
Will Czech Trains Ever Reach Their Destinations Efficiently?

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The Czech Office for the Protection of Competition represents České Dráhy (CD, Czech Railways) as a dominant firm in the market for rail freight transport. It recently forced CD to pay 270 billion Czech koruna (CZK) “for abuse of dominant position on the market for rail freight transport of large volume substrates,” alleging price discrimination “without objectively justifiable reasons” (2008, 1). It is obvious that this office sees CD as a profit-seeking firm in the market for rail freight transport.¹

The Czech railway industry² is subject to the authority of the Czech Ministry of Transport, which regulates the market, finances investments in infrastructure, and subsidizes the passenger transportation. The Ministry of Transport (2005) justifies its policies on the following grounds: (1) because public transportation has a social aspect in that “inexpensive” and “accessible” transportation services must be provided for every citizen of the Czech Republic; (2) railway transportation saves space; (3) railway transportation has a favorable effect on the ecology; (4) railway

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1. Of course, the relevant market must be defined. In the overall transportation market, CD faces competition from automobiles.

2. By the “Czech railway industry,” we mean two main companies: Czech Railways, Inc. (CD), and Správa Železniční Dopravní Cesty (SZDC), a state company.

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transportation promotes safety; and (5) railway transportation promotes the development of poor regions in the Czech Republic. Except the first and the last of these grounds, all rest on comparisons with automobile transportation, which is believed to cause greater negative externalities. Nevertheless, the first and the last grounds show that the Ministry of Transport considers CD a state monopoly that provides public goods and fulfills economic policy goals.

Thus, whereas the Office for the Protection of Competition sees CD as a firm maximizing its profit, the Ministry of Transport sees it as the state monopoly providing public goods and fulfilling state objectives. Yet the relevant infrastructure is the same. Despite a tendency to split the railway industry's vertical organization, this division does not solve railway transportation's chronic problem, which is dependence on the state budget because of inefficient operation. Even though CD is successfully sustaining the status quo, fiscal requests covering losses are obvious. Economists, therefore, are trying to find other solutions that stress the positive effects of competition.³

In this article, we consider recent suggestions for implementing competition in the railway industry based on vertical separation. We show that these suggestions fail to explain their institutional assumptions, which determine the market competitiveness that ensures efficient production; therefore, it is necessary to explain the incentives of firms operating in the railway industry. CD's incentives are confusing: on the one hand, it is considered a firm seeking profit under competition; on the other hand, it is considered a state monopoly providing public goods and fulfilling governmental objectives financed from the budget. We suggest a theory that absorbs such a paradoxical view of the organization of the Czech railway industry and provide evidence that our theory is applicable to the case at hand. More generally, we show that the suggested theory accurately explains the recent situation in the Czech railway market and yields reasonable implications for public policy because it does not stress the positive effects of competition. Rather, we argue that the road to efficiency must go through the reorganization of the entire industry's incentive structure. Our evidence from financial analyses supports the hypothesis that CD's organizational structure cannot improve efficiency unless government subsidies are cut.

We proceed as follows. In the first section, we explain the evolution of the European railway industry to show that the problem of inefficient operation is not unique to the Czech Republic and that it is historically dependent. In the second section, we reflect critically on recent public policy, which is designed to ensure efficient operation in Czech railway transport. The third section is dedicated to the explanation of "soft budget constraint syndrome" theory, supported by empirical evidence based on financial analysis of firms operating in the Czech railway market.

3. For an earlier description of public policy targeted to establishing competition in network industries in the Czech Republic, see Lízal 2000. For criticism of the separation of railway infrastructure and services in order to establish competition in the railway industry, see Tomeš 2005.

Competition Suggestion

Before we explain the problem of CD's chronically inefficient operation and reflect critically on recently suggested public policy, we need to outline briefly the development of the European railway industry, which helps us to understand the core of the problem of inefficient railway operation.

Brief History

European railways emerged in the second quarter of the nineteenth century. The firms' microeconomic structure usually reflected the fact that building and operating railway lines were interconnected. In modern terminology, railways were vertically integrated. Railways offered a new and reliable service, and the intensity of competition from the other transport modes was low. Railways achieved huge profits and did not require state subsidies. Nevertheless, they sought and often received state subsidies for construction and operation. The main argument for state subsidy used to be strategic: the railway system was alleged to be the country's military, transport, and economic backbone. Private activities in the construction and operation of railways also fulfilled broader political goals.⁴

At the beginning of the twentieth century, the railways' situation looked very optimistic. However, during the following decades, important changes occurred that strongly affected the profitability of the business. Most important, road transport began to compete intensively with the railways. After the spread of motor vehicles and the road network, railways were handicapped by their high fixed costs and inflexible infrastructure. Road operators offered consumers more flexible and cheaper services. Railways lost market share and profits, and started to have problems in covering costs. The situation in Europe was worsened by the world wars and by the Great Depression, which undermined the railways' financial stability.

The adverse economic developments prompted mergers and acquisitions. Accelerated by state intervention, these reorganizations usually eventuated in the nationalization of Europe's railways. After World War II, the typical European railway company was a monopolistic state-owned company. However, the adverse market condition persisted, railways continued to lose market share, and their financial problems deepened. Their strategic and military importance declined even more than their economic strengths, so it might have seemed that they had less and less importance for governments, but nothing could be farther from the truth. The close connection between governments and railways intensified in the postwar decades. The topic of the day was public-service obligation, railways being obliged to offer cheap and frequent services to passengers. This activity became increasingly unprofitable in European countries owing to the high costs entailed by safety and comfort

4. Martin Kvizda (2005) argues that European railways were never independent of government subsidies.

requirements. The result was a huge flow of subsidies from the state to railways to cover losses.

The monopolization and state ownership of railways had a negative consequence for their efficiency and profitability. The quality of services worsened, economic and marketing thinking was suppressed, resulting in huge losses and requiring high subsidies. General dissatisfaction with the state of affairs led to reform attempts. The reform strategy chosen in Europe has taken the form of vertical unbundling of the infrastructure and services. The authors of this reform believed that it would enable the emergence of competition on the track, lead railway firms to operate more efficiently, and as a result diminish losses. The strategy has been applied in the majority of European countries with varied amounts of energy and dedication. As a result, most European countries have the following railway industry structure: a state-owned infrastructure owner and an incumbent train operator with a strong relation to the state. This operator is subject to competition, but the level of competition in the industry is quite low. The major exception is the United Kingdom, where the unbundling has been followed by strong demonopolization and privatization of the incumbent operator in order to start a real change in the market for railway services. However, the other European countries have hesitated to follow this strategy.

The European strategy of railway reform has been based on the vertical unbundling of infrastructure and services. The theoretical reasons for this approach were simple. Prohibitively high fixed costs associated with construction of the railway infrastructure were supposed to restrict competition. If the services and the infrastructure were divided, competition might constrain the service companies' operations, and the economies of scale resulting from the railway infrastructure would be preserved. However, a question may be raised: When economies of scale reduce per unit costs of the firm's production, why cannot one firm supply the whole demand at the competitive price?

Criticism of the Suggested Competition

Harold Demsetz (1968) argues that standard microeconomic theory does not explain how a firm subject to economies of scale becomes a monopoly that reduces quantity in order to raise its price above the competitive level. In the case of a natural monopoly, standard theory concludes without theoretical explanation that the firm must be regulated. Demsetz critically points out that no theoretical basis exists for the assumption that the one firm in the market sets the monopoly price because we must distinguish the determinants of the firm's size, which is technology, and the determinants of the market's competitiveness, which is the number of potential competitors and ease of access to the technology. If both conditions are satisfied, one firm in the industry is efficient when the costs of horizontal competition are higher than the costs of the vertically integrated organization of production. Demsetz explicitly states: "[t]he important point that needs stressing is that *we have no*

theory that allows us to deduce from the observable degree of concentration in a particular market whether or not price and output are competitive" (1968, 59–60, emphasis in the original).

Applied to the problem of chronically inefficient European railways, this analysis suggests that the problem cannot be solved by breaking down the industrial structure into smaller organizational units because such a public-policy measure might worsen the production inefficiency of the whole railway industry. This strategy is not appropriately targeted because the main reasons for the railways' inefficiency might not be affected.

Israel Kirzner (1973) argues that competition does not consist in a *structure* of many firms producing a homogenous product for a given price with a given technology; rather, it is a *process* of entrepreneurial discovery of profitable opportunities in evolving markets.⁵ Historical experience of the European railway industry shows that the days when the railway technology was profitably employed have passed, but this change does not mean that entrepreneurs cannot discover completely unknown opportunities to utilize specific capital profitably.

To conclude, the New Institutionalists and Austrian economists argue that well-defined and enforced property rights provide conditions for profit-seeking competition, leading to economic efficiency. Only when property rights are well-defined and enforced can people voluntarily interact with each other and form efficient organizational structures. In our view, well-defined and enforced property rights oblige the owner to take responsibility for his property and motivate him to discover its most efficient usage. But when this responsibility is unbundled, the property will not be used efficiently. This is exactly what the proponents of soft budget constraint (SBC) theory stress. The owner's responsibility for his property is harmed when he does not have to bear a loss that would motivate him to look for a more efficient opportunity. Therefore, we explain the concept of efficiency here according to SBC theory, providing evidence that efficiency has not been achieved in the Czech railway industry.

CD under Soft Public Constraint

Joseph Schumpeter (2004) shows that creative competition is practically impossible without destruction. In order to create new innovations, bold and creative leaders must aggressively disturb the prevailing organizational structures. Such destruction fosters economic developments to which loss-making firms must adapt themselves. If firms are shielded from losses, further development is delayed. In this section, we advance an explanation of the theory proposed by Schumpeter's followers, who explicitly connect the concept of efficiency with a firm's financial balance sheet.

5. For detailed argumentation, see Otáhal 2008b.

SBC Theory

János Kornai (1979, 1980) was the first to develop SBC syndrome theory, arguing that a firm's production in a centrally planned economy is not constrained by its demand, as it is in a pure capitalist economy, but instead by centrally allocated resources. Because central planners seek to produce as much as possible to satisfy the consumers' demand, they create pressure on the firm's management to maximize production. However, if the socialist firm wants to produce more, it needs more resources, so the firm's demand for centrally allocated resources is almost infinite. The demand for a firm's production is, according to Kornai, also almost infinite because the management of a socialist firm creates a shortage of consumer goods. Buyers queue up to acquire the firm's products, and such excess demand serves as an argument for the further doling out of resources from the central planners. The central planners' desire to produce as much as possible, in combination with the almost infinite demand for the firm's production and the firm's almost infinite demand for resources, which must also cover huge investments, creates an endless, self-generating, vicious circle of shortage.

Kornai's analysis of chronic shortage in Hungary leads him to the hypothesis that this phenomenon is related to the softness or hardness of a firm's budget constraints. If a firm's budget constraints are not hard, chronic shortage caused by unlimited demand prevails. Kornai assumes that every firm's decision making is constrained by its budget.⁶ For example, the capitalistic firm is constrained by incomes derived from selling its products; given its demand constraints, it decides voluntarily about its production plans. In contrast, a socialist firm's decision making is determined by the given technology and the quantity of resources specified in the plan. Because a firm's management is politically obliged to maximize production, its ultimate decision making is at the level of the central planner. Kornai concludes that the problem of effective utilization of resources in a capitalist or socialist economy is not the problem of setting "the right" price structure, but rather the hardness or softness of the firm's budget constraints, which force the firm's management to use resources effectively.

Even though Kornai's theory may be interpreted as an analysis of a centrally planned economy, firms under SBCs exist in various institutional environments. Kornai and his colleagues (Kornai, Maskin, and Roland 2003) present a general concept of the SBC syndrome theory and explain several typical examples of firms that might also be found in capitalist economies. In order to unify the theoretical contributions to the SBC syndrome approach, they divide vertically integrated organizations into two types: budget-constrained organizations (BC organizations) and supporting organizations (S organizations). The former are firms externally supported by the latter.

In the context of Kornai's original argument, BC organizations are centrally planned firms fulfilling the political tasks of a central planner who represents the

6. By these assumptions, Kornai abandons the traditional view of a firm constrained by technology and resources.

S organization. In a socialist economy, the decision making of BC organizations is vertically integrated and strictly dependent on the purposes of the S organization (the central planner). In a more decentralized economic system, the manager's decision making is more autonomous, but a manager's planning always depends to some extent on the objectives of the S organization, which holds the position of an "important person behind the scenes." For example, in the later central-planning proposal, firm managers were supposed to make autonomous decisions according to a given price structure, where prices have a parametrical function. The price structure was supposed to be set by a central planner (S organization) using a trial-and-error strategy (Lange 1936, 1937), but operating under conditions of SBCs made the managers of socialist firms less price sensitive because they were seeking external assistance from the central planner (S organization) who was unwilling to let inefficient firms fail. Kornai says: "Allocative efficiency cannot be achieved when input-output combinations do not adjust to price signals. Within the firm there is not sufficiently strong stimulus to maximum efforts; weaker performance is tolerated" (1986, 10). Nevertheless, in more decentralized economic systems where firms can influence prices, SBC syndrome might also be fostered because managers counting on outside financial injections might set prices so they reflect firms' costs. By such price setting, inefficient firms might incur mounting losses (Kornai 1980, part 2).

In general, firms seeking external financial assistance are those that are generating losses continuously. They are obviously operating inefficiently. However, in SBC syndrome theory, budget-constrained organizations need not be guided by profit-seeking entrepreneurs.⁷ They might also be nonprofit organizations unable to cover their expenditures from their initial endowment or revenue without external assistance—for example, hospitals, universities, large insurance companies, financial institutions, national economies, and railways.

In the following subsection, we describe the railway industry in the Czech Republic to provide empirical evidence that SBC theory accurately explains this industry's situation. We try to show that this industry is inefficient according to Kornai's view of efficiency; therefore, we explicitly connect the concept of efficiency with external subsidies provided by the Czech government to CD. We first describe the organizational structure and then we provide a financial analysis of CD.

Empirical Description

The national transport company CD was founded in 1993 as a part of the former companies of the Czechoslovak Railways. Up to 2002, CD was an integrated company responsible for passengers, cargo transport, traffic management, and the

7. This is the difference between SBC theory and rent seeking (Otáhal 2008a), which highlights the profit-seeking entrepreneur who switches his interest into seeking rents. SBC theory applies not only to the profit-seeking entrepreneur, but also to organizations that might seek to build social capital—for example, churches.

reconstruction and maintenance of tracks. The national transport company had a portfolio of many other services, including the repair of train cars and locomotives, catering services onboard trains, a health service, an owned publishing company, and so forth. In 2003, the infrastructure manager Správa Železniční Dopravní Cesty (SZDC, Railway Infrastructure Administration) was established and made responsible not only for the transport railway path, but for all activities subcontracted to CD.

Figure 1 shows the structure of railway organization in the Czech Republic. The SZDC, as a state organization, has an executive council composed of members of the Parliament of the Czech Republic and employees of the Ministry of Transport. CD, Inc., is in a similar situation, with a supervisory board composed of managers at the Ministry of Transport and members of the Parliament. The governing committee includes managers from the transport, finance, defense, industry and trade, and regional development ministries. The members seek to control and execute the ownership right, but they have been susceptible to influence and suggestion, which has deepened the negative consequences of SBC syndrome.⁸ They are paid not only by their employer, CD, but also by the government. CD's decision makers have tried to influence control authorities toward its interest. CD's main interest is to obtain the maximum amount of subsidies and state-guaranteed loans, which shows that the company suffers from the SBC syndrome. In the Czech Republic, the system of financing passenger transport from public sources is based on the principle of arguable loss.⁹ Arguable loss is calculated as the difference between economic authorized costs, together with fair profit¹⁰ and revenues from providing passenger transport services. Hence, CD has an incentive to maximize costs and minimize revenues in order to maximize subsidies. The state bears the risk of cost increases.¹¹ These facts are very important for understanding CD's behavior. The upshot is that CD constantly seeks to soften its budget constraints.

After 2000, the unbundling process began. CD has founded many daughter companies in the past eight years (a catering company, a train repair company, a logistics company, a propagation and printing company, and others). This process is continuing. In 2008,¹² CD-Cargo (the freight transport company) was founded, and maintenance and the preparation of timetables were transferred from CD to SZDC, the Railway Infrastructure Administration. CD is now preparing to establish a daughter company for passenger transport.

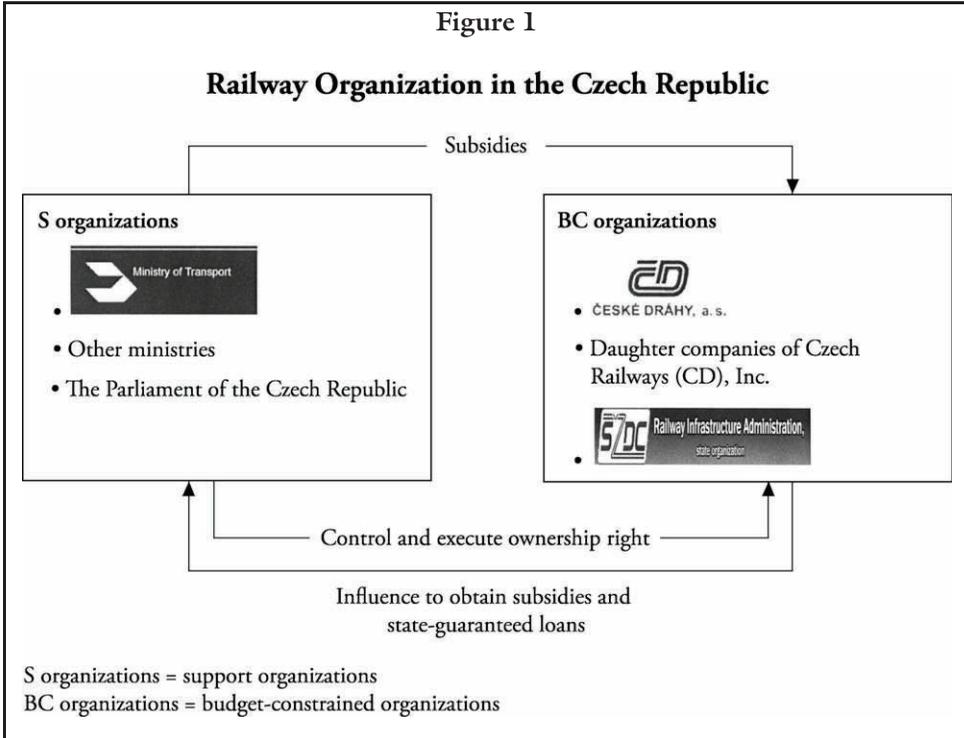
8. For a theoretical explanation of the relationship between politicians and firms in the context of SBC theory, see Shleifer and Vishny 1994.

9. The principle of arguable loss is used in most European countries.

10. Fair profit is not the difference between costs and revenues, but a share of economically authorized costs (5 percent in railway passenger transport).

11. For further analysis of arguable loss, see Pospíšil 2007.

12. The exact foundation date was December 1, 2007.



The unbundling and outsourcing process has been founded on the economic idea explained in the previous section. By applying SBC theory, we show that sometimes this economic idea has had another bad result. Daughter companies are also acting as BC companies. In tenders, CD has preferred its own daughter companies. The price for service from the daughter companies is not lower because the daughter companies understand that CD is a BC company and is thus not under pressure to earn a profit. Hence, many outsourced services for CD (not only those of daughter companies) have been more expensive than they would be in a clearly competitive market. In this case, we see that the implications of SBC theory apply not only to BC companies, but also to the subcontractors.

External Costs of Daughter Companies

In this case, we show evidence that the unbundling process of CD has increased costs for external services and has increased the number of BC organizations. Table 1 shows that the cost of outsourced services increased in the monitored period, when the growth rate of this cost was higher than the growth rate of the staff cost and total cost in CD. The outsourcing process is typical for free markets. A common result of this process is cost saving, but in CD's case, as illustrated in Table 2, this result was not attained.

Table 1
Costs for CD External Services (in Millions CZK)

	2004	2005	2006	2007
Costs for services	13,111	12,804	15,086	15,219
Costs for services without a path fee and costs for traffic control	7,301	7,109	9,026	9,080
Growth rate (without path fee and traffic-control costs) (%)		-2.63	26.98	0.59

Source: CD 2005–2007; authors' calculation.

Table 2
Related Parties' Transactions: JLV versus CD (in Millions CZK)

Year	Income	Costs	Difference	JLV's Profit
2007	14	160	-146	10
2006	23	150	-127	12
2005	22	138	-116	

Note: Transactions given from CD's view.

Source: CD 2005–2007.

JLV, Ltd., a catering and train accommodation company, is a CD daughter company that has gained about 160 million CZK from its mother each year. Why? CD has owned sleeping and catering vehicles and has gained revenue for sleeping tickets.¹³ As is shown in table 2, the relationship between JLV and CD has generated costs for CD of approximately 160 million CZK per year without amortization for repairing sleeping and catering vehicles. Operation of catering for train accommodation services is profitable for JLV, but not for CD. The outsourcing process in catering and train accommodation service has not led to cost saving for CD. Whereas a company with tough budget constraints has never continued a loss-making business for a long period, table 2 shows that a company with SBCs has done so.

Financial Condition of the CD Transportation Industry

Consider now the effect of SBC syndrome on the financial behavior of CD and SZDC, a state company. The relationship between the decision makers of S and budget-constrained organizations intensified with the advent of a new head of the Ministry of Transport in 2006. Aleš Řebíček had owned and managed as chief

13. The estimated amount of revenue from accommodation tickets is approximately 100–140 million CZK per year.

executive officer the transport and construction company VIAMONT, Inc., before he became head of the Ministry of Transport. His former company has competed and cooperated with the dominant state-owned transport company, CD.¹⁴ Table 3 shows that in 2007,¹⁵ subsidies for CD's transportation industry increased by about 14.9 percent (nominally 4.1 billion CZK) and the real growth rate reached 11.7 percent (1.9 billion CZK). The development of subsidies for CD's transportation branches demonstrates that the BC organization (CD and SZDC) succeeded in gaining subsidies and softening its budget constraints.

Table 4 shows that the chief aim of CD and SZDC's managers has been to gain the highest possible subsidies. Their secondary concern is gaining benefits by providing services. The development of subsidies' share in benefits proves that the CD and SZDC managers were more successful in seeking subsidies than in acquiring revenue in the monitored period. The growth of costs has to be covered either by subsidies or by revenues. For CD's decision makers, seeking subsidies has evidently been easier than gaining revenues.

The amount of payables and loans of CD's branch decreased during the monitored period, but the amount reached about 60 billion CZK in 2007. The share of payables and loans (table 5) without the state as guarantor or creditor increased in the monitored period, but the share was only 26 percent in 2007. This evidence illustrates the development of the CD branch's SBCs.

The risk that CD and SZDC will not be able to pay their loans in the near future is high. It is possible to estimate the future development of the payables structure under plans of reconstruction of the main track (transit rail corridors III and IV). The expected costs will be about 100 billion CZK. Another problem, which may be expected in 2011, is SZDC's obligation to pay by a single application bonds in the amount of 7 billion CZK. In the near future, CD and SZDC's demands on S organizations will thus increase dynamically.

We can see in table 6 how each year the state executes state guarantees on behalf of CD. In 2003, when SZCD was founded, all of CD's loans (not only for infrastructure projects) were transferred to SZDC, and the state took over guarantees on all of the loans. State guarantees further soften the budget constraints of CD's transportation branch. Decision makers in CD and SZDC know that the state, as owner, has never let these companies fail because they were fulfilling the aims of transport and social policy. In the case of SZDC, the state acts as last-resort creditor: if SZDC is unable to pay its payables, the state will cover them. Thus, SBC syndrome is deepened by state ownership of CD's main companies.

14. Potential exists for corruption. For a detailed explanation of corruption in public organizations, see Otáhal 2007.

15. This was the first year that the new head of the Ministry of Transport was able to influence subsidies for CD's transportation branch.

Table 3
Subsidies for CD's Transportation Branch (in Millions CZK)

	2000	2001	2002	2003	2004	2005	2006	2007
Capital subsidies	6,195	5,822	10,784	10,683	11,731	14,277	13,800	16,316
Maintenance and traffic-management subsidies	825	3,071	3,213	6,820	6,384	6,103	6,400	6,975
Subsidies for passenger transport	7,541	9,273	9,683	7,243	7,178	7,335	7,243	8,251
Total nominal	14,561	18,166	23,680	24,746	25,293	27,715	27,443	31,542
Total real	10,209	12,137	15,537	16,220	16,114	17,322	16,723	18,682
Real growth rate (%)		18.9	28.0	4.4	-0.7	7.5	-3.5	11.7

Sources: CID 2000–2007; SZDC 2003–2007; Czech Ministry of Finance 2006; Czech Statistical Office n.d.a, n.d.b; authors' calculations.

Table 4
Development of Profit or Loss and Subsidies in the Railway Branch
(in Millions CZK or %)

	2003	2004	2005	2006	2007
Change of profit or loss*	1,220	3,028	3,941	127	-2,079
Change of subsidies	1,066	547	2,422	-272	4,099
Subsidies' share of consolidated benefits (%)	48.0	49.9	48.7	46.1	53.4

*Rise of profit and decrease of loss (+), decrease of profit and increase of loss (-).

Sources: CD 2000–2007; SZDC 2003–2007; authors' calculations.

Table 5
Structure of Payables and Loans, CD and SZCD (in Millions CZK)

	2004	2005	2006	2007
Bonds SZDC (payables of CD)	7,000	7,000	7,000	7,000
Long-term bank loans (I and II Corridor)	24,532	22,790	20,134	17,578
Other payables of and loans to SZCD*	5,840	5,378	5,144	3,220
Payables of SZDC to the state**	27,459	15,008	11,303	12,688
Payables of CD to the state	254	275	264	314
Loans to CD	801	2,031	2,948	2,996
Other payables of CD***	9,762	10,529	13,329	15,580
Total	75,648	63,011	60,122	59,376

*Loan for vehicles (or rationalization of construction) and short-term payables.

**Payables' duty to the Ministry of Finance and the Czech Consolidation Agency.

***All payables without state.

Sources: CD 2000–2007; SZDC 2003–2007.

Table 6
Execution of State Guarantees on Behalf of CD (Indirect Subsidies)
(in Millions CZK)

	2000	2001	2002	2003	2004	2005	2006	2000–2006
Execution of state guarantees	1,864	648	2,958	8,397	8,923	3,259	3,112	29,161

Sources: CD 2000–2006; SZDC 2003–2006; Czech Ministry of Finance 2006.

Price for Reconstruction of CD Vehicles

In the first half of 2008, CD had problems with its cash flow because it was in its first year of living without a cargo department. We can show the problems with cash flow and investment sources in the case of the reconstruction of vehicles. In 2007,

Table 7
Development of CD's Staff Costs

	2004	2005	2006	2007
Number of employees	73,825	65,232	58,823	53,549
Staff costs (in millions CZK)	23,369	22,777	22,194	22,239
Staff costs per head (in thousands CZK)	316.5	349.2	377.3	415.3
Nominal growth rate (%)	6.7	10.3	8.1	10.1
Real growth rate (%)*	3.7	8.2	5.4	7.0

*Steady price year 1995.

Sources: CD 2004–2007; Czech Statistical Office n.d.a, n.d.b; authors' calculations.

CD decided to reconstruct forty vehicles (type Aee, Apee, Bee, Bpee). The reconstruction has been carried out by ZOS in Trnava, Slovakia. CD chose reverse leasing as the type of financing for this reconstruction. It will pay 18 million CZK per vehicle over ten years of leasing. Comparing this price with the price for a similar reconstruction from the same company for Slovak Railways, we find that the price charged to CD is twice as high as the price charged to Slovak Railways.¹⁶ This difference shows that the decision makers in CD are not under hard budget constraints.

In table 7, we show CD's staff policy. The number of CD staff decreased in the period from 2004 to 2007 as a result of the company's unbundling process. The staff costs per head were growing in the monitored period. Success in gaining subsidies was also reflected in CD staff salaries: whereas the transport operation was stagnating or decreasing in this period, salaries were increasing in real terms. This evidence illustrates that the Czech railway industry spends more than it would be able to spend if it were under hard budget constraints.

Higher staff costs per head may be a sign that staff costs of outsourced services are lower than costs of internal services. However, at the end of the year, CD proceeded with a meeting between its managers and labor unions to discuss salaries. The growth rate of salaries at CD was 7.6 percent in 2008 and has been 4 percent so far in 2009.

Table 8 shows that the growth rate of salaries at CD was higher than the growth rate of the average salary in the Czech Republic during the years monitored—further evidence of the SBC syndrome. If decision makers were under hard budget constraints, they would not agree to such a large increase in salaries.

We see in table 9 that the growth rate of CD staff costs per head during the period monitored was higher than the growth rate of transport operations.

16. See Czech Ministry of Transport, Posts, and Telecommunications SR 2008, Tenders Electronic Daily Service 2008, Želpage 2008.

Table 8
Comparison of Growth Rates of CD's Staff Costs (Salaries) and the Average Salary in the Czech Republic

	2004	2005	2006	2007
CD staff costs per head: Nominal growth rate (%)	6.7	10.3	8.1	10.1
Average salary in the Czech Republic: Nominal growth rate (%)	6.6	5.3	6.5	7.3

Sources: CD 2004–2007; Czech Statistical Office n.d.a, n.d.b; authors' calculations.

Table 9
Comparison of Growth Rates of CD's Staff Costs per Head and Transport Operations

	2004	2005	2006	2007
CD staff costs per head: Nominal growth rate (%)	6.7	10.3	8.1	10.1
CD freight and passenger transport operations (in train kilometers): Growth rate (%)	−0.4	1.0	1.4	2.2

Sources: CD 2004–2007; authors' calculations.

Therefore, CD staff costs increased during the period without a corresponding increase in labor productivity—more evidence of SBC syndrome. If decision makers were under hard budget constraints, they would not agree to such a large increase in salaries without an increase in labor productivity.

Conclusion

We have applied SBC syndrome theory to the Czech railway industry in order to describe accurately the situation of the Czech railway transportation market. Our theoretical concept does not blindly highlight competition as the solution to inefficiency because it does not define competition as a condition of “many” firms in the industry, but rather as a dynamic process.

Our evidence indicates that the implications of static competition models cannot suggest public-policy measures to ensure the efficiency of network industries such as CD because such models do not provide knowledge about the firm's “optimal” size. The numbers presented in this article demonstrate that even though Czech politicians tried to establish competition in the railway industry, they failed to reduce the costs of separated companies precisely because they cannot simply collect information about the optimal size of the railway industry, but must instead allow entrepreneurs to discover it.

Moreover, our evidence indicates that the theoretical implications of static competition models cannot illuminate European railway industries' historical dependency

on government subsidies. Recent developments in the Czech Republic continue in this trend, indicating that our suggested theory accurately describes the situation in the Czech railway market. Our evidence shows that the Czech railway industry is subsidized by about 30 billion CZK per year. Given that CD and SZDC's profit has never exceeded 4 billion CZK in the twenty-first century, we readily appreciate that the main incentive for CD and SZDC decision makers is to gain subsidies. The connection between S and BC organizations has been very close, and no members of these organizations have had a reason to sever this connection.

The easiest resolution of the SBC syndrome is to stop providing subsidies and change the CD and SZDC managers' behavior, ensure that the state owns the railway tracks, and place a duty on CD to offer passenger transport services. In many cases, the provision of passenger transport services is not possible without subsidies. Therefore, the SBC syndrome will probably also exist in the future, but its size will depend on the amount of subsidies and on the control systems for monitoring the provision of state money. This conclusion may simply mean that no "efficient" solution exists for the Czech railway industry's chronic losses, but only a trade-off between inefficient operation and the termination of the existing railway organization structure.

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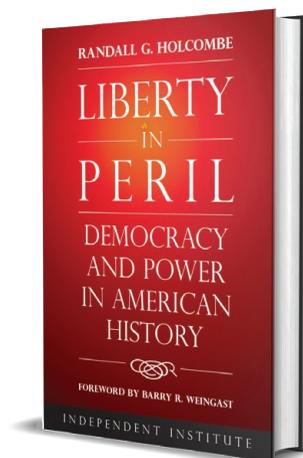
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