act 299-B/98, Act 270/2003, Administrative Procedures Directive). Investigations can be initiated on request by an RU, or also *ex officio* and the regulatory authority's decisions are legally binding. It can also impose fines of up to 44,800 euros to enforce its decisions. Companies have the right of legal appeal against the decisions of the regulatory authority.

ACCESS Index

As regards the procurement of information, the situation is mixed: on the one hand, it does not take long to identify the relevant contacts and obtain any requested information; on the other hand, these contacts speak not only Portuguese, but also English and in some cases French. However, the websites of the institutions are only partly available in English. The most important laws, the network statement and further information are currently available on the internet only in Portuguese, which makes it more difficult to obtain the necessary information.

Licensing is handled by the INTF as an independent decision-maker. Act 270/2003 prescribes that a licence has to be issued within 90 days of submission of the full application documents. Licences are valid for both freight and passenger transport and licences of all EU Member States are recognised. The fees for licence issue in the freight transport sector are between 25,000 euros and 50,000 euros, in the passenger transport sector between 37,500 euros and 75,000 euros plus an annual fee amounting to 75 per cent of the licence issuance fee. All decision and examination criteria of the licence issue process are transparent and published.

Issue of the safety certificate is also decided independently by the INTF. The safety certificate is valid for both freight and for passenger transport, the degree of detail of the specifications is however comparatively high. Safety certificates are valid only for requested train paths, and safety certificates of other EU Member States are not recognised. Fees for both the passenger and freight transport sectors are 5,000 euros plus an annual fee amounting to 75 per cent of the issuance fee for the safety certificate. All decision and examination criteria are also transparent and published for this process.

The approval of rolling stock is governed by Regulamento 18/2000 and Act 75/2003. The competent authority is the INTF. Once all the necessary documents have been submitted, a decision on the approval of rolling stock must be reached by law within 60 days. However, there are no statutory regulations governing the fee level and the recognition of approval of rolling stock by other EU Member States. The decision and examination criteria have not been published, so that there can be no question of a transparent procedure in this case.

External RUs have non-discriminatory access to services in Portugal pursuant to Directive 2001/14/EC, Art. 5 and Annex II, No. 1 (e.g. in connection with the processing of applications for allocation of infrastructure capacity or the right to use allocated infrastructure capacity). The contractual relations between an RU and the infrastructure manager in both the passenger and freight transport sectors are based on several individual contracts. Train path allocation is transparent and there are uniform regulations for all market participants. The network statement also prescribes a conflict resolution mechanism which is applied if the train path requests of different RUs collide.

Train path availability is communicated on request. There are no problem areas as regards the national implementation of the TERFN requirements, according to INTF.

Act 270/2003 specifies a uniform train path pricing system for all market participants, in both freight and passenger transport. The train path pricing system is published in the network statement: no quantity or early booking discounts are granted. The Portuguese train path pricing system does not differentiate according to train type, but according to route. With very few exceptions, the RUs are provided with further service facilities and services as defined in Directive 2001/14/EC Annex II on non-discriminatory or acceptable market conditions. Exceptions to this are only services such as the technical inspection of rolling stock, access to travel information media, and the recruitment and training of qualified personnel.

COM Index

Rail transport does not rank very highly in Portugal. In 2001, the railway's share of public passenger transport (excluding local municipal transport) amounted to 3 per cent, and the trend was declining. The share of the modal split for freight transport is 13 per cent, and thus stable. Compared with the road, rail therefore plays only a subordinate role and is currently continuing to lose market shares on the whole. At present, there are two railway undertakings in Portugal: firstly the incumbent, CP - *Caminhos de Ferro Portugueses EP*, which was forced to hand over the infrastructure to REFER in 1997 by virtue of Act 104/97. CP specialises particularly in short-distance passenger transport and 82 per cent of CP's passengers can be allocated to the short-distance sector. It must be added at this point that CP is highly indebted to REFER. The second RU is *FERTAGUS*, which since 1999 has run passenger transport on a 22 kilometres long route into Lisbon across the bridge *Ponte 25 de Abril* across the River Tejo. CP has no competitors in the freight transport market.

The construction of four high-speed lines between Portugal and Spain could trigger positive impetus for rail transport in Portugal. This project was agreed with the Spanish government in November 2003. The routes are scheduled to go into operation as from 2009 and link important Portuguese and Spanish cities with each other within just a few hours. This will bring the Portuguese rail market, which has to date been severely isolated owing to Portugal's peripheral location, closer to Europe, which could make it more attractive for passengers (and therefore also for competitors).

Conclusion

Portugal has notified the EU Commission that it has transposed Directives 2001/12/EC, 2001/13/EC and 2001/14/EC. Act 270/2003 has greatly facilitated market access for External RUs by ensuring that the issue of licences and safety certificates, train path access conditions and the train path pricing system are now governed by transparent regulations. In that connection however, the lack of transparency with regard to the approval of rolling stock and the level of fees for licence issue are a target of criticism. CP de facto continues to enjoy monopoly status in the Portuguese rail market. *FERTAGUS* is only a very small player in the Portuguese market and specialises in short-distance passenger transport. The separation of infrastructure and transport services, which was effected in terms of ownership rights in 1997, has not led to the anticipated increase in on-rail competition.

6.21 Slovakia

On the basis of the overall results for 2004, Slovakia is allocated to the group *delayed*.

LEX Index

In 2002 the infrastructure and transport sectors of the Slovakian state railway were separated in institutional terms. This led to the formation of *Železničná spoločnosť a.s.* as transport service provider and *Železnice Slovenskej Republiky* (Railway of the Republic of Slovakia, ŽSR) as infrastructure manager. Both these companies are wholly owned by the state and legislation which has been adopted specifically for that purpose grants ŽSR full autonomy. Freight and passenger transport of *Železničná spoločnosť a.s.* are separate in terms of accounting.

Since 2003, use of the Slovakian rail network has only been possible with a Slovakian licence. This restriction also applies to international transit operations. A procedure for the recognition of foreign licences is currently going through the legislative process. The Slovakian TERFN sections have been defined, but cannot yet be used.

The Railway Act envisages the possibility of forming an RU both for passenger and for freight transport. Foreign railway companies without Slovakian subsidiaries are not granted access rights to the domestic market. According to the OSS and Ministry of Transport, network access is handled in the form of transportation contracts which are awarded on a discretionary basis.

The state railway authority (*Statni drahovy urad*, SDU) assumes the function of a regulatory authority, but does not yet conform to the provisions of Directive 2001/14/EC in terms of its remit and powers.

ACCESS Index

The state railway authority SDU is responsible for licence issue. Apart from a capital contribution to cover the costs of one year of operation, RUs are also required to submit proof of a registered place of business in Slovakia and of liability insurance. Depending on the requirements of the RU, the licence can be granted for the entire network or for a specific route or can also be refused if there are already capacity bottlenecks. Licence issue takes around 60 days; the fees for a licence amount to approx. 370 euros. Unused licences are not revoked. As a general rule, licences are reviewed every five years. The provisions for the recognition of licences issued by other EU Member States pursuant to Directive 2001/13/EC have not yet come into force.

Safety certificates are also issued by the state railway authority SDU. They are valid for the entire network and for both freight and passenger transport. To obtain such a certificate, the RU has to submit proof of the qualifications of its personnel and of compliance with the statutory requirements for the operation of rolling stock. Safety certificates issued by other EU Member States are not recognised. The fees for a safety certificate are approx. 72 euros; it is valid for an indefinite period of time and need not be reviewed after a certain interval. The safety certificate is not revoked, even if it is not used.

Approval of rolling stock takes place in two steps:

- approval of the stock type by the Ministry of Transport, Post and Telecommunications (fee: € 715)
- granting of an operating licence on the entire network by the state railway authority SDU (fee: € 72)

According to the Ministry of Transport, the time between submission of the required documents and granting of approval is 30 days – no other empirical values are available. The supplier is responsible for approval vis-à-vis the RU. Test certificates issued by the German EBA or the Austrian licensing authority are recognised. The degree of technical detail required for approval is rated as relatively high by the manufacturers.

The allocation of infrastructure capacity is the responsibility of the infrastructure manager. ŽSR provides new RUs with access to a wealth of professionally presented information, such as the network statement, train capacities, route descriptions, pricing system and standard contracts. The information package is available in Slovakian, English and German on the ŽSR website.

An OSS Manager acts as central contact for the RUs (cf. RNE website). According to an announcement by the OSS, there are uniform train path allocation procedures for all RUs. The allocation of international train paths in the freight transport sector is effected eight months, in passenger transport no later than nine months before the new timetable comes into force. 30 June of each year has been stipulated as the cut-off date for domestic operations and services to neighbouring countries. If it is not possible to satisfy all requests owing to capacity bottlenecks, attempts are made to co-ordinate the requests, in consultation with the applicants. If the applicants offer the same conditions, the request is decided on the basis of the date of the request or the price. Subsequent requests must be submitted five working days (21 days for international trains) prior to the planned date of departure. In such cases, the ŽSR has to reach a decision within five days, but gives no guarantee that its decision will be positive. The contractual relations between RUs and infrastructure manager for all types of transport are governed by standard contracts.

The train path pricing system for domestic transports is governed by Regulation R-3/2003. The train path price depends on the train path length (quantity discounts) the route category, the gross weight of the train and a coefficient of the train type (supplements for out-of-gauge, the need for timetable modifications etc.).

ŽSR provides the RUs with most of the necessary services and grants access to essential service facilities. There is a uniform station and asset pricing system for all market participants, which forms part of the published network statement.

COM Index

The Slovakian rail market has a comparatively low network length (3662 km). The geographical location, however, is highly attractive, as four larger European rail routes cross through Slovakia. In terms of the modal split, passenger transport in Slovakia suffered a drop of approx. 9 per cent between 1994 and 2001, while the freight transport sector fell by roughly 18 per cent during that same period.

Železničná spoločnosť a.s. is the market leader in both freight and passenger transport. At present, some 18 RUs, mainly rail freight companies, have a licence to use the Slovakian railway infrastructure. Of that figure, nine RUs have signed contracts with ŽSR, although only three of these RUs are in fact active: *U.S. Steel Košice*, *LTE Logistik a Transport Slovakia* (freight transport, branch of Austrian *LTE Logistik*) and *Bratislavská regionálna koľajová spoločnosť a.s.* (passenger transport).

Conclusion

According to the OSS Manager, the Slovakian infrastructure is open to External RUs. The ZSR website is attractively and clearly structured. Progress to date has been made primarily with regard to the legal and institutional framework conditions. As regards licensing and the de facto accessible market, the conditions in Slovakia are below the European average from the point of view of new RUs.

6.22 Slovenia

On the basis of the overall results, Slovenia is allocated to the group *delayed*.

LEX Index

In the course of restructuring of the Slovenian railway, the former Slovenian state railway *Slovenske železnice* (SZ) was transformed into a holding (*Holding SŽ*) in 2003. This holding has three subsidiaries, which handle the core business of SŽ: freight transport, passenger transport and infrastructure management. These services are provided by enterprises which are legally, institutionally and organisationally independent.

The Slovenian Ministry of Transport acts as regulatory authority, and in that capacity is responsible for implementation of Slovenian railway legislation, which was last extended / amended in August 2003.

ACCESS Index

The *Public Railway Transport Agency* (PRTA) is responsible for issuing licences and safety certificates. Licences issued by other EU Member States are recognised. According to the Slovenian Ministry of Transport, the *Railway Transport Safety Act*, which came into force in September 2000, is currently being revised.

COM Index

The incumbent *Slovenske Železnice* still enjoys a monopoly on the Slovenian rail network. To date, no other licences have been issued, nor have any External RUs applied for a licence. A noticeable feature of the Slovenian rail market is the important role played by international rail transport: approx. 90 per cent of the total volume in both the freight and passenger transport sectors refers to transit transports. Transit routes can also be regarded as having the greatest competition potential for the Slovenian railway market.

Conclusion

Slovenia has undertaken some steps towards liberalisation of rail transport, but in view of the low attractiveness of the market, competition inside the country takes place within very strict limits. However, Slovenia plays an important role as a transit country. The greatest growth potential is also seen in the international transport sector.

6.23 Spain

As in 2002, on the basis of its overall results Spain is allocated to the group *pending departure*.

The Spanish railway is currently in a state of upheaval. In November 2003, the parliament under the Aznar government adopted Act 39/2003, which is to come into force in May 2004 and which envisages far-reaching changes for the Spanish railway. It is not yet clear to what extent the Socialist government, which was voted into power in March 2004, will abide by Act 39/2003. Experts believe there is a real probability that the new government will impose modifications. The ranking determined in this study is based solely on the legal situation which applied in January 2004, i.e. the legal status before Act 39/2003 comes into force.

LEX Index

At present, there is no legal or organisational separation of the infrastructure and transport divisions, as the infrastructure manager *Gestor de Infraestructuras Ferroviarias* (GIF) which was established in 1996 is responsible only for new-build lines. Part of the infrastructure is still managed by the state railway RENFE, which however shows separate accounting for infrastructure and transport services in its 2002 annual report. This situation will change when Act 39/2003 comes into force, as that Act will prescribe complete separation of the infrastructure and transport sectors in terms of ownership rights (Act 39/2003, *Disposición adicional primera; Ministerio de Fomento*). The infrastructure manager will then be entitled *Administrador de Infraestructuras Ferroviarias* (Adif) and the transport service provider *RENFE-Operadora*. Art. 82 of Act 39/2003 also envisages the establishment of a regulatory authority (*Comité de Regulación Ferroviaria*), whose task will be to enable non-discriminatory access to the market for RUs and to ensure objective and transparent access conditions (Art. 83, Act 39/2003).

ACCESS Index

Act 39/2003 provides the first statutory regulations governing access to the Spanish rail market for External RUs. On the cut-off date for the study, (31 January 2004) there were still no statutory provisions in force governing licensing etc.

With regard to the provision of information for this study, contacts at RENFE and the Ministerio de Fomento were very helpful. At present, such contacts, who speak not only Spanish but also English, are virtually the only possibility of obtaining information about the statutory provisions, as the internet offers only limited information, which is moreover usually only available in Spanish. To date, there is no Spanish network statement.

Act 39/2003 governs the conditions of access which are to apply as from May 2004. Amongst other things, it deals with the following essential aspects of market access:

- licensing (Art. 44 ff.)
- safety certificates (Art. 56 ff.)
- fees for the issue of licences and safety certificates (Art. 61 ff.)

COM Index

The state railway RENFE still has a monopoly in the Spanish rail market. Although in addition to RENFE, there are other railway undertakings, such as *EuskoTren*, *Ferrocarriles de Via Estrecha* (FEVE), *Ferrocarrils de la Generalitat de Catalunya* (FGC), these are in public ownership and thus do not constitute External RUs as defined in this study. There is consequently no competition at the moment in the Spanish rail market.

Conclusion

The state railway RENFE still has monopoly status in the Spanish rail market; however Spain is currently making great efforts to liberalise the market. Act 39/2003 is an important step in that direction, but since the change of government in Spain it is not clear whether it will actually come into force without modifications.

6.24 Sweden

On the basis of its overall results, as in 2002, Sweden is allocated to the group *on schedule*.

LEX Index

In 1988, the Swedish Parliament resolved full vertical separation of the Swedish state railway SJ. Sweden served as a model for drafting Directive 91/440/EEC. In 2000, the operating company SJ was again restructured. Following a further decision by parliament, the former state railway was divided into two separate private-law enterprises as from 2001, which however remained in the ownership of the Swedish state: *Green Cargo* is the freight operating company, SJ the train operating company.

Transit and access rights for foreign rail freight and passenger undertakings without a domestic licence are governed by open access for international groupings and intermodal transports.

In March 2004, the government presented new draft legislation which envisages open access with cabotage on a reciprocity basis as from 1 July 2004 for rail freight transport. At present, only access to TERFN is guaranteed by law, but the aforesaid government proposal would grant all licensed RUs access to the entire network.

The domestic market for freight transport is deregulated. Access to the passenger transport network, however, is only possible in the form of transportation contracts, which are awarded either by the regional transport authorities or by *Rikstrafiken*, the national ordering party for transport services. These transportation contracts grant exclusive rights. SJ has exclusive rights to those train paths which are operated without subsidies / which can be operated profitably by SJ. At present, this refers to approx. 52 per cent of the total train kilometres provided.

At present, three different institutions exercise regulatory tasks. According to the infrastructure manager *Banverket*, supervisory and regulatory functions are currently handled by the rail regulatory authority (*Järnvägsinspektionen* for questions of safety), the national competition authority and the rail transport authority (*Tågtrafikledningen*). Both the rail regulatory authority and the rail transport authority are organisationally integrated within *Banverket*, the infrastructure manager, and are therefore independent only to a limited extent. Under the umbrella of the rail transport authority there is also a *Traffic Management Council*, which comprises representatives of the railway sector appointed by the government. That body has an advisory capacity. It is expected that in response to a government proposal, a completely independent railway authority, *Järnvägsstyrelsen*, will commence work in conformity with EU Directive 2001/14/EC as from 1 July 2004.

ACCESS Index

Identification of the responsible contacts for market access and licence issue takes only a few hours and requested information is generally provided in writing within a few days or is available immediately on the internet. The greater part of information on market access, such as information about the access regime, licensing, approval of rolling stock, safety certificate and train path application is available in both English and Swedish on the internet. The information is also available in the Swedish network statement. The staff at most of the authorities speaks fluent English. According to Swedish law, documents in the possession of authorities have to be accessible to the public, unless an obligation to secrecy has been expressly agreed.

The rail regulatory authority (*Järnvägsinspektionen*) is responsible for the issue of licences and safety certificates. Although it decides independently, it currently belongs to *Banverket*. It is ensured that *Banverket* acts independently of all RUs. The director of that institution is directly appointed by the government.

The statutory specifications for the issuance of licences are in conformity with Directive 95/18/EC for freight and passenger transport, within three months of submission of the full application documents. Licences are valid for an indefinite period of time but can be revoked if they are not used within six months. The licence is generally valid for the entire network, although the rail regulatory authority can restrict the licence to regular scheduled services - i.e. on-demand transports are not covered by the licence. Licences for passenger and freight transport issued by EU Member States are recognised, but insurance cover and geographical scope have to be adjusted accordingly. The compulsory coverage sum is approx. 30 million euros per claim. The verification of licences from other EU Member States takes less than three months.

Safety certificates are valid for both passenger and freight transport. It takes between 15 and 90 days until a safety certificate is issued; the term of validity and the review intervals correspond to those of the licences. Safety certificates issued by other EU Member States are not recognised by the Swedish authorities. The decision and examination criteria of the issuance processes for licences and safety certificates are published and regarded as transparent.

External RUs have non-discriminatory access to services pursuant to Directive 2001/14/EC Art. 5 and Annex II, No. 1. The contractual relations between an RU and the infrastructure manager for freight, long-distance and short-distance passenger transport are based on individual contracts. There is no scope for framework agreements pursuant to Art. 17 of Directive 2001/14/EC. With the exception of some regional train paths which are subject to priority regulations (e.g. in the Stockholm area), the process of train path allocation is transparent and identical for all market players. However, there are no records or communication of train path availability.

There is a uniform train path pricing system for passenger and freight transport which is valid for all market participants. This is published in the network statement, which is available in English and can be downloaded from the *Banverket* website. The pricing system is based on the principle of marginal costs and does not include provisions for discounts. On a European scale, the train path prices are well below the average values. The moderate prices inevitably lead to deficits for the infrastructure manager.

Many products are offered to the RUs either by the infrastructure manager or by other service providers on reasonable market conditions and on a non-discriminatory basis. According to *Jernhusen*, a state-owned company which owns the real estate and which manages a part of the station facilities, there is a binding, uniform and transparent station and asset pricing system for all market participants. New RUs have the opportunity to recruit train drivers and other skilled operating personnel in Sweden (e.g. via TGOJ, *Swedentrack* and *Bantåg AB*).

In 2003, only two new contracts were awarded for two new lines in the passenger transport sector. There is open access in the freight transport sector.

COM Index

The share of rail freight transport in the modal split dropped by 7 per cent between 1991 and 2001, but increased in passenger transport by 32 per cent between 1991 and 2001. In 2003, there were 16 licensed RUs (excluding the incumbent), ten of which were active in freight transport, seven in passenger transport. The network has a total length of approx. 17,000 kilometres, of which 80 per cent belong to the state network.

Data protection regulations prevent calculation of the market shares of the individual companies. It was consequently not possible to capture any data which would permit differentiation according to long-distance and regional transport. The total transport volume of all RUs amounts to 19.9 bn tonne-kilometres in freight transport and 9.4 bn passenger kilometres in passenger transport.

Conclusion

Sweden was one of the first countries to initiate the liberalisation process, but has still not transposed the first Railway Package in full. The Swedish railway sector is currently in a restructuring phase. It should be emphasised that passenger transport on the state-owned rail infrastructure is primarily reserved for the incumbent SJ AB. However, domestic freight transport is deregulated and open. In the past two years, there have been no major changes in the Swedish rail market, but it has to be assumed that the market will continue to develop when the EU Railway Package is transposed in full.

6.25 Switzerland

As in 2002, Switzerland is allocated to the group *on schedule*.

LEX Index

Since 1999, *Schweizerische Bundesbahnen* (SBB) have been a joint-stock company, owned by the Confederation; its assets, budget and accounting are separate from the state. Under the umbrella of the SBB Holding, the business units of infrastructure and transport are independent in terms of organisation, accounting and legal status, as is the second largest infrastructure manager and transport service provider BLS.

Although BLS and SBB are competitors for the provision of transport services, they jointly handle train path management for the greater part of the normal-gauge network, which for example also includes the allocation of train paths. The train path pricing system, which in 2002 still exhibited some differences between BLS and SBB train paths, has also been standardised. *Regionalverkehr Mittelland Infrastruktur* also offers its train paths through the same distribution channel and product catalogue as BLS and SBB. The most important national freight operating companies, SBB Cargo and BLS Cargo, are independent joint-stock companies under the umbrella of the respective holdings SBB and BLS.

Foreign rail freight companies have access rights as part of international groupings and for combined transport pursuant to Directive 91/440/EEC, which Switzerland has undertaken to implement on the basis of the surface transport agreement with the EU. Although open access for foreign freight operating companies is theoretically possible on a basis of reciprocity pursuant to the Federal Railway Act, according to the Federal Ministry of Transport (BAV) no agreement has in fact been signed with any other country pursuant to that regulation. There are plans to implement TERFN in the near future.

Foreign passenger transport companies without a domestic licence have transit and access rights within the scope of international groupings pursuant to Directive 91/440/EEC.

Under national Swiss law, an RU can be founded with network access options. Such companies would then have open access for freight transport in the national market.

Although open access also applies in principle in the passenger transport sector, regular commercial passenger transports, such as regular-interval services, require a concession. However, the granting of concessions, which also include protection from competition, is not linked to tender procedures; such concessions can be awarded by the Confederation and by the Cantons in discretionary procedures. Invitations to tender therefore predominantly refer to bus services and the only tender for regional rail transport to date was discontinued without having achieved any results. Regional passenger transport is subsidised, ordered and accounts settled by the Cantons and Confederation. According to the BAV, the non-subsidised sector involves only excursion and long-distance transport.

On introduction of the new timetable, BLS will withdraw from long-distance passenger transport, so that SBB and *Cisalpino* (a joint venture between SBB and *Trenitalia*) are expected to be the only providers in this market segment up to the year 2007.

Rail regulation is also handled by the BAV, which has powers such as market observation, stipulating train path prices and preparing legislation. Conflicts arising when several RUs request the same train paths are settled by an Arbitration Commission. Other regulatory bodies are, for instance, the *Competition Commission* and the *Price Monitoring Body*.

However, none of these bodies is authorised to impose fines or initiate investigations *ex-officio*. To date, there have been no severe cases of conflict or infringement which had to be settled.

ACCESS Index

There are no information barriers for RUs operating in the freight transport market in Switzerland. On the contrary, the necessary information is very well prepared and available in all working languages of the EU (German, French and English). Interested RUs can also contact a well-staffed OSS. The quality of personal and impersonal provision of information by all involved bodies (BAV and OSS) can on the whole be rated as exemplary.

Before an RU can offer its services on the network, it has to enter into a network access agreement with the infrastructure manager. Applications for the necessary operating licence (or network access approval) are submitted to the BAV. That licence is valid for the entire network and its scope is dependent on the gauge width, but not on the type of transport. As far as the licence issue process is concerned and the conditions relating to the licence (term of validity, review intervals, fees etc.), these can generally be rated as fair and objective. Licences issued by other EU Member States are also recognised. RUs have to have insurance coverage of 100 m SFR per claim and the insurance must cover a minimum of two claims. If in exceptional cases only one claim is covered, the licence immediately becomes invalid on the occurrence of a claim.

Safety certificates are also issued by the BAV. These certificates apply to the routes concerned and are valid for one year. The fees vary between 300 SFR and 5000 SFR depending on the work involved. By law, the certificate must be issued to the RU within 30 days of full submission of all the necessary documents. Empirical values actually put this figure at two weeks.

The empirical values of manufacturers and RUs with regard to the time required to obtain approval of rolling stock are well below one year. The fees for approval of rolling stock are between 75,000 euros and 200,000 euros for high-speed traction stock and electric multiple-system locomotives for freight transport and between 50,000 euros and 100,000 euros for regional diesel multiple unit sets. Certain test certificates from the EU Member States are recognised. On the whole, the process for the approval of rolling stock can be rated as transparent, customer-friendly and apolitical.

Although the data required for train operations is provided to the RUs by SBB, it has to be compiled by the applicant itself. This process is labour-intensive and is resolved in a better manner by other infrastructure managers in Europe who process the data prior to supplying it to the RU.

There is access to those facilities where *SBB-Infrastruktur* offers its services. These services are published.

In practice, conflicts in case of irreconcilable train path requests are resolved pragmatically according to the motto "first come, first served". Pursuant to the provisions of the National Railway Act, regular-interval passenger transport and transports with connecting trains have priority in case of train path bottlenecks.

COM Index

The discretionary award of passenger transport concessions means that competition is restricted to the freight transport sector. BLS, in which DB AG also owns shares, co-operates with SBB in the infrastructure sector, but is simultaneously the most important competitor of SBB in the freight transport segment. In 2001, *BLS Cargo* had a 6 per cent share in the national freight transport market, which had risen to 8 per cent in 2002 and in 2003 amounted to 12 per cent of the total tonne-kilometre volume (2003: *SBB Cargo*: 9,940,000 net tonne kilometres; *BLS Cargo*: 1 309 000 net tonne kilometres).

Conclusion

Although Switzerland has not yet transposed the first Railway Package, it offers non-discriminatory and objective network access conditions in the freight transport sector. The market has consequently responded positively to this fact. The passenger transport market still has to be regarded as closed.

7 Effects of Liberalisation

The *Rail Liberalisation Index* is used to compare the relative openness of rail markets in 25 European states. Within its current framework, the study is deliberately focussed on the statutory and economic market access barriers for RUs. The railway statutory and regulatory structures laid down in national legislation (*law in the books*) are necessary but by no means sufficient prerequisites for ensuring free market access. Rather, the actual access conditions are determined by the practical implementation of the directives (*law in action*) through public regulation and the set-up of the infrastructure manager. Explicit attention is paid to constellations of vertical integration or separation of infrastructure manager and former monopolist (incumbent).

The COM Index measures particular facts of the market performance and provides information about the degree of market development through

- the changes in rail market shares as a whole (modal split),
- the identification of new providers of rail services,
- the determination of market entry rates and
- changes in market concentration.

A gap between several supposedly competition-friendly regulations and prerequisites and the existing level of competition became already clear in 2002. The first things to note here are

- i. that the *Rail Liberalisation Index* does not measure the absolute but the relative opening of the rail markets in the countries included in the study, and
- ii. that a time lag between concrete market opening measures and the liberalisation advances reflected in the market performance has to be taken into account.

Moreover, discrepancies may be due to the fact that not all access barriers and market conditions are adequately recorded in the ACCESS sub-index, or that certain barriers are partially recorded in the index but eclipse all other determinants in their practical form. It is also conceivable that latent insecurities, for example with regard to the stability and effectiveness of the regulatory framework, continue to make market entries seem economically unattractive. The debate about possible systematic measurement errors in the practically orientated ACCESS Index raises the question what the COM Index is capable of producing in order to complete the picture.

The current subject of the COM Index - the development of on-rail competition - is a core element of the national rail reforms but as such not an end in itself. Rather, it is an instrument for enhancing the attractiveness of rail as a transport mode. Apart from determining the intramodal competitive situation, it will be particularly interesting to answer the question regarding the correlation of market performance and the different liberalisation, privatisation and separation models in future.

Not only the deregulatory steps, but also the market performances at which these competition-friendly policy initiatives are aimed should be the focus of consideration. Have the liberalisation concept of the EU Commission and the specific national approaches proven to be sufficiently useful and effective in order to achieve the desired objectives?

For this aim, it is required to take a closer look at whether a connection between rail liberalisation and improved market performance can be established in a methodologically reliable way and what the implications of this are for the concept of the *Rail Liberalisation Index* study. Such an analysis has to include the following steps:

- I. The first step should be to define the basic theoretical understanding of an improved market performance.
- II. The second step should involve a critical examination of previous studies on the subject of how market performance has developed in different countries. For instance, it should be investigated, whether between two national rail markets with otherwise comparable conditions (particularly with regard to public subsidies) the one which is further deregulated - i.e. more easily accessible - actually gives rise to better market performances. On the other hand, it should be clarified whether there is a dependency between the level of actual or required public compensation in the rail sector and the chosen model of liberalisation.
- III. On a subsequent, normative level of consideration, it is necessary to introduce assessment criteria as to which performance is regarded as desirable. The relevance of individual parameters needs to be discussed from the point of view of whether and how these factors are suited to carrying out a comparative market performance study to uncover the effects of different liberalisation concepts.
- IV. Finally, the original question should be referred to: Where are the weaknesses of the COM Index in its present form, is it reasonable in future to include further parameters in the COM Index and, if so, which ones exactly?

A separate paper elaborating on these aspects in detail is included in Appendix XIII. It yields the following conclusions with relevance to future editions of the *Rail Liberalisation Index* study:

- The literature survey shows that several studies already point to a basic trend of positive effects from liberalisation, namely with respect to transport volumes, public funding requirements and the productivity of the railways. However, a universally valid correlation between certain market performance results and types of rail reforms is so far not clearly verified.
- Due to the short period of time in which experiences have been gathered in most European countries, it is still too early to expect empirically verified improvements in market performance as a result of advances in the liberalisation of the European rail market. This lack of information is being increasingly redressed however – also in view of the establishment over several years of market access-friendly conditions in several countries labelled on schedule, as confirmed by the *Rail Liberalisation Index 2004*.
- The examination of market performance results has been part of the concept of the *Rail Liberalisation Index* from the very beginning and should play a more important role in future. It is also attracting ever more political and scientific interest as the liberalisation process continues.
- Suitable determinants to be considered for the COM Index are in particular: productivity figures, the development of price levels and the specific subsidy requirements for comparable rail transport services.
- It needs to be taken into account, however, that each of these dimensions is also influenced by several stochastic and systematic factors, which are beyond the subject of liberalisation.
- The availability of data which has been ascertained on the same basis across Europe is the real limiting factor for market performance measurements. European efforts to improve the data situation would be welcome.

8 Summary and Outlook

Context

The *Rail Liberalisation Index* is a carefully compiled instrument for measuring and comparing the degree of market opening of European rail transport markets. It was first compiled in 2002 by *IBM Business Consulting Service* and *Prof. Dr. Dr. Christian Kirchner* and has been updated and further developed in this study, the *Rail Liberalisation Index 2004*. The updated status of this study consists in the fact that the information and results of the *Rail Liberalisation Index* now mirror the situation of market opening in the spring of 2004 after renewed extensive research. The advancement in contents takes up numerous suggestions for improvement and enlargement and applies to the following aspects:

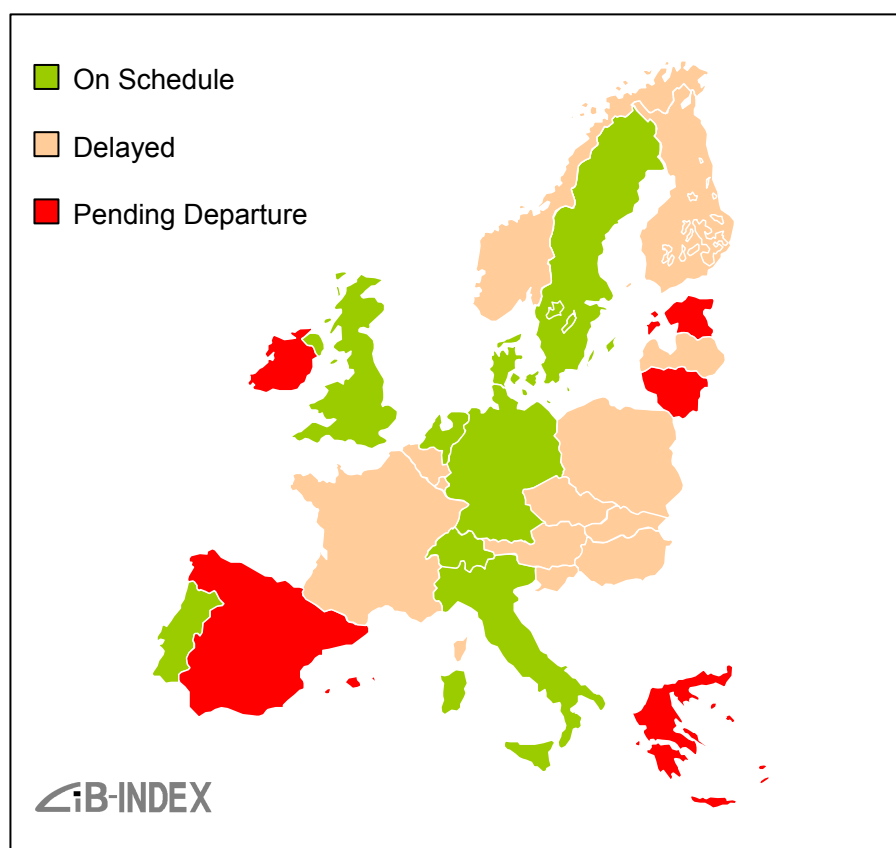
- Based on the scientific discussion, an altered concept is employed. The *Rail Liberalisation Index 2004* consolidates the results of the LEX and ACCESS Index, while the COM Index is dealt with separately. In this way the new study consistently distinguishes between, on the one hand, the accessibility of rail transport markets from the view of new RUs and, on the other hand, the development of the market which is subject to liberalisation as well as other influences.
- Compared to the 2002 study, the new version places greater emphasis on the theoretical and methodological background of liberalisation and its record.
- An important addition is the inclusion of the Central and Eastern European countries. With the enlarged EU (except Cyprus and Malta) as well as Norway and Switzerland, the study now looks at a total of 25 countries.
- Based on the experiences of 2002, the level of detail in the survey is raised, in order to increase the quantifiability of the market access barriers.
- Thanks to a greater survey scope and feedback compared to 2002, the information basis is even broader.
- It has been possible in this version to bring out to a greater extent the differences which exist between market access in passenger and freight transport in most countries.
- The documentation accompanying the sub-indices and country reports is supplemented by a special report on the approval of rolling stock, which is particularly critical for market access.
- The aspect of market performance, i.e. the effects of liberalisation on companies, on public budgets and on the consumer, something that has largely been left out of the previous study, is discussed in detail in a separate chapter.

Key Findings

The *Rail Liberalisation Index 2004* confirms the most important findings from 2002, regardless of the improved and enhanced methods employed: liberalisation of the national rail markets in Europe is still, in 2004, at very different stages in different countries. In spite of several EU directives on the gradual introduction of competition, the rail markets in some countries continue to be practically inaccessible.

The *Rail Liberalisation Index 2004* once again allows three country groups to be identified, and these are categorised as *on schedule*, *delayed* and *pending departure*. Both those countries with a high level of market openness and those with relatively adverse access conditions once again include several countries that have separated the network institutionally and others that are pursuing less radical separation models. The best performers from 2002 in terms of liberalisation - Great Britain, Sweden, Germany, the Netherlands, Denmark and Switzerland - once again have the most competition-friendly framework conditions. This stability suggests, firstly, that market opening is by now firmly established in the leading countries. Secondly, however, it becomes clear, that liberalisation in rail transport overall is a longsome process.

Figure 8.1: Geographical Distribution of Market Opening



Source: IBM Business Consulting Services and KIRCHNER (2004)

In several countries, however, the legal foundations and practical access conditions for rail competition have changed since 2002. This is reflected by changes in ranking and group allocation in the *Rail Liberalisation Index*. Portugal and Italy have been added to the country group with dynamic liberalisation, *on schedule*. Luxembourg is another country that has made progress, rising from the bottom group into the *delayed* group.

This study also includes the Central and Eastern European countries for the first time. Information on the accessibility of the rail transport markets in these countries has been only fragmentarily available so far, while its importance in the European division of labour and, consequently, within the European transport streams is growing steadily. The *Rail Liberalisation Index 2004* includes these countries in the systematic survey and collection of data and shows their liberalisation status. It should be emphasised that, in the results, most of the acceding countries fall into the second group *delayed* and thus, although they have some catching up to do as at spring 2004, they have already created more competition-friendly conditions in rail transport than several long-time EU Member States.

The results of the COM Index, dealt with separately here, largely confirm the results of the other indicators. The leaders of the *Rail Liberalisation Index*, Great Britain, Sweden and Germany, are also the countries with appreciable rail competition, with the latter showing a noticeable growth in the activity of young RUs compared to 2002. In several other countries, however, there have not yet been any activities by External RUs despite formal progress in terms of the regulatory framework.

A separate chapter in this study is dedicated to the discussion of the correlation between liberalisation and market performance that goes beyond the present COM Index, as well as about the possible ways of measuring it. The discussion of this aspect shows the following:

- Empirical findings are only available selectively and are problematic for several reasons.
- The effects of liberalisation can be found in several dimensions. The main indicators are identified as market growth, change of modal split, enhancement of service offerings, consumer price development, the development of state subsidies, and productivity of the rail system. It is noted, that there are elements of causality between these parameters.
- Each of these dimensions is also influenced by several stochastic and systematic factors, which are beyond the subject of liberalisation.
- In most countries it is too early for empirical evidence on the effects of market opening, since factual liberalisation has only been implemented for a short time.
- Each of the available studies suffers from the same problem of the poor data situation regarding the European rail transport market. The available time series often display breaks in the method or object of recording and are characterised by a lack of consistency as well as national differences.

Carrying out and promoting these types of studies is a core challenge for the future. It is important in order to garner and increase support for liberalisation.

The *Rail Liberalisation Index 2004* focuses on the opening up of the rail transport markets in Europe, which is supposed to increase the competitiveness of rail transport services against other transport modes through intramodal competition. Liberalisation is, thus, seen as a central instrument for achieving a sustainable transport system in Europe. The *Rail Liberalisation Index* is an accepted source of information and yardstick for the current status of the market opening within Europe. The detailed observation of the process of market opening over a number of years as well as future updates of the study, preferably at equal intervals, is therefore of major scientific, political and business interest. The recording of the effects of liberalisation, possibly in a separate performance index or in the form of an extended COM Index, will gain empirical substance and receive more attention in the coming years.



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