Winding Path of the Czech Rail Reform and Its Impact on the Country's Freight Sector

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1. The History and Results of the Czech Rail Reform

The rail freight market of the Czech Republic is the eighth in Europe by size[1] (2004: 15 billion net ton-km, 23% of the entire Czech freight market). The by far decisive player in it is České dráhy (Czech Railways, CD), a state rail undertaking, founded in 1993 by splitting the former federal Československé státní dráhy (Czechoslovak State Railways, CSD).

As the Czech railroad system, represented solely by CSD/CD State Organization, was perceived for long years to be a bureaucratic and non-performing entity wasting taxpayers' money, tendencies to reform CD and search for a suitable privatization scheme were present very early after the "Velvet Revolution 1989", like in the case of other numerous state enterprises of that post-communist period. Especially in the times of centre-right cabinets (1993-1998) concepts of a radical rail reform similar to that in the United Kingdom originated and began to be materialized. But the reform concepts were frequently changing, steps taken were scarcely finalized and the main cornerstones of the system have remained unchanged. The winding path of reform concepts in the Czech railroad system can be illustrated by the following table:

Table 1: **Periodization of Reform Attempts in the Czech Railroad System in 1993-2006**

Period	Key Motto	Description of Intentions
1993 – 1995	„Market Transforming of CD“	Specialization of station units, restructuring of CD in business segments and separated privatization
1995 – 1997	„Restructuring of CD“	Reduction of property, sale of excess assets, target: an integrated state enterprise
1997 – 1998	„Railway Reform“	Privatization of regional lines and operations, target: segmentation of CD and separated privatization
1998 – 2000	(1) „Unitary Incorporated Company“ (2) „Separated Infrastructure Construction“	(1) Conversion of CD to an a.s. (Inc.) (2) Conversion of CD to an a.s., separation of infrastructure maintenance
2000 – ?	„Transforming of CD“ - **materialized**	Conversion of the whole CD to an a.s., founding of a proprietary agency for selected infrastructure assets, corrections under the pressure of EU

Source: Own analysis on the basis of Šíp (2002, 2005b)

The development in the Czech rail sector and its results were influenced by more factors, especially the gradual ebb of the Government's general reform drive after 1993, origin of powerful trade unions and supplier lobbies interested in CD as a complying customer, and – not least – also the impact of temporary difficulties of the British rail reform, which was very tightly observed and commented in the Czech Republic, and, also temporary, slowing of the EU-driven rail reform process. The only systemic survivor of the reform period of the nineties was the existing Act No. 266/1994 Coll., on Railways,

[1] According to UIC (2004) after Germany, Poland, France, Italy, UK, Austria and Latvia

which, in spite of subsequent amendments, has formed a passable playing field for newly originated market entrants.

Since 1998, with the succession of Socialist or centre-left coalition cabinets, the path of radical reforms of the Czech railroad sector has been abandoned. After some exchange of concepts, the following Act No. 77/2002, on České dráhy, which entered into force as at 1 January 2003, transferred the former České dráhy, s.o. (State Organization) into an a.s. (akciová společnost, Inc.). The company of CD retained all the activities of the former State Organization, namely transport services, signaling and transport operation control, and infrastructure management. The Act founded a new State Organization, Správa železniční dopravní cesty (Administration of Railway Infrastructure, SZDC), in the initial phase in fact a mere proprietary agency, entrusted with administration of selected infrastructure assets (railroad lines outside stations incl. traction catenaries) while stations incl. railtrack, freight terminals, access roads and paths and adjacent lands remained within CD assets. The Act placed the incurred debt of the former České dráhy State Organization in SZDC (thus CD could begin with almost no debt burden) and ordered CD and SZDC to conclude a three-year agreement by which CD was entrusted to serve in a monopoly way SZDC with maintenance and operation of SZDC administered infrastructure.

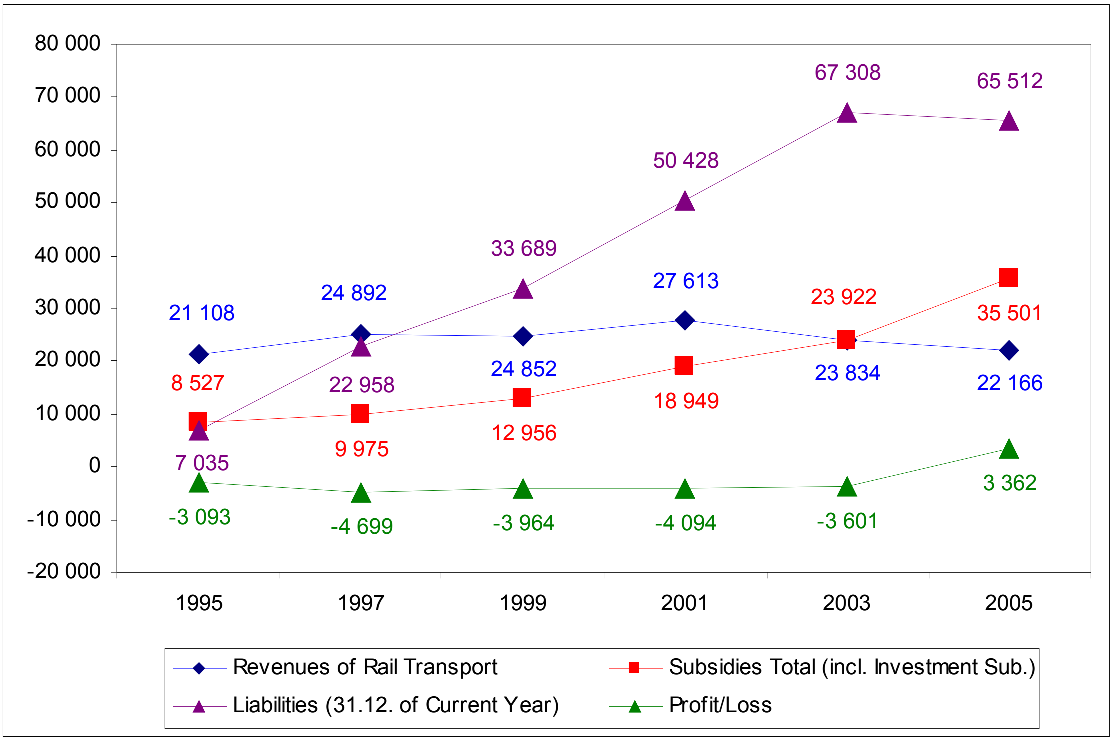
A group of Senators and members of the Chamber of Deputies filed in April 2002, before the legal force of the Act No. 77/2002 Coll., a Petition to annul certain provisions of the Act to the Constitutional Court of the Czech Republic. The Constitutional Court decided only in February 2003, which did not preclude the origin of the CD a.s. as at 1 January 2003, nevertheless in crucial issues (distribution of property including the pertinence of stations to the infrastructure, valuation of property, the duty of CD to apply for a license) it gave an affirmative response to the petitioners. The Court provided the Ministry of Transport with a period to remedy the state until 31 October 2003. At the Ministry of Transport, and successively in the governmental circles, however, the opinion prevailed that the attribution of substantial parts of railroad infrastructure to CD had occurred already before the judgment of the Constitutional Court ("the stipulations of the Act had been already consumed") and therefore did not require any essential changes. Thus the period for remedy set by the Constitutional Court has run out in vain.

Especially during the 1998–2004 period the Government chose the path of support to the almost monopoly position of CD even at the price of a marked growth of subsidy expenditure and of the rail system's total debt. Only the necessity to adjust Czech legislature to *acquis communautaire*, the EU first railroad package in particular, did correct this policy. The initial arrangement stipulated by the Act itself was so unsatisfactory that its repeated amendments were found necessary. By an amendment to the general Act No. 266/1994 Coll, on Railways, SZDC was entrusted the function of allocator of general infrastructure capacity, while the infrastructure operation and basic maintenance remained with CD. The need to ensure elementary functionality of the system also forced some corrections by proprietary deeds, e.g. the sale of infrastructure project and planning units (stavební správy) by CD to SZDC, or the readjusting of property split in stations in the respect that essential parts of railtrack and platforms positioned otherwise at the lands of CD, were attributed to SZDC. Nevertheless the cornerstones of the system, in fact stemming from the pre-reform period, remained without change.

The effect of protracted and half-hearted reforms showed on the development of the financial variables of the State railroad system. It can be shown by the following diagram:

Diagram 1: **Selected Financial Variables of Czech State Railroad System**

1995 – 2002 CD, 2004 CD+SZDC, billions of CZK
(CZK 1 bn = approx. EUR 35 million[2])



Source: Annual Reports of CD 1995 – 2005; Annual Reports of SZDC 2003 – 2005

While it can be stated that the numbers of 2005 signalize an improvement in changing the loss of the system to a profit, the other variables are not quite encouraging. While transport revenues in fact stagnate (or decline in real terms), the volume of total subsidies grows in time, almost doubled during 2001 – 2005, and, since 2003, surpasses the level of transport revenues. The variable of liabilities (which reflects at best the much differentiated structure of external indebtedness) grew by CZK 32.8 bn (EUR 1.15 bn, i.e. by 94%) during 1999 – 2005. In effect of this, the ratio liabilities/total assets grew from 8.4% in 1995 to 36% in 2000 and 47% in 2003.

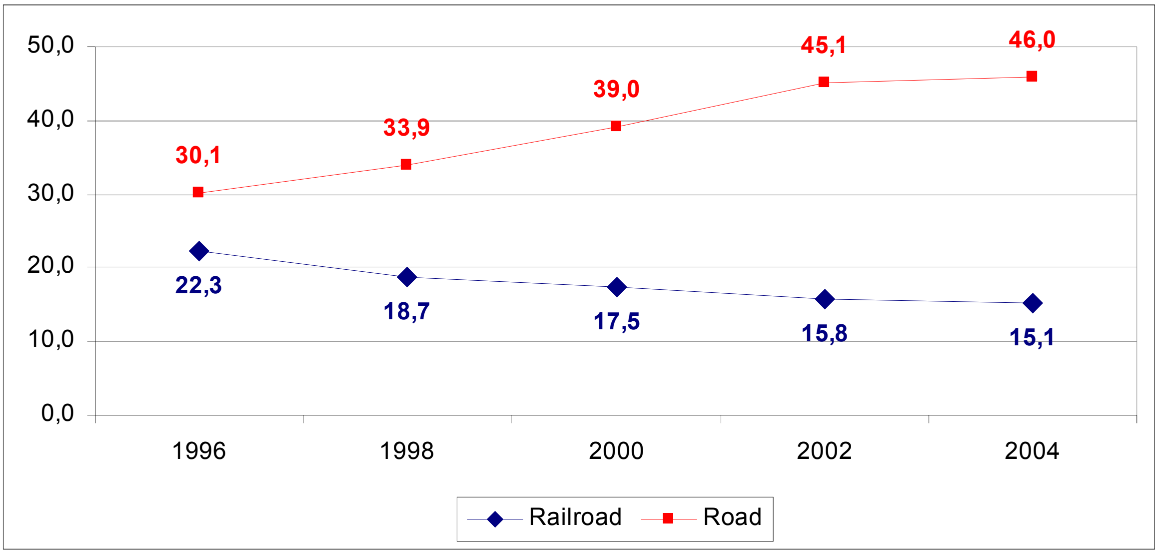
A positive element in the 2005 results is the Government organized reduction of the debt of the former České dráhy State Organization originally placed in SZDC, which is to continue until 2020. This mitigation of debt (CZK 8 bn in 2005) increased, on the other hand, the level of implicit subsidies coming into the operational revenue of SZDC. The above diagram shows that around thee fourths of the total subsidy increase were again absorbed by newly incurring indebtedness of both CD and SZDC.

Another negative development, reflecting also in the stagnating or slightly declining transport revenues, is the loss of customers and orders in rail freight transport and loss of the originally relatively high share of railroad in the Czech freight market modal split. It can be documented in the following diagram:

2 EUR exchange rate as at the end of September 2006; 1 CZK ≈ EUR 0.035

Diagram 2: **Modal Split between Railroad and Road Freight Transport in the Czech Republic in 1996 - 2004**

Billions of net ton-kms



Source: Statistical Yearbook of the Ministry of Transport of the Czech Republic, 1996 - 2004

This negative trend can be attributed to more factors. To name at least the most important ones, it is vast opening of European road network to international freight transport accelerated by the accession of the Czech Republic to EU, by far ahead to that of the EU rail network; inequality in infrastructure charging between railroad and road; poorer flexibility and reliability of state railroad transport than those of road transport; and financial inefficiency, overstaffing of the state rail system and internal cross-subsidizing of passenger transport within CD, all blocking needed investment in fleet and logistic technologies. Only during 2000 - 2004 the volume of freight transport in Czechia measured in fare ton-kms (a variant of net ton-kms) declined by 14.6 %. The loss was palpable even in commodities traditionally reserved for rail transport, e.g. coal, stone, gravel, cement or lumber.

As it has shown in the development so far, the Czech railroad system became only a secondary political theme within the context of other major reform and privatization operations. The Czech Republic simply lies too far in the West in the European continent for its railroad to retain former strategic importance, and, inversely, too far in the East for the taxpayer to be able to shower the railroad with money not asking too much about its efficiency, which may be the case in some "old" European countries. The solution of this disproportion will be costly and naturally last a very long time.

2. Legal Status of Reform, 3rd Party Access vs. Complete Vertical Separation

The Czech Republic became member of the European Union in 2004. This required implementing the entire EU transport *acquis* in the domestic legislature, including the first and second railroad packages. Especially in the amendments of the general Act No. 266/1994 Sb., on Railroads, such European rules were embodied like independent licensing, safety certification and inspection, general validity of EU operators' licenses in the country, independent allocation of infrastructure capacity to operators, public network statement etc. On the other hand, as we can see later, the implementation was not too profound and convincing. But in this respect Czechia is not alone, as proved by recent studies (RAILIMPLEMENT 2005a,b).

The recent system of the Czech rail sector's organization has originated by the Act No. 77/2002 Coll. as at 1 January 2003. CD in this respect still conserves the traditional vertically integrated model of a state rail undertaking. CD system was in general kept intact, only converted into a joint-stock company. SZDC acquired the right to allocate rail infrastructure capacity, but still fully depends on CD in the matters of timetable, signaling and management of infrastructure. This activity is ensured by SZDC through CD, based on the "Agreement on Providing Operation of Railway Infrastructure, its Operability, Modernisation and Development in the Public Interest", ordered by the Act. The first above mentioned agreement entered into force for the period from 2003 to 2005, in the end of the last year it was renewed for the period 2006 to 2008.The Agreement is not publicly accessible even if it deals with public spending.

ČD performs its activities in the following scope:

- Freight and passenger transport operation
- Provision for the functionality of the railroad infrastructure (i.e. current maintenance of the railroad infrastructure), while investment is performed directly by SZDC;
- Operation of the railroad infrastructure (i.e. control of the train movements on the infrastructure). As this is the case, "it is questionable to what extent these essential activities are really independent" (RAILIMPLEMENT 2005b:14).

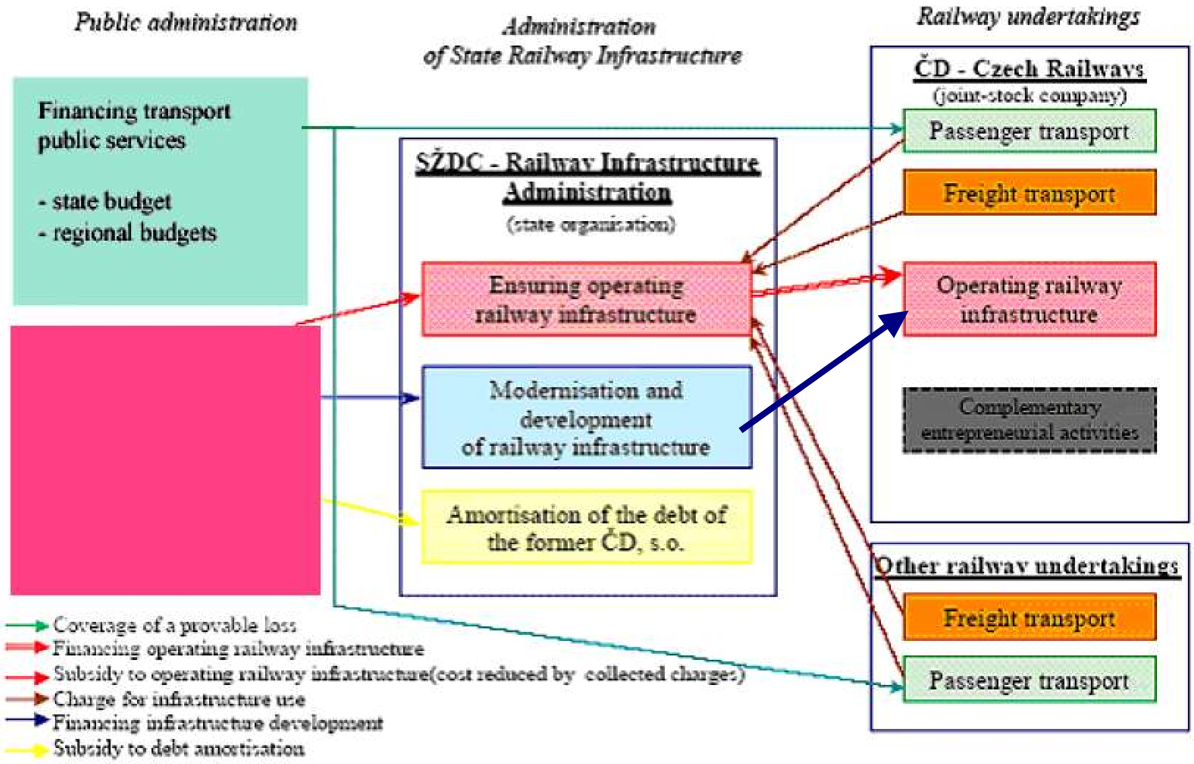
The function of infrastructure manager vis-à-vis the operators is now distributed in two entities: CD and SZDC. While SZDC allocates only a general amount of infrastructure, detailed timetable and transport arrangement is to be agreed with CD, a simultaneous infrastructure manager and competitor. Thus at the same time when the European railroad market tends to simplify international train ordering to one infrastructure manager, which was branded by the term "one-stop-shop", a specific Czech domestic "two-stop-shop" was introduced instead (Peleška 2006:2).

The restructuring of 2003 was largely in line with the interests of the former management of CD and it missed a profound cross-checking by the Government as representative of taxpayers. The position of the Government towards CD, like in more recent cases, was very far from being "at arms length". SZDC did not become an independent infrastructure manager, as it is stipulated by European directives, but much rather a sort of "appendix" of CD, dependent on and served by CD in an exclusive way. This concept was very much alike to that of the relation between the French Société Nationale des Chemins de Fer (SNCF) and Réseau Ferré de France (RFF), but with a substantial difference that both SNCF and RFF are entities of public law (*établissements publics nationaux à caractère industriel et commercial*), while CD was founded as an incorporated company on the basis of private law (Commercial Code). In this arrangement, its management could hope in much larger powers and independence than in a classical state enterprise and also oppose much effectively to potential Government's proprietary pressures.

A specific "financial loop" exists between CD a SZDC, not unlike to that "circle ownership" typical for the early phases of the "Czech way of privatization". If we limit to basic relations, CD pays SZDC charge for infrastructure use both in freight and passenger transportation, while SZDC pays CD the cost of general supply of track maintenance and construction and the cost of signaling and operation control. As the general agreement between CD and SZDC ordered by the Act is not accessible to public, therefore it is impossible to evaluate real financial flows between CD and SZDC and their final balance. A suspicion is justified, however, that the result is a disguised form of state subsidy to CD.

The complexity of existing relations between the Government, CD and SZDC can be displayed by the following diagram:

Diagram 3: **Principal Economic Relations between the State and Railroad after the Czech Railroad Transformation**



Source: RAILIMPLEMENT - Implementation of EU Directives 2001/12/EC, 2001/13/EC and 2001/14/EC, Country Report, Czech Republic; Own observations

This specific system of vertical integration of CD and mutual financial flows between CD and SZDC facilitates financial transfers between freight and passenger businesses of CD that put at stake the stipulation of Article 9 paragraph 4 of the Directive 2001/12/EC ordering accounting separation of freight and passenger-transport services[3]. CD estimated these transfers in its business plan for 2004 at the level of CZK 2.3 billion (EUR 81 million). This cross-financing is a point of disputes between CD and the Ministry of Transport; CD argues that it is not paid the entire provable loss from passenger transport public service obligation; the Ministry objects internal inefficiencies in CD. Anyway, the transfers emasculate the freight transport of CD and are one of the factors excluding due investment in CD's freight fleet. It can be completely agreed that "mandatory accounting separation is of little value unless accompanied by detailed rules on how their costs and use should be accounted for" (RAILIMPLEMENT 2005a:76). Nor can the accounting separation ever reach such perfection as in case of full organizational separation, as any undertaking must be given certain flexibility in central management overheads. Some potential cross-subsidies remain latent within the vertically integrated system of CD, e.g. using locomotives designed for freight use in passenger trains instead of missing diesel cars. Accounting separation between freight and passenger transport is therefore doubtful, or at least does not act in the manner presumed by European directives.

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[3] "In the case of railway undertakings profit and loss accounts and either balance sheets or annual statement of assets and liabilities shall be kept and published for business relating to the provision of rail freight-transport services. Funds paid for activities relating to the provision of passenger-transport services as public-service remits must be shown separately in the relevant accounts and may not be transferred to activities relating to the provision of other transport services or any other business."

Another doubtful implementation of EU regulations concerns Article 6 paragraph 3. of Directive 2001/12/EC presuming separation of infrastructure access management from transport operation[4], in respect to decision making related to the path allocation including both the definition and the assessment of availability and the allocation of individual train paths. Even if the above "two-stop-shop" does not itself constitute discrimination of the other operators in everyday operational conditions, the pertaining asymmetric legislative model gives this option to CD while the other operators in fact become dependent in their activities on its good will. It can be missing e.g. in case CD gets under pressure to improve entrepreneurial efficiency. Not neglectable is also the fact that CD obtains by its timetable function a complete overview about business cases of its competitors, especially in freight transport. These facts bring about constant risk to business results of third party operators and, particularly, to planning investment with long-term returns.[5]

Notwithstanding this, it seems that third party access is generally guaranteed in the Czech rail network. Until this time, no specific findings exist that CD should prevent the other operators from access to tracks and from utilizing slots they are entitled to in their license according to Art. 24 – 34 of Act on Railroads. Only some attempts were observed to collect charges beyond the extent of valid price regulation by the Ministry of Finance, e.g. a „charge for introduction of train“ etc. These attempts were usually eliminated already during negotiations about the contract when it seemed to provoke a potential antimonopoly case.

As for the access to stations and freight terminals, no specific evidence exists that CD would block the operators from using these facilities, in spite of the controversial infrastructure property split between CD and SZDC. The other operators, however, are in most cases not dependent on CD marshalling yards and freight terminals, as they can perform train marshalling, loading and reloading on clients' sidings and industrial railtrack facilities. Notwithstanding that, it is needed to find a solution that would grant the other operators an *a priori* fair and non-discriminatory access to them on identical conditions as with own transport of CD.

The risk of constraint of effective competition in railroad transport by potential blocking of access to maintenance facilities is also relatively small with regard to the fact that both in Czechia and nearest environs (Slovakia, Poland) a significant excess supply of maintenance facilities exists in the sphere of locomotives as well as wagons while they are able to ensure very good quality of repairs for a commensurate price. Thus it is not necessary that the other operators utilize maintenance facilities of CD.

No basic obstacles have been recorded so far in including trains of the other operators into the public timetable; certain problems were found only in announcing their passenger trains in railroad stations included in the property of CD. As the timetable has been elaborated according to Art. 40 of Act on Railroads by the infrastructure operator, in this case CD, such obstacles cannot be excluded in the future.

It is generally supposed that (also in respect to the physical wear and tear of CD vehicles) the operator will enter the Czech railroad network with own rolling stock, i.e. purchased or leased from private entities. In some cases, however, it was found suitable that especially a small regional operator leased vehicles from CD who are generally in excess of rolling stock capacity. Cases were registered in the past (e.g. during acquisition of the operation on Desná Railroad by Connex Morava in 2002) that CD fiercely resisted to the lease of vehicles (even if the vehicles had operated on this railroad already earlier and had been reserved for it). A certain mark of tendencies to a "predatory" attitude of ČD is contained also in the text of document „České dráhy: Strategie 2008“, headlined „Disposal with Unnecessary Rail Vehicles“, which reads that „a sale for the purpose of further operation strengthens competing operators even under condition when the buyer obliges himself not to use transport means on the tracks operated by České dráhy. Liquidation then reduces the value that it is possible to obtain

4 „Member States shall take the measures necessary to ensure that the functions determining equitable and non-discriminatory access to infrastructure, listed in Annex II, are entrusted to bodies or firms that do not themselves provide any rail transport services. Regardless of the organisational structures, this objective must be shown to have been achieved."

5 This may be also a potential response to question raised by Pittman (2001:12), why some version of competitive track access allowed in the Czech Republic was accompanied with only a very little entry observed into freight train operation.

for the rolling stock in the market. From the standpoint of the company's competitiveness the latter variant looks more convenient" (České dráhy 2003:36). It is to be underlined that such a case would mean general economic waste and that, simultaneously, CD is beneficiary of exclusive public subsidies and guarantees aimed to renewal of rolling stock. "Scarcity has arisen in the provision of drivers and rolling stock, in some cases apparently as a result of the policies of incumbent operators which hinder new entrants." (RAILIMPLEMENT 2005a:11)

A specific problem arises for smaller freight operators with the shortage of historical two-system electric locomotives facilitating the border crossing to Germany (type CD 371 and 372). These locomotives were reserved and are only used by CD and Deutsche Bahn (former Deutsche Reichsbahn of the then East Germany). The problem is currently bridged by the use of old diesel locomotives homologated in both countries (especially the former Soviet CD 781 types) or by a classical change of the locomotive and operator at the border. The purchase or leasing of new locomotives by freight operators depends only on the extent of business and on homologation of respective state-of-the-art locomotives in the Czech Republic[6]. It nevertheless seems that for an efficient renewal of the shabby rolling stock in the newly acceded countries, reconstructed vehicles from the old EU countries in a sufficient extent are necessary.

The existing transportation policy for 2005 – 2013 approved by the Government expresses the necessity to finish the transformation process in the railroad sector and to create conditions for the intensification of a competitive environment in railroad transport in compliance with individual European "railway packages" (MoT 2005: 22). One of the main tasks is to analyze the economic and legal situation developed after adopting Act No. 77/2002 Coll., on CD, with the objective of repealing it to make Czech Railways and the Railway Infrastructure Administration proceed in their business activities and relations according to the Commercial Code and to make them manage their activities in line with generally valid regulations while general provisions concerning the specific aspects of operation and infrastructure management are to be integrated into the Act on Railways. Conditions of enterprise on the railroad network are to be applied in a non-discriminatory way for all operators through readjusted relations between the subjects involved (ibid.:23). This can be assessed as a certain progress towards a non-discriminatory rail market while the exclusive character of the SZDC – CD relation and a highly dominant role of CD in rail transport are likely to be preserved.

3. Setting of Freight Access Charges in the Czech Republic: The Conceptual Base

The existing Government's Transport Policy states the need of harmonization of charges for the utilization of transport routes and that objective charging of transport route utilization is necessary, which must cover all costs connected with the operation, maintenance, and renewal of the transport route (MoT 2005: 12, 18, 20).

Since 2004, SZDC publishes its network statement on its website (www.szdc.cz) both in the Czech and English versions (SZDC 2006). The network statement provides for general conditions for infrastructure use, such as principles, criteria, and conditions for the railroad infrastructure capacity allocation, options to use or withdraw from the allocated capacity, and one of the provision also covers setting infrastructure access charges (price for the use of the railroad infrastructure capacity; SZDC 2006:19-22). They are set by SZDC within the framework of general maximum price regulation executed by the Ministry of Finance (MoF 2005).

6 Another problem concerning homologation of contemporary electrical locomotives and trainsets has been hit during the homologation process of CD three-system Intercity 680 sets (Pendolino). It was found that asynchronous motors of contemporary traction vehicles like Pendolino emit strong back currents into the railtrack capable to disturb obsolete rail interlocking circuits installed on SZDC network. CD had been aware of this problem for a long time but did not insist on its timely solution, as this prevented from unwanted foreign competitors. A controversial solution has been recently found in correcting the technical standard in force, leaving a discussion open on potential hazards and a question mark over future access of foreign state-of-the-art fleet with asynchronous motors to the country's network.

The prices for the use of infrastructure are from the very beginning conceived as two-tier systems with a train-km component (which should cover the cost of operation control) and a gross ton-km component (designed to cover the cost of infrastructure maintenance and renewal) and differ for freight and passenger traffic. For the purpose of calculation of the resulting price for the use of the railroad infrastructure in freight transport, the Allocator uses the maximum prices and all the coefficients specified in the Price Ordinance in full amount.

While the target is set by the Transport Policy to raise the charges in the future to cover all the cost of infrastructure operation and maintenance, the actual level of infrastructure prices covers according to estimates around 60% of the total infrastructure cost, which is over the European average. It is, however, doubtful, if it is possible to raise the effective level of access charge up to 100% of the infrastructure cost in the foreseeable future, as targeted.

A critical problem stems from the fact that the real infrastructure costs to be compared with the infrastructure use prices originate in CD in a monopoly and hidden way, as it executes monopoly signaling, operation control and maintenance of the infrastructure administered by SZDC. The real level of costs is not accessible for checking of efficiency and appropriateness, and it can be doubted whether SZDC and also the super-regulator, Ministry of Finance, can really determine whether the conditions for a change in maximum or effective rates are fulfilled or not. The typical case is that CD or SZDC prepares an initiative proposal of a infrastructure price change, hands it over to the other partner, the Ministry of Transport and Sdružení železničních společností (Association of Railway Companies, SZS) for assessment, and then – after some delay and negotiation – more or less the same proposal proceeds to the Ministry of Finance, which sanctions it by including it into an amendment of the Price Ordinance. The CD's powerful position helps to execute pressure on both Ministries, and the opinion of SZS, representing third party operators, is not too much taken into consideration, even if these operators, unlike CD, cannot outweigh the paid infrastructure prices by revenues from SZDC.

The described behavioral model asserted itself fully in 2005, when SZDC and Ministry of Transport proposed with a silent consent of CD, and against the opinion of SZS a new Price Ordinance that was authorized by the Ministry of Finance effective as at 1 July 2005. The Ordinance raised the prices of railroad infrastructure paid by rail freight while the highest increase reaching 15% was stipulated for the tracks included into the European railway system, where around 90% of all the rail freight transport in the country took place. The infrastructure price rise came just in the period when motorways and trunk roads suffered under the immediate impact of international truck transport profiting from the abolition of customs barriers after the accession of the Czech Republic to the EU and when voices multiplied supporting the need to transfer at least a part of the load to the railroad. It seems that the real reason for the raising was the CD's fear of potential new competing railroad entrants which, as it showed in the end, was far from reality.

4. The Level and Differentiation of Access Charges

The charges paid by the operators in the Czech Republic to SZDC consist from two main items:

A. For the rail infrastructure allocation (reservation)
B. For the infrastructure use by operating trains.

A. Rail infrastructure allocation (reservation) charge

The price for the rail infrastructure allocation is differentiated according to the priority of request to the expected train operation:

a) CZK 15 (EUR 0.52) per path (slot) and day - for requested capacity allocation 12 months prior to the day of validity of the timetable or during preset day of train path negotiations;

b) CZK 25 (EUR 0.88) per path (slot) and day - for *ad hoc* requested free railroad infrastructure allocation;

c) CZK 120 (EUR 4.21) per path (slot) and day - for one-off *ad hoc* requested free railroad infrastructure allocation, requesting its use within two working days from the submission of application.

This charge is generally observed as commensurate and does not form a special financial burden to the operators. Another issue is the length of requested period of one year before real operation, which stems from the Act No. 266/1994 Coll., on Railroads.

B. Charge for the infrastructure use

As it was told before, the prices for the use of infrastructure are conceived as two-tier systems with a train-km component and a gross-ton-km component and differ for freight and passenger traffic. The original system with only two pairs of coefficients, for freight and passenger transport each, was recently replaced by a more complex system, differentiated by

- Freight and passenger transport
- Train-km and gross-ton-km components
- The category of the rail line: nation-wide lines forming part of the European Rail Freight Network System[7]; other nation-wide lines; and regional lines[8]
- Potential use of vehicles with tilting body
- Potential use of diesel traction vehicles on electrified lines.

The complex formula of the computation of the infrastructure charge is as follows:

a) For non-electrified lines

$$C_m = (S_{1E} \times L_E + S_{1C} \times L_C + S_{1R} \times L_R) + \frac{Q}{1000} \times (S_{2E} \times L_E + S_{2C} \times L_C + S_{2R} \times L_R) \times n \qquad (1)$$

b) For electrified lines

$$C_m = (S_{1E} \times L_E + S_{1C} \times L_C + S_{1R} \times L_R) + \frac{Q}{1000} \times (S_{2E} \times L_E + S_{2C} \times L_C + S_{2R} \times L_R) \times n \times e \qquad (2)$$

where:

C_m - the total charge for using the intrastate railroad infrastructure on nation-wide or regional lines by one train for an agreed route

S_{1E} - price for 1 train-km as a share of the price for operating the infrastructure (operations control) per train kilometer elapsed on nation-wide lines forming part of the European Rail Freight Network System

S_{1C} - price for 1 train-km as a share of the price for operating the infrastructure (operations control) per train kilometer elapsed on other nation-wide lines

S_{1R} - price for 1 train-km as a share of the price for operating the infrastructure (operations control) per train kilometer elapsed on regional lines

7 Specified in the Communication of the Ministry of Transport No. 111/2004 Coll., on the List of Rail Systems Included into the European Rail System

8 Specified in the Government Decision No. 766 of 20 December 1995

S_{2E} - price for 1000 gross-ton-km for the train as a share of the price for ensuring the infrastructure operability for one thousand gross ton-kilometers elapsed on nation-wide lines forming part of the European Rail Freight Network System

S_{2C} - price for 1000 gross-ton-km for the train as a share of the price for ensuring the infrastructure operability for one thousand gross ton-kilometers elapsed on other nation-wide lines

S_{2R} - price for 1000 gross-ton-km for the train as a share of the price for ensuring the infrastructure operability for one thousand gross ton-kilometers elapsed on regional lines

L_E - distance of trains running, in kilometers, rounded up to whole kilometers elapsed on nation-wide lines forming part of the European Rail Freight Network System

L_C - distance of trains running, in kilometers, rounded up to whole kilometers elapsed on other nation-wide lines

L_R - distance of trains running, in kilometers, rounded up to whole kilometers elapsed on regional lines

Q - gross weight of a train, in tons, taken:

- for a freight train: as the sum of railroad rolling stock weights (motive power units, rail cars, other rolling stock on its own wheels) and the loaded goods weight (consignments), in tons, rounded up to whole tons
- for a passenger train: as the sum of railroad rolling stock weights (motive power units, railroad cars, other rolling stock on its own wheels) and passengers' weight (the number of seats × 0,08), in tons, rounded up to whole tons

n - coefficient taking into account the use of vehicles with tilting body (1.25 using the tilting technology, otherwise 1.00)

e - coefficient taking into account the number of a unit of an independent traction on electrified lines (e = 1.075 if the unit is used, otherwise 1.00)

The values of coefficients used recently by SZDC are as follows:

Table 2: **Coefficients for Computation of the Prices of Infrastructure Use**

Sort of Train	Type of Line	S_1	S_2
		CZK/train-km (values in EUR given in paren-theses)	CZK/thousand gross ton-km (values in EUR given in parentheses)
Freight Train	E – European	53.31 (1.87)	70.63 (2.48)
	C - Nation-wide, Other	48.46 (1.70)	58.86 (2.07)
	R – Regional	43.61 (1.53)	44.15 (1.55)
Passenger Train	E – European	6.50[9] (0.23)	52.96 (1.86)
	C - Nation-wide, Other	6.50[10] (0.23)	42.09 (1.48)
	R – Regional	6.50 (0.23)	35.67 (1.25)

Source: MoF (2006); SZDC (2006); SZS (2006)

9 Voluntary reduction by SZDC; the maximum price set by the Ministry of Finance is 9.23 CZK/train-km
10 Voluntary reduction by SZDC; the maximum price set by the Ministry of Finance is 7.67 CZK/train-km

As we can see from the preceding table, both coefficients, S_1 and S_2, are higher for freight than for passenger trains, in the case of the coefficient S_1, designed to denote the price for operating the infrastructure (operations control) per train kilometer elapsed, even strikingly higher. It suggests that the cost of operation control (signaling, dispatching etc.) would be in the case of an average freight train 7 to 8 times higher than in the case of an average passenger train. This is, of course, a rather absurd assumption, so we can consider it to be another sort of a cross-subsidy of passenger transport from the revenue of the freight one, this time officially supported.

According to computations made by SZS (SZS 2006), these levels of infrastructure access prices compared with those in Germany lead to astonishing differences. Computed on the basis of a comparable train route (Nation-wide, Other vs. Fernstrecke F 5), German prices for a passenger train converted by the current exchange rate are approximately 3 to 5 times higher than those in Czechia, while in the case of a freight train Czech prices constitute approximately 120 to 250% of German ones! Similar results like with a freight train come in the case of a sole locomotive. These examples reveal large discrepancies between the intentions of the official Transport Policy and real practice, also in the respect that, according to its text, in the Czech Republic, "railway infrastructure charges ... are based on marginal costs" (MoT 2005: 10). It is needless to add than this is only a limited help to the desired modal shift between road and railroad; therefore it is imperative that the existing discrepancies be corrected as soon as possible.

5. Third Party Operators: Their Origin and Impact in the Czech Rail Market

The Czech rail market began to develop already in the first half of the 90's and got another boost with the new European legislature, in spite of legal system inconsistencies.

Private rail operators in the Czech Republic can be sorted by their origin in the following way:

- External investment (Connex Česká Železniční s.r.o.)
- Industrial subsidiaries – expansion from sidings (OKD Doprava a. s., - coal mines; Unipetrol Doprava, a.s. – oil refinery)
- Development from rail construction businesses (Viamont, a.s.)
- Others (Česká severní dráha s. r. o., Jindřichohradecké místní dráhy a. s.)

Most of the companies of domestic origin were founded by employees' privatization during the reform period (1990 – 1998). No major rail freight operator originated in the market since that time, apparently due to the distortions in the legislature and unclear attitude of the Government to private investment in the railroad sector. The only external entrant was Connex Group, while Vogtlandbahn GmbH cooperates with Viamont, a.s., on cross-border passenger transport.

There are approximately 50 licensed private rail operators in Czechia, from which around one third perform freight business. Among the most important and regular private freight operators are OKD Doprava, a.s., Viamont, a.s., and Unipetrol Doprava, a.s.

The Czech rail freight market is one of the most monopolized markets in Europe (RAILIMPLEMENT 2005a:figure 4.4). It also follows from the table:

Table 3: **Size and Share of the Third Party Rail Freight Sector**

	2000				2004			
	Czech Rep.	CD	3rd Party Operators	*Share of 3rd Party Oper. %*	Czech Rep.	CD	3rd Party Operators	*Share of 3rd Party Oper. %*
Freight Transport (Ths.Tons)	**98 255**	**89 769**	**8 486**	*8,637*	**88 843**	**80 228**	**8 615**	*9,697*
Domestic	46 039	37 587	8 452	*18,359*	39 765	31 167	8 598	*21,622*
International (Total)	52 216	52 182	34	*0,065*	49 078	49 061	17	*0,035*
Of which: Exports	24 582	24 556	26	*0,105*	20 456	20 443	13	*0,065*
Imports	20 908	20 900	8	*0,038*	21 321	21 317	4	*0,019*
Transit	6 726	6 726	0		7 301	7 301	0	
Freight Performance (Mill.T.km)	**17 496**	**17 285**	**210**	*1,203*	**15 092**	**14 758**	**334**	*2,215*
Domestic	7 399	7 189	210	*2,836*	6 122	5 788	334	*5,455*
International (Total)	10 097	10 097	1	*0,006*	8 970	8 970	0	
Of which: Exports	5 690	5 689	1	*0,009*	4 735	4 735	0	
Imports	2 587	2 587	0		2 348	2 348	0	
Transit	1 820	1 820	0		1 886	1 887	0	

Source: Statistical Yearbook of the Ministry of Transport of the Czech Republic, Statistical Yearbook of CD

The decisive market share is held constantly by CD, which accounted for 90.3% of total rail freight transport in tons and for 97.8% of freight performance in ton-kilometers in 2004. From the difference in numbers it follows that the chief domain of third party operators are intensive, but short distance specialized transports often derived from their group's main commodity (coal, oil products, construction material). International transports are negligible so far. Nevertheless the third party operators' share grows in transported tons (index 2004/2000 101,5), and particularly in ton-kilometers (index 2004/2000 158,8), which means that they are serving external customers in a growing extent.

Private operators in Czech rail freight suffer from the asymmetrical character of the market, from imperfect legislature and regulation and have also problems with obtaining price-accessible used rolling stock, which is monopolized and often wastefully destroyed in CD, even if it could be able to serve for some time. Private rail operators have, on the other hand, more advantages which may facilitate the growth of their market share. They are oriented towards a private client, having the same concept of efficiency. This leads them to introduce a profound and complete calculation of business cases and a lean management system. They do not have to be specifically taught on intramodal competition, as it is their everyday bread. And, last but not least, they have, according to their proprietary status, access to private investment (Peleška 2005:3).

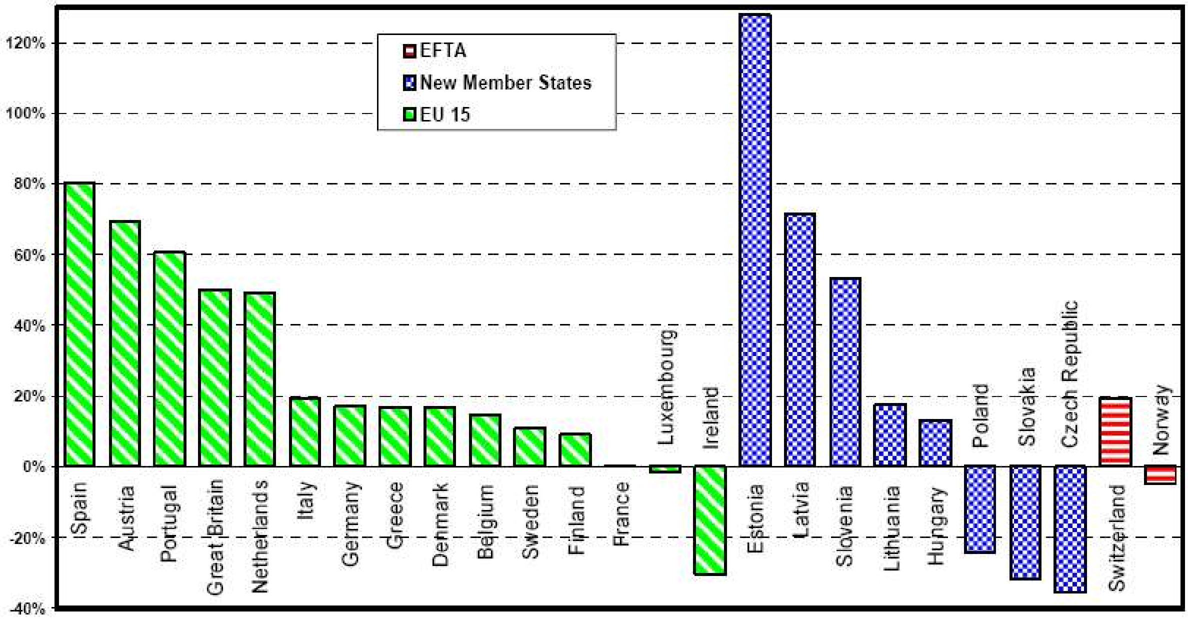
An example of a remarkable activity on the international stage is Viamont, a.s., Company. In 2003, Viamont became member of the European Rail Freight Association (ERFA), a joint body of Europe's private rail operators, where it takes part in the regulatory discussion with DG TREN, DG COMP, Community of European Railways (CER) and other stakeholders. Viamont also became a founding member of European Bulls Rail Freight Alliance (EB) in 2005. EB is not only considered a tool for efficient freight business, but also a joint base for many complementary activities like logistics, standardization, IT systems, train dispatching, personnel training etc.

The opening of EU freight market means a chance also for Czech third party operators and may also bring new entrants to the market. The main condition is improving the existing legislature consequently on EU standards, introduction of transport policy and institutions ensuring fair and non-discriminatory treatment of minority operators and solving the pressing problem of access to rolling stock. One of relatively obvious solutions is unbundling the existing incumbent operator – CD, make it free from infrastructure functions and, if possible, specialize in individual business segments (freight, Intercity/Eurocity and passenger regional transport). These segments have in fact different customers, different logistics, different level of public service obligations and also completely different potential investors. This operation would have an immediate healing effect for the whole Czech rail market. It would definitely remove "imperial behavior", so typical for a management of a state monopoly undertaking, create a really independent and impartial infrastructure management, remove destructive cross-financing between freight and passenger systems, evoke trust of potential investors and entrants, open resources of unused fleet, and it would also create new forces to attack the main future competitor, which is road freight.

6. Conclusion

In lieu of a concluding statement, we can only point out to the following diagram, depicting the 12 year development of rail freight businesses in individual EU countries:

Diagram 4: **Growth In Rail Freight By Network (Ton.km), 1993 -2004**



Source: RAILIMPLEMENT 2005a:35

It is no surprise that growth is in many cases linked very strongly with opening markets (Great Britain[11], Estonia, Spain, Netherlands, Germany), and decline with the least reformed networks (Czech Republic, Ireland, Poland, Slovakia). Railroad cannot be observed as a completely specific world where the hands of the clock run in the opposite direction and, in absolute difference to other industries including road transport, competition is unnecessary and cannot bring new quality. It is clear that harmonization with road transport has many facets: not only to reach the same position vis-à-vis infrastructure charges, as the topic is sometimes reduced, but also to get near to the road transport's competitive structure, to its efficient customer specialization, to its open markets and borders, its access to private investment and, not least, to its management and service qualities.

[11] RAILIMPLEMENT 2005a:44 attributes the growth in rail freight in Great Britain partially to the increases in haul length, as the dominant bulk commodity, coal, is increasingly imported rather than transported from the domestic mines around which the power stations were built.

The Czechia's railroad sector must not stay in the dark. It should utilize its position in the centre of European continent and attract rail operators and customers from all the Europe. Only opening of this market can make it attractive for missing investors and financially and commercially apt operators capable quickly improve its decaying fleet and lure domestic customers with a new level of services. It is a tremendous and demanding task for the administrators and regulators, but it has only one alternative – continuing reduction of the market. Conservation of the traditional industry structure based on vertically integrated CD cannot help the system; it will only give new food to the expansion of road freight transport.

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