

**Plans, timetables, and delays:
Progress with railway reform in transition economies**

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Plans, timetables and delays: Progress with railway reform in transition economies

Abstract:

This paper analyses the extent and speed of railway reform in transition economies. EU-accession railways, which are financially weak and losing market share to road transport, have advanced on the railway reform path more than cash-flow rich CIS railways, which enjoy a captive market in freight. Reform agendas are ambitious on paper but suffer from implementation delays. The combination of favourable financial conditions, inelastic demand, and heavily politicised decision-making slows down reform. The success of railway reform depends on building institutional capacity and promoting wider reforms in the economy, such as enterprise restructuring and financial sector development. It also depends on the capacity to overcome the coordination problems inherent in the “vertical separation” model, including regulatory design, and in facilitating private sector involvement.

I. Introduction

Railways in transition economies are undergoing profound corporate reforms and restructuring programs. The policy goals are to develop commercial incentives for management, corporate restructuring of freight and passenger businesses, and competitive pressures to improve productivity and service quality. While these long-run objectives are common to most railway reform agendas in the region, the economic and political factors influencing both the design and speed of those reforms vary across countries.

Reform efforts in central Europe and the Baltic (CEB) countries are driven by the requirements of accession to the European Union and by the poor financial health of the railways. A shortage of public funds to subsidise passenger operations, or finance track rehabilitation expenditures, are also providing a strong incentive for change. Reform agendas are at a relative advanced stage of design and implementation if they are compared with other transition economies. But not all is going according to plan and some steps, such freight privatisation, are suffering delays.

Governments in CIS countries, on the other hand, have also initiated railway reforms but many are still at the design, or early implementation, stage. Many railways in the CIS are mirroring their reform plans to those of the EU. The speed of reform, however, is slow and being influenced by a combination of financial, fiscal and political factors. Rail company strong operating cash flows derived from captive freight markets, weak competition from roads, and public finances blessed by a commodity price bonanza, are relaxing the incentives for change.

This paper discusses the economic and some political factors influencing the speed and depth of railway reform in transition economies. Section II reviews the market background preceding the beginning of the reform wave. Section III provides a brief overview of the status of railway reform in a sample of five transition countries (Kazakhstan, Poland, Romania, Russia, and Ukraine)¹ which account for almost 75 per cent of the railway network and 67 per cent of GDP in the region. Section IV discusses

¹ The following national railway abbreviations are used throughout the paper: Kazakhstan (KTZ), Poland (PKP), Romania (SNCFR), Russia (RZD) and Ukraine (UZ).

some of the factors influencing recent operating performance and speed of reform. Key policy issues for future debate are discussed in section IV. Section V contains some conclusions.

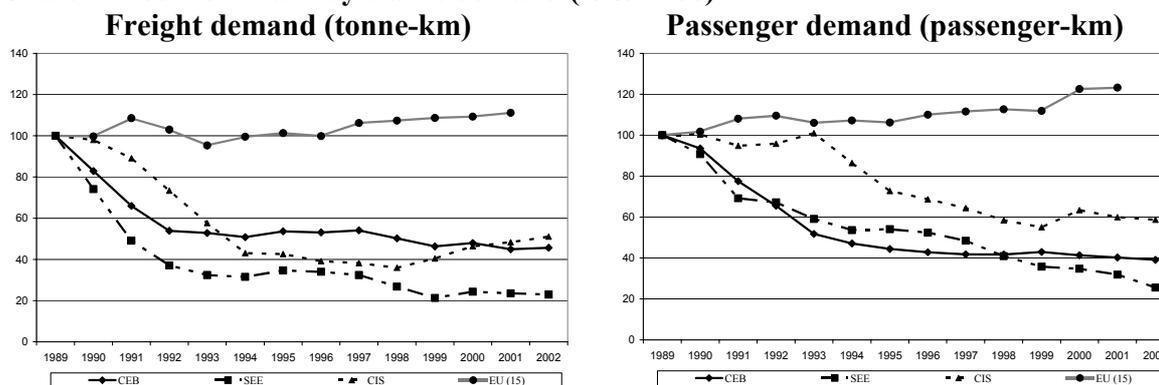
II. Recent background

The reform of the railways in transition economies cannot be fully understood without knowledge of the profound economic changes which these economies went through in the early 1990s, and are still experiencing, and the impact of such changes on the railway business itself.

Output fall and traffic loss

Transition economies suffered a dramatic economic recession shortly after the fall of the Berlin Wall. By 1994, GDP in the region had declined on average to a level representing 61 per cent of the 1989 GDP. Economic output has gradually recovered and it is now 18 per cent below 1989 GDP levels in the region as a whole (EBRD Transition Report, various issues). Of a total of 27 transition countries, only 7 have recovered their 1989 GDP level; 5 of these 7 countries are in Central and Eastern Europe. There is a strong correlation between the extent of macroeconomic stabilization and structural reforms and the degree of output recovery (see EBRD 2000)

Chart 1: Decline in railway traffic demand (1989=100)



Source: EBRD.

Railways suffered an associated fall in the volume of freight and passengers transported. The traffic loss was larger than the output decline (EBRD 1996). Freight

volumes declined substantially in all transition countries between 1989 and 1994. The decline continued thereafter with the exception of the CIS region where freight volumes have grown since 1998 (see Chart 1). The decline in freight volumes differs across countries. In Russia, for example, freight traffic represents now 59 per cent of the 1989 level while in Kazakhstan and Romania these percentages are 33 and 21 per cent, respectively. In 2002, total freight tonne-km transported by transition railways stood at about 50 per cent of the 1989 volume.

Rail passenger traffic has also declined substantially in the region. In 2002 it was about 52 per cent of the 1989 volume. The decline in passenger transported by rail is larger in central and eastern Europe than in the CIS. By contrast, between 1989 and 2002 rail passenger and freight volumes in Western Europe have increased by 23 and 11 per cent, respectively.

Operating and financial impacts

The loss of traffic summarised above had an impact on labour productivity, capacity utilisation and the financial condition of the railways. Railway labour productivity, measured by the ratio of transport units (passenger-km plus tonne-km) to total employment, declined significantly in all transition countries since 1989 (Thompson, 2001). The impact, however, has been mixed in the EU-accession and CIS railways. Between 1989 and 2002, for example, productivity declined in Kazakhstan, Ukraine and Romania by almost 50 per cent. In Poland and Russia, on the other hand, after an initial decline, labour productivity has recovered and now stands at 90 per cent of 1989 levels partly due to employment cuts of 58 and 35 per cent, respectively.

Despite the fall in traffic volumes, most railways did not downsize their rail networks and there is excess capacity in practically all networks. Track network and rolling stock fleets remain assets in the railway books although their real value has depreciated due to lack of adequate maintenance. Many railway lines remain unprofitable given the low traffic they serve. Railways that have retained physical infrastructure, employees, and rolling stock fleets have a cost structure dominated by large fixed costs. The poor maintenance of the track has led to widespread speed restrictions reducing service quality further.

The substantial drop in traffic contributed to a shortfall in revenues and to a rapid deterioration of the financial health of the railways. Over time this financial impact has been felt differently in CEB and CIS railways. The financial deterioration experienced by the railways in Poland and Romania, for example, gave a strong impetus to accelerate the implementation of reforms and address a rapidly growing debt burden. The sequence of developments in Poland is symptomatic of what happened in many CEB railways. During the period 1998-2000, the sharp decline in business volumes coming from the coal and steel industry, two key PKP customers, coupled with increased labour costs, led to daily financial losses exceeding US\$ 1 million. PKP developed high levels of accounts payable owed to government (social payments, tax payment deferral penalties) and use of short-term liquidity loans thereby increasing operating financial costs. These adverse developments eventually forced railway management and the government to agree on the accelerated implementation of a program of radical reform involving employment reduction and debt and corporate restructuring.

In Romania, during the period 1990-1995, freight and passenger revenues declined by 52 and 72 per cent, respectively, resulting in a peak loss of US\$ 238 million in 1995. These losses were financed by delayed payments to suppliers, no new investment and delayed transfers or write-off of debts or taxes by the State. As a consequence maintenance programs were delayed or abandoned, contributing to a loss of asset value of the railway company through obsolescence and depreciation.

In comparison with CEB railways, the financial situation of the railways in the large CIS countries is good. RZD, for example, has kept relatively stable financial conditions throughout the transition period, despite the declined traffic volume and phased-out of some government subsidies. RZD adjusted to the changes by increasing tariffs. During the period 1993-1998, average freight tariffs, measured by the ratio freight revenue per freight tonne-km, increased by 25 times while average passenger fare, measured by passenger revenue per passenger-km, increased by 67 times, both in nominal local currency terms. KTZ has also made operational profits over the last 5 years. UZ is making operational profits and occasionally net losses, largely depending on the amount of depreciation booked.

This relatively positive financial condition of the CIS railways hides the impact of the deferral of fleet renewals and maintenance programs caused by the accumulation in the early 1990s of accounts receivable from rail customers who had experienced difficulties or gone bankrupt. Such deferral was made possible by the large stock of surplus assets available (including track, locomotives and rolling stock) as a result of the decline in overall traffic volumes since 1991. In many transition railways there has been for many years almost no replacement of equipment or accumulation of depreciation reserves.

In both CEB and CIS railways, freight services have contributed on a net basis to the revenues of the railways accounting in some cases for nearly 90 per cent of the total revenues, as in Russia and Kazakhstan, for example. Historically, for a number of transport policy and political reasons, passenger services have been heavily subsidised by governments, or cross-subsidised by income from freight, or both (EBRD, 1996). In some railways there are cross-subsidies amongst freight services, from manufactured goods to basic cargoes. As a proxy of the level of cross-subsidies prevailing in the early 1990s, the 1993 ratio of average passenger fares to average freight tariffs (as defined above) was 0.23 in Romania, 0.50 in Poland, 0.38 in Russia, 0.33 in Ukraine and 0.47 in Kazakhstan. These ratios are now close to or above 1 and close to the ratios that can be found in developed economy railways. Nevertheless passenger rail subsidisation continues. In 2003, financial losses associated with passenger services were about US\$ 1.7 billion in Russia.

The fall in traffic demand, financial deterioration, and loss of productivity conform the background against which ambitious railway reform programs in transition economies were designed. The basic ingredients and current status of these agendas are reviewed next.

III. The status of railway reform

Most railway reform agendas in transition economies, either being designed or under implementation, include some elements of commercialisation (transforming the

railways from government departments into legal state-owned corporations), tariff reform, horizontal unbundling (separating freight and passenger business lines), vertical unbundling (separating infrastructure management and operation services) competitive access (e.g., allowing private operators access to the track) and improved sector regulation (e.g., setting up an independent regulator).

Plans and timetables

Railway reform in Poland started in July 1995 with the accounting separation of freight, passenger and infrastructure. A Railway Transport Law was passed in June 1997 which ended the railway monopoly allowing both independent train operating companies to run on the track and the internal separation of infrastructure and operations. Infrastructure, freight, passenger and traction became separate divisions under PKP in July 1998. Finally, in October 2000, a new Railway Law turned PKP into a wholly state-owned joint stock holding company and divided its assets into 23 subsidiary companies. These included companies in charge of rail infrastructure, rail freight, regional passenger services, long distance passenger services, energy supply, telecommunications, and several other activities such as infrastructure maintenance and wagon and rolling stock repairs. Three of these subsidiaries are free-standing operations: two suburban passenger lines and a Russian-gauge freight line. In addition, PKP has majority stakes in 21 assorted companies involved in non-core activities such as travel agency, printing, health resorts, etc. and a minority holding in freight forwarding activities.

The restructuring of the Romanian Railways (SNCFR) started in 1995. The first stage of restructuring (1995-1998) focused on financial rehabilitation and the internal accounts of the core businesses: infrastructure, freight and passenger operations. The commercialisation of non-core activities into private joint-stock companies was completed by 1998. The second reform stage started in July 1998 when infrastructure and operations were separated as part of a Restructuring Action Plan. The new structure consists of five companies dedicated to infrastructure, passenger transport, freight transport, financial and management services, and the management of surplus assets.

Railway reform in Russia, given the pervasive and pivotal role the industry plays in the country, has been for a long time a key policy issue but little progress has been achieved until recently. The reform of the Ministry of Railways was first initiated in 1997 with an action plan, partly in response to IMF pressure, but the reform efforts soon derailed after the Russian crisis of 1998. Pressure for change re-ignited in 2002 and in January 2003 the government approved a three phase-based railway reform package. In the first phase, the railways will be split into two separate entities, responsible for regulation and operation. Accordingly RZD was transformed into a corporate in July 2003 holding infrastructure and operating companies. Some wagon operating companies were created while most wagons (75%) remain owned by RZD. The second phase (2003-2005) will focus on unbundling and private sector participation with providing locomotive and rolling stock services. It is envisaged that there will be a series of Joint Stock Companies operating freight, intercity passenger, suburban passenger, inter-modal, repairs, and other services. Cross subsidisation between railway services will be terminated and the government will subsidise passenger services directly. Maintenance companies will be sold. In a third phase (2006-2010), some of the subsidiaries will be privatised and a competitive market will be established, allowing private companies to operate with non-discriminatory access charges.

In Kazakhstan, the government approved a restructuring plan in 2001, with the adoption of a new Railway Law, which also contemplated a three phase-based reform. Phase one (2001-2002) focused on commercialisation, divesting social and non-core activities. The second phase (2002-2004) was supposed to focus on institutional changes and the introduction of competition. KTZ was converted into a joint stock company in March 2002 but no further changes took place. Phase three (2004-2006) has been suspended while the new management reconsiders reform plan. In December 2001, a law which allows access to railway infrastructure by private operators was passed, but no private operators have emerged. The new restructuring plan was almost finalised under the new management but will not be approved shortly facing due to political opposition.

The reform process of the Ukrainian railways (UZ) has been painfully slow. UZ is still governed by a 1996 Railway Transport Law which is a reflection of central planning structures. Most revenues come from freight operations while passenger

services are cross-subsidized, leaving little cash flows for capital investment. As a result, much of the rolling stocks are used long past its usual working life. In recent years, a number of non-core subsidiary organisations have been transferred to regional authorities and the government and UZ are now considering a 10-year commercialisation strategy, also based in three phases. In the first phase (2006-2007), UZ will be transformed into a state-owned joint stock company and operations will be separated financially while the government will remain in charge of regulation. The intention is to facilitate the divestment of more non-core assets. During a second phase, freight and passenger operations will be separated and private sector participation is expected. A PSO fund will be established to finance loss-making passenger services ending cross-subsidisation. In the last phase (2009-2013), the focus will be on further unbundling, partial privatisation and introduction of competition in freight through private ownership of locomotives and increasing number of private wagons. Third party access will be granted to private sector enterprises.

Comparative status

Table 1 provides a summary of the current status of reform in the five railways surveyed in this paper in relation to ten key criteria present in the EU reform agenda. The differences in the depth of reform between Poland and Romania on the one hand, and Russia, Ukraine and Kazakhstan on the other are readily apparent.

Poland and Romania have taken similar reform steps even though Poland is closer than Romania to joining the EU. Both countries have separated the passenger and freight businesses as well as infrastructure and operations. In Poland, vertical separation has been implemented under a company holding structure. The divestment of non-core assets is at an advanced stage of implementation in both countries and so are the business plan designs, although the quality of the infrastructure business plan in Romania is weak. In both countries, management proposes tariff changes, which are then approved by the Ministry of Infrastructure or Transport and the Anti-Monopoly authority acting as the sector regulators. The cross-subsidisation of passenger services by freight operations has been eliminated following the corporate re-organisation. PSO contracts are in place but payments are sometimes late or incomplete.

Table 1: Ten key railway reform components

		Poland	Romania	Russia	Ukraine	Kazakhstan
1	Horizontal unbundling	Yes	Yes	Accounting	Accounting	Accounting
2	Vertical unbundling	Yes	Yes	No	No	Accounting
3	Divestment of non-core assets	Ongoing	Ongoing	No	Ongoing	Yes
4	Business plan	Yes	Yes	Yes	Yes	Yes
5	Freedom to set tariffs	Imperfect	Imperfect	No	No	Imperfect
6	Have cross-subsidies been eliminated?	Yes	Yes	No	No	No
7	PSO implemented	Imperfect	Imperfect	No	No	No
8	Access pricing implemented	Yes	Yes	No	No	No
9	Private sector involvement/competition	No	No	No	No	No
10	Rail regulator	No	No	No	No	No

Source: EBRD.

Definitions

- (1): accounting, managerial, operational, corporate; a “yes” implies all dimensions
(2): accounting, managerial, operational, corporate; a “yes” implies all dimensions
(3): non-core assets (e.g., schools, hospitals); ancillary (e.g., maintenance workshops)
(4): including investment, rehabilitation expenditures and financing sources
(5): full managerial freedom, both in theory and in practice, to set passenger and freight tariffs
(6): elimination of cross-subsidisation of passenger services by freight
(7): legally established contractual system to compensate in a transparent loss-making passenger services from central, regional and local government budgets or from transfers from central government budget
(8): legally established and working in practice
(9): beyond track access: in core service operations, financing, or ownership via concessions
(10): legally established and working in practice

Private sector involvement in core railway operations has yet to start in Poland and Romania. Licenses are being issued for freight operations and access pricing is legally established. Poland has scheduled the privatization of three self-contained sections of the network: the passenger commuter operations in Gdansk and Warsaw and a Russian-gauge freight line specialised in transporting iron ore from the Ukrainian border to a steel mill in Katowice. These privatisations, however, have suffered delays for several reasons: cooled private investor sentiment following the macroeconomic difficulties recently experienced by Poland, the influence of powerful labour unions, and the failure of PKP management to adopt a concerted privatisation strategy. The Ministry of Infrastructure in Poland and the Ministry of Transport in Romania regulate the new companies but this regulation is not independent from government.

In contrast with Poland and Romania, the reform steps undertaken by the railways in Russia, Ukraine and Kazakhstan are relatively modest. Kazakhstan is ahead of Russia and Ukraine in terms of implementation. The three CIS countries have accounting separation of passenger and freight businesses. However, full vertical separation is still considered an option within announced plans. Russia plans to separate the accounts of infrastructure and operations as part of a first phase of railway reform. In Kazakhstan, vertical separation of accounts has been implemented although infrastructure and operations are managed by the same entity. Access pricing in Kazakhstan has more the nature of transfer pricing than contractual pricing. In Ukraine there are also plans to separate the accounts in a first phase and to implement a full vertical separation later in 2008.

The divestment of non-core assets is practically complete in Kazakhstan where most of the so called “social assets”, such as hospitals and schools, have been sold to local governments while ancillary services, such as maintenance and repairs, property management, and railway security have been divested and some of them sold to ex-railway workers. In Russia and Ukraine, the divestment of non-core assets has not started in earnest. In Ukraine the expected divestment period will be 2003-2008. Wagon construction workshops and the major metro networks have already been transferred to the municipalities of Kiev, Dnepropetrovsk and Kharkiv, while “social assets” will be divested starting in the second half of 2003. There are business plans under implementation in the three CIS countries

The degree of political influence in the railway industry of CIS countries is revealed by the tariff approval regime. Railway tariffs in Russia, for example, are approved by the Ministry of Economy and the Anti-Monopoly authority but normally the subject of government discussions and announcements. To change railway tariffs in Russia is a high level government decision. In Kazakhstan railway tariffs are proposed by management but they are tightly regulated by the Anti-Monopoly Committee, which now reports directly to the President of the country. Railway tariffs in Ukraine are directly set by the Ministry of Transport and Antimonopoly authority and the railway management may request hikes or discounts. The cross-subsidisation of passenger services by freight operations is pervasive in Russia, Kazakhstan and Ukraine although

the railway reform plans in Russia and Ukraine envisage eliminating cross-subsidies in their second phase of reform. In Kazakhstan and Russia, there is evidence of some PSO payments to local or regional authorities but their extent and regularity are unknown. In Ukraine too, a small amount of PSO-type compensation is allocated for in the government budget but the full contractually-based implementation of PSO payments is only scheduled for implementation by no later than 2008.

In Russia and Kazakhstan, private sector involvement has not happened yet in core railway operations. Licenses are being issued for future private operators in Russia where the growth of private freight forwarding companies has been very strong in the last two years partly due to the inability of the railway to provide timely service or to the lack of quality rolling stock, which is also a pervasive issue in Kazakhstan primarily due to underinvestment resulting in several large shippers investing in freight cars to transport their commodities. Access pricing has not been legally established in full yet in Russia or Kazakhstan. Ukraine, which lags behind Russia and Kazakhstan, expects to start awarding licenses to private operators from 2006 onwards. The Ministry of Transport in Ukraine acts as the sector regulator while in Russia the regulatory authority, which is now in the Ministry of Railways (itself the monopoly operator and owner of the railways!), will be transferred to the Ministry of Transport by the end of 2004. In Kazakhstan, the Ministry of Transport is responsible for all sector planning and regulatory issues except tariff approval which is handled by the Anti-Monopoly Committee.

The status of railway reform in the five railways surveyed in this paper shows clear differences between the EU accession railways (Poland and Romania) and the CIS railways (Kazakhstan, Russian Federation, Ukraine) regarding the extent and speed of reform undertaken so far. The set of requirements for an eventual accession to the EU is a key driving force behind the differences in reform progress. Notwithstanding the reform pressures induced by EU accession, which are absent in the CIS countries, several structural, political economy and market factors can help explain the railway reform deficit currently experienced by CIS countries. These factors are discussed next.

IV. Factors influencing the speed of reform

The extent and speed of railway reform achieved so far in transition railways depends on a number of interrelated financial, economic and political factors including the large concentration of freight demand in a few industries, the extent of competition from road transport, the political economy of reform, and the extent of enterprise restructuring and financial sector development in the economy.

Demand concentration

The demand for railway freight service is strongly concentrated in a few sectors of the economy. In the five railways surveyed in this paper, the five largest clients account for almost 75 per cent or more of all railway freight demand (see Table 2). These clients are typically natural resource, mineral extraction, metals and construction material industries. In Poland, for example, freight demand concentration is particularly acute since the coal industry alone accounts for almost half of the cargo transported. In Russia, the five industries accounting for 77 per cent of total freight transported also account for 43 per cent of total country exports led by oil and gas. These commodity industries also tend to account for the largest average distance travelled representing the market segments where railways have a competitive advantage over roads: bulk commodities transported over long distances.

The concentration of freight demand in a few sectors can result in demand risk and soft budget constraints. On the one hand, state-owned industries undergoing restructuring, such as coal and steel in Poland for example, represent a source of demand risk since steel plant and coal mine closures result in substantial reductions in traffic and revenues. On the other hand, private and politically powerful industries tend also to succeed in getting low tariffs contributing to soft budget constraints and reduced railway income. Access to railway transport at a fraction of the normal price in Russia, for example, is a source of large profits to insiders and an obstacle to the reform of infrastructure monopolies (Oddling Smee and Thomsen, 2002). KTZ have historically suffered from collecting payment arrears due to the financial weaknesses of many of its industrial customers.

Table 2: Percentage of freight from five largest clients by volume (2002)

Kazakhstan (80.5%) 1. Coal (47.4%) 2. Ferrous ores (12.3%) 3. Oil and oil products (11.3%) 4. Non-ferrous ores (6.5%) 5. Ferrous metals (3%)	Russia (77%) 1. Coal (23%) 2. Construction materials (22%) 3. Oil and oil products (15%) 4. Ores (11%) 5. Ferrous metals (6%)
Poland (76.1%) 1. Coal (48.6%) 2. Stone (7.9%) 3. Metals (7.2%) 4. Oil and oil products (7.1%) 5. Chemical products (5.3)	Romania (74.0%) 1. Coal (36.2%) 2. Oil and oil products (15.1%) 3. Common metals (10.2%) 4. Quarry and ballast products (7.1%) 5. Ores (5.4%)
Ukraine (77.9%) 1. Ores (23.5%) 2. Coal (21%) 3. Ferrous metals (11.7%) 4. Oil and oil products (11.3%) 5. Construction materials (10.4%)	

Sources: Railway companies annual reports and EBRD.

There is a demand risk when service quality falls below standards when railway clients are key economic players, such as the oil industry in Russia or Kazakhstan. In those circumstances, private operations soon develop, primarily by the own account of the industries, leading to a potential loss of revenue or market share. The rapid growth of private rail car fleet in Russia is an example that illustrates private sector reaction to poor service quality by the incumbent railway, as explained below.

Modal competition

Since transition began in 1989, railways have lost market share to roads, and to pipelines in countries endowed with natural resources, especially oil and gas. While in 1990 central and eastern European railways carried around 70 per cent of total freight, their market share has declined now to around 40 per cent. This loss of market share continues in central and eastern Europe due to changes in the structure of the economy and competition from road transport. The loss of railway market share is more pronounced for passenger services, whose share in total passenger volume was around 50 per cent in 1970 and declined to 12 per cent in 2001. Competition from road transport in the CIS countries is still modest and railways enjoy a dominant position transporting around 87 per cent of total freight in 2001. Rail passenger traffic has declined in the CIS countries by around 41 per cent compared with about the 61 per cent drop experienced in Central and Eastern Europe during the last decade.

Table 3-a: Percentage distribution of market shares by mode

		Freight				Passenger			
		1980	1990	2001	average growth*	1980	1990	2001	average growth*
CIS	Rail	87.6	84.8	86.6	-3.7	60.6	57.6	56.6	-2.2
	Roads	6.7	9.4	9.0	-2.2	39.4	42.4	43.4	-1.4
	Waterways	5.7	5.8	4.4	-4.7				
CEB	Rail	71.7	66.5	41.4	-4.6	33.9	29.4	12.1	-3.8
	Roads	24.9	30.1	56.3	1.8	66.1	70.6	87.9	2.5
	Waterways	3.4	3.4	2.3	-3.8				
Western Europe	Rail	23.7	17.9	13.9	0.4	8.7	7.2	7.1	1.5
	Roads	65.9	74.0	78.5	3.8	91.3	92.8	92.9	2.5
	Waterways	10.4	8.1	7.5	1.4				

Table 3-b: Percentage distribution of market shares by mode for 5 large transition economies

		Freight				Passenger			
		1980	1990	2001	average growth*	1980	1990	2001	average growth*
Kazakhstan	Rail	na	90.1	80.4	-9.5	na	34.9	30.5	-5.3
	Road	na	9.9	19.6	-2.7	na	65.1	69.5	-3.6
Poland	Rail	75.2	95.1	39.1	-4.8	48.5	30.6	8.8	-4.3
	Road	24.8	4.9	60.9	2.5	51.5	69.4	91.2	6.6
Romania	Rail	86.5	91.7	62.9	-6.6	49.2	56.0	60.8	-3.5
	Road	13.5	8.3	37.1	-0.5	50.8	44.0	39.2	-5.6
Russia	Rail	93.4	89.4	90.3	-4.1	62.0	61.4	51.9	-3.6
	Road	6.6	10.6	9.7	-2.1	38.0	38.6	48.1	-1.7
Ukraine	Rail	na	86.0	88.9	-10.3	na	47.6	61.6	-4.4
	Road	na	14.0	11.1	-12.5	na	52.4	38.4	-9.3

(*) annualised growth rates between 1980 and 2001 in terms of tonne-km for freight and passenger-km for passenger services. As the data for 1980 are unavailable for Kazakhstan and Ukraine, growth rates for these countries are between 1990 and 2001. Source: ECMT, 2003.

Modal competition from road transport is more important the more the economic structure diversifies into services and away from industry or agriculture (see table 4). In CEB countries, such as Poland and Romania, the rapid growth of the services industry coupled with growing competition from road transport are also strong determinants of the loss of market share by the railways.

Table 4: Percentage distribution of GDP by sector

		1992	2001
Kazakhstan	Agriculture	16.1	10.1
	Industry	30.1	25.2
	Services	53.8	64.7
Romania		1990	2001
	Agriculture	23.7	13.2
	Industry	49.9	28.2
	Services	26.3	58.6
Ukraine		1990	2001
	Agriculture	24.4	14.4
	Industry	34.7	27.1
	Services	40.7	58.5
Poland		1990	2001
	Agriculture	7.4	5.0
	Industry	44.9	28.6
	Services	47.7	66.4
Russia		1991	2001
	Agriculture	14.0	6.8
	Industry	38.2	28.1
	Services	47.8	65.1

(*) annualised growth rates; Sources: Country national accounts and EBRD.

In CIS countries, such as Russia and Kazakhstan, despite the growth of the services sector the railway market share is more protected than in CEB countries because the road network remains underdeveloped. Railway demand is more inelastic in CIS countries than in CEB countries. In CEB railways, some freight markets have collapsed in recent years as industrial customers, particularly related to restructuring industries, have cut production or move to cheaper road transport. In addition, a fragile price-quality balance where rail freight services appear to be too expensive and of low quality and reliability will exacerbate the railways inability to meet market needs could accelerate the exodus to the roads even after privatisation. In Ukraine, road transport is starting to gain market share from the railways as competition intensifies over short to medium distance hauls. This trend is likely to continue as the share of goods consisting of light, high value end products, which require door to door safe deliver, grows over bulk, low commodities transported over long distances. In order to address this

increased competition, and that emerging in international transit transport rail corridors, the Ukraine railways need to be released from current tariff regulations which limit management freedom to change tariffs in response to changing market conditions.

Political economy

Railways are an important source of GDP, employment and political influence in transition economies. Different economic agents interact in the political economy of railway reform each having their own objectives and incentives in favour or against reform. Key actors are employees, government, management, and users (also taxpayers). A pivotal role in the economy, and the ability to generate cash, are features that allow some railway authorities to acquire decision making power and influence government policy, especially through investment and tariff-setting decisions.

Railways account for close to or above 4 per cent of GDP in Poland, Russia and Ukraine. In 2002, railway revenues in Kazakhstan and Russia represented more than 4 per cent of GDP. In Russia, for example, the railways are such an important pillar of the economy that the government has traditionally had a Ministry for Railways. In the early part of the 1990s when a large share of payments between industries was based on barter transactions, the Russian railways, for example, were notorious for being a robust source of cash, a feature from which railway officials must have derived political power and influence. In Russia, only the Ministry of Railways and the Ministry of Atomic Energy are allowed to undertake commercial activities as well as deliver government functions. Such features mix regulatory and operating functions creating conflicts of interest and opportunities for favouritism and corrupt behaviour.

Table 5: Rail network and operation indicators

	Total network length in 2000 (km)	Railway revenues in 2001 ¹ (% of GDP)	Railway employment in 2002 (% of total employment)	Freight volume in 2002 (1989=100)	Passenger volume in 2002 (1989=100)
Kazakhstan	13,545	4.0	1.7	32.5	55.2
Poland	22,891	0.9	1.0	42.5	31.0
Romania	11,364	1.8	1.1	21.2	24.0
Russia	86,075	3.9 ^{2/}	1.9	59.1	56.2
Ukraine	22,473	4.6 ^{2/}	1.8	38.8	69.0

Note: 1/ Sum of passenger and freight revenues. 2/ 2002.

Sources: World Bank Railway Database and EBRD.

In the five countries surveyed in this paper, railways provide employment to more than 1 per cent of employment in Poland and Romania, and close to 2 per cent in Russia, Kazakhstan and Ukraine (see table5). Rail labour unions are traditionally strong around the world and instinctively oppose any railway reform that reduces employment quickly and decisively. Rail unions in Poland, faced with a “restructure or die” scenario in the late 1990s, decided to agree to a labour retrenchment program, which was a component of a large sovereign loan jointly financed by the World Bank and the EBRD. More recently, however, they are showing reluctance about the planned privatisation of two suburban passenger lines and a specialised freight line because the sale might result in significant job cuts and set a precedent for future expected sell-offs.

Railway pricing and investment decisions are heavily controlled by government and often taken to satisfy several policy objectives not necessarily compatible with the commercial interest of the railways. In Kazakhstan, for example, the government has used tariff setting as a means of supporting public policy initiatives in other sectors of the economy --given that transport intensity is high and influencing rail tariffs is a quick way to influence large parts of the economy. After the Russian and Asian crises of 1998, the Kazakh government, for example, froze all the non-transit tariffs to mitigate inflation pressures and the perceived hardship on people and businesses.

The Russian government, on the other hand, through its Ministry of Railways in Moscow, sets all tariffs and schedules and regularly reallocates revenues to approximate an equalization of the profitability of the geographically divided railways. Freight tariffs have traditionally subsidised intercity, suburban and commuter passenger operations and they continue to do so. But while passenger prices have grown recently in line with the consumer price index, freight tariffs are lagging behind and some estimates place them at a relative value about twice as low as they were in 1997. In such circumstances, rail tariffs lose their market signal capacity and become a source of soft budget constraints and inefficient economic decisions. The Russian government also practises rail freight tariff discrimination to induce local exporters to use Russian ports instead of alternative ports in the Baltic countries. The export-import rail tariffs across Russia through land border-crossings and Russian ports are not consistent with inland rail tariffs. This lack of so called “tariff unification” results in Russian exporters

paying up to three times more for using a Baltic foreign port than a Russian port. But this leads to congestion in the Russian ports exacerbating the inefficient allocation of resources caused by the current tariff regulation. The new rail tariff structure approved by the Russian government in August 2003 maintains the inconsistency between inland and export rail tariffs.

Despite stated intentions to reform, some CIS governments still find it difficult to keep an arm's length relationship between the railways and the rest of government. A recent example from Ukraine illustrates the point. In May 2003, the Ukrainian government instructed the South West Railway, a regional railway belonging to UZ, to issue a three-year domestic bond to finance the construction of a toll road in the Kiev-Odessa corridor and to be responsible for the implementation of the road project. This example of cross-subsidising "credit capacity" across modes of transport is incompatible with the commercialisation objectives promoted by the railway reform but reflects well the culture change still needed at government level in some CIS countries.

A political economy aspect influencing railway reform, which is sometimes overlooked, is the impact that new commercial rules and incentives associated with market competition can have on the incumbent middle and lower management. The existence of a "champion of reform" at government or senior management level is a necessary but not sufficient condition for implementing change. Poland, for example, is facing currently a corporate culture clash between middle management and new management brought in to introduce greater commercial focus into the railways. This is probably a common feature of railway reform worldwide: while the new management at the top may be committed to change, medium level management is not necessarily equipped to work in a market-driven environment. Another common feature is that the new railway management tends to be better motivated to promote necessary change than the government authorities in charge of moving the transition reform forward first in government and then through Parliament

Cash and political influence often lead to fraud and corruption. Transition railways are not immune. In Kazakhstan, for example, the management of KTZ resigned in 2002 due to alleged fraudulent transactions involving the ex-Transport Minister when he was General Director of KTZ. To replace him, the government chose

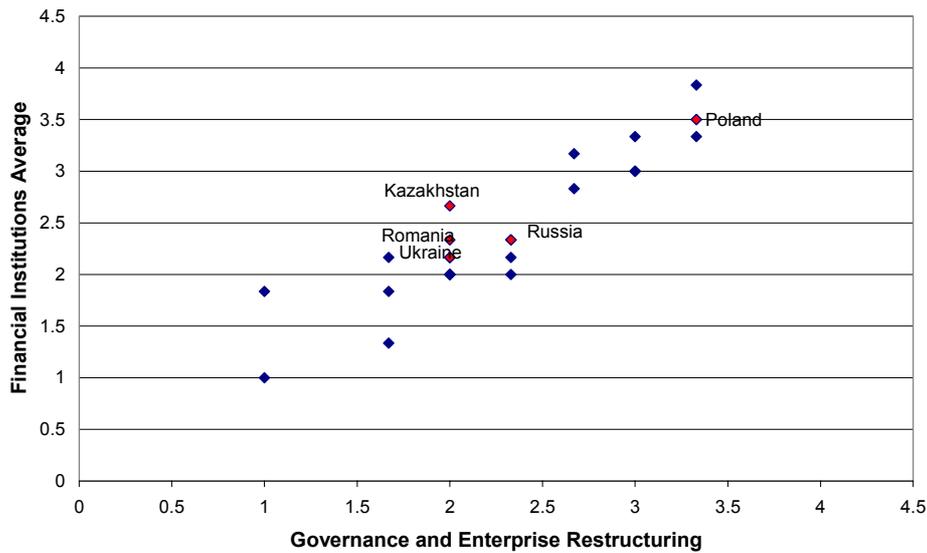
a new general manager who is co-owner and head of a large private holding with business interests in various sectors including insurance, metals, media and tourism. In Russia, on the other hand, a former Railways Minister and his colleagues have been the subject of many investigations and allegations concerning commercial relationships between the Ministry and shipping companies allegedly controlled by Ministry insiders, including companies linked to family relatives of the Minister.

Enterprise restructuring and financial sector development

A lesson of the first decade of transition is that structural reforms in the economy need to accompany macroeconomic stabilisation efforts for countries to achieve a successful transition to market (EBRD, 2000). But there are also links between the structural reforms across sectors of the economy. In the case of the railway industry, there is a direct link between the degree of enterprise restructuring and the financial health of the railways. Large non-restructured state-owned industries that use the railways intensively may enjoy soft budget constraints in the form of discounted tariffs or privileged payment terms in detriment of the railway industry revenues.

Similarly, financial market imperfections associated with underdeveloped banking and capital markets can hinder the speed of railway reform. If medium to long-term finance (the type of finance required for railway new investments and rehabilitation) is not locally available, railways have no other means but to resort to government guarantees or foreign borrowing. But the availability of medium term finance in the domestic financial markets crucially depends on government policies to both reform banking and liberalise interest rates, and to implement large-scale enterprise privatisation and restructuring.

Chart 2: Progress in transition of financial institutions and enterprise restructuring



Note: Financial institutions scores are average of EBRD indicators on banking reform and interest rate liberalisation and securities markets and non-bank financial institutions for 2003, based on EBRD's 27 countries of operation. See key parameters in the table 6.
Source: EBRD.

There is a positive correlation across transition countries between the extent of transition to market in the financial sector and that in the governance and enterprise restructuring dimensions (see chart 2). Of the five countries surveyed in this paper, Poland has the highest score in both enterprise restructuring and financial institutions. Ukraine has the lowest of all five on both scores. These proxies of financial sector and enterprise reform are also correlated with the EBRD infrastructure indicator of railway reform (see bottom three rows in Table 6). Poland has the highest scores in the three indicators (railway reform, enterprise restructuring and financial institutions) while Russia and Ukraine have the lowest also in the three dimensions of structural reform. While Kazakhstan and Romania share practically the same status in terms of governance, enterprise restructuring and financial institutions, Romania is ahead in terms of railway reform.

Table 6: Key structural reform indicators

	Kazakhstan	Poland	Romania	Russia	Ukraine
Fiscal Balance (% of GDP, 2002)	-1.9	-6.9	-2.6	0.5	-1.0
Presence of IMF program		√	√		√
Resource oriented economy	√			√	
Decline of railway traffic (annual rate of freight demand, %, 1990-2002)	-9.7	-5.0	-10.4	-4.6	-7.8
Decline of railway traffic (annual rate of passenger demand, %, 1990-2002)	-5.6	-9.3	-11.0	-5.0	-3.6
EBRD Railway indicators ^{1/}	3-	4	4	2+	2
EBRD Governance & Enterprise Restructuring ^{2/}	2	3+	2	2+	2
EBRD Financial Institutions: Banking reforms ^{3/}	3	3+	3-	2	2+
EBRD Financial Institutions: Securities markets and non bank financial institutions ^{4/}	2+	4-	2	2+	2

Note: 1/ EBRD transition indicators on railways for 2003, measured from 1 (little or no progress) to 4+ (indicating a standard similar to advanced market economies). Parameters are organisation structure, freedom on price and investment, existence of cross-subsidisation, PSO, progress in divestment, private sector participation, establishment of railway regulator and access pricing. See Transition Report 2002 for more details. 2/ Key parameters are existence of soft budget constraints, tight credit policy and enforcement of bankruptcy legislation, degree of restructuring, and corporate governance standards. 3/ Key parameters are liberalisation of interest rates and credit allocation, use of directed credit, banking laws and regulations towards BIS standards, financial deepening and competitive banking services. 4/ Key parameters are formation of securities exchanges, protection of minority shareholders, emergence of non-bank institutions, laws and regulations towards IOSCO standards, and market size and liquidity.

Source: EBRD.

The combination of demand concentration, modal competition from road transport, political economy factors and the degree of structural reforms as shown above will continue to be strong determinants of the progress of railway performance and reform in transition economies. These determinant factors will probably evolve differently across countries. There are, however, a set of critical policy issues that are common to all railway reform agendas in the region to which we turn now our attention.

IV. Three key policy issues going forward

The paper has discussed above the status of railway reform in the five countries surveyed and the main factors influencing the extent and speed of such reform. In this section, the paper focuses on three key policy issues that are common to all railway

reform agendas, namely, the advantages and disadvantages of the vertical separation model of railway reform, the prospects for private sector participation, and the role of government guarantees on the incentives for reform.

Is vertical separation the model to follow?

A much debated policy issue in recent years has been the advantages of separating railway infrastructure from operations (e.g., Thompson 1997). Vertical separation increases welfare if the benefits from competition in terms of reduced costs and increased service quality more than compensates for the co-ordination and regulatory costs of separating infrastructure and operations. Because the trade-off between enhanced competition and increased coordination costs is difficult to analyse, separating the management of the network from the running of rail operations remains a sensitive railway policy issue. The model prevailing in the US, Canada and Japan, for example, is one where infrastructure and operations are separate, but not vertically, since the railway owner allows access (voluntarily agreed access in many US railroad companies, or automatic access rights in Canada) to third-party railway operators, thereby allowing competition without vertical separation. The EU rail liberalisation program, however, has embraced the “vertical” model of separation infrastructure and operations, which is being used as reference by many transition countries.

Most transition economy railways are implementing, or plan to implement, some separation between infrastructure and operations. Vertical separation of accounts is uncontroversial. It enhances the financial transparency of railway operations and can inform tariff and investment decisions. Full vertical separation, that is at the operating and corporate level (the latter when vertical separation translates into fully separate and commercially independent companies) faces substantial transaction costs in terms of co-ordination and regulation. In the EU legislation, for example, infrastructure managers in railways that are vertically separated are expected to draw up “network statements” describing all the requirements for infrastructure access in a transparent way, including the framework for charging for and allocating track capacity. In addition, a regulatory body needs to be set up to deal with potential complaints of discriminatory treatment and to supervise the smooth functioning of the railway market. These are demanding

contractual and regulatory arrangements that will test the capacity available in transition countries to design and implement sophisticated institutions.

The support given by some policy observers to the separation of infrastructure from operations in the 1990s has diminished somewhat. The British experience is on the radar screen of analysts and observers as it represents an example where the coordination problems caused by vertical separation have been a key determinant of the difficulties endured by the industry, especially its poor safety record. Some analysts have tentatively concluded that there have not been enough competition benefits in the British privatisation experience so far to compensate for coordination costs, especially given the absence of competition between train operating companies (e.g., Gómez-Ibáñez, 2003; p. 297). In an attempt to improve coordination, the Strategic Rail Authority (SRA) in Britain is promoting the use of regional Joint Boards where train operating companies, maintenance contractors and the SRA coordinate their actions. For an outside observer this resembles an ad-hoc arrangement to substitute for the coordination one expects to find within a vertical corporate structure.

EU accession countries, such as Poland and Romania, have little choice but to adapt their railway reform agendas to that of the EU. The experience in Europe so far suggests that the existence of a blueprint legislation and government commitment to railway reform are necessary conditions for reform but clearly not sufficient. Without implementation little is advanced. Progress in taking the necessary steps to liberalize the railways, for example, differs considerably amongst EU countries. A recent study by IBM Consulting Services and Humboldt University assesses the extent of railway liberalisation achieved by the EU-15 members, Switzerland and Norway (IB-Index, 2003). The study develops a “liberalisation index” built upon enacted legislation, actual access opportunities and barriers, and the extent of market openness achieved until now. The countries analysed are ranked according to the value of the liberalisation index. Six countries (Denmark, Germany, Netherlands, UK, Sweden and Switzerland) are the most advanced stage of market liberalisation; seven countries (Austria, Belgium, Finland, France, Italy, Portugal and Norway) are at an intermediate and somewhat delayed stage; while four other countries (Greece, Ireland, Luxembourg and Spain) are the less advanced and have not started in eagerness some of the key structural reforms needed. This evidence suggests the institutional set-up required for a well-functioning vertically

separated railway industry presents implementation and political difficulties even for the current members of the European Union which, overall, have been slow in implementing the EU reform agenda.

The organisational set-up of a fully vertically separated railway industry puts very demanding requests on institutional capacity. It involves the allocation of track capacity, infrastructure charging, licensing of private railway operators, and the establishment of an independent regulator. The implementation of these measures will be challenging to all transition countries as it is in EU countries. Beyond the institutional difficulties associated with the implementation of these measures, the issue remains whether the type of rail liberalisation package promoted by the EU apply to CIS countries. The policy debate regarding the railway reform plans in Russia and Kazakhstan, for example, suggests that not everyone is convinced of the advantages of the vertical separation model.

The ongoing debate in Russia and Kazakhstan, for example, about the railway organisation model these countries need focuses on the advantages and disadvantages of vertical separation against vertical integration as well as the benefits from potential competition against the transaction costs from excessive fragmentation of the network. Critics of the proposed Russian reform model argue that the vertical separation has not been demonstrated to work in the EU and that it reduces the incentive to invest in infrastructure maintenance (Guriev, Pittman, and Shevyakhova, 2003). The same critics maintain that it could be possible to achieve competition by having two vertically integrated companies, particularly in western Russia, with long-term concessions covering service level and quality obligations, investment requirements and access rights. Such set up could avoid the heavy regulatory demands of a vertically separated railway.

A similar policy debate is taking place in Kazakhstan where under the current restructuring plan it is feared that freight transport will become increasingly fragmented with no integrated service provider. In both Russia and Kazakhstan, the railway authorities are working on the tariff principles that should inform access charges to promote competition by private transport operators. With excess capacity, access pricing should be low. However, low access pricing may induce too much investment

by private operators in rolling stock. This is already happening in Russia where independent operating companies have grown from 38 in 2001 to 70 in 2002. Most of these private companies act as freight forwarders shipping their commodity (a third of the private operating companies in Russia carry oil) through the railway for short distances with their own rolling stock but with locomotive and dispatching functions being run by the railway. To be effective access pricing needs to signal the track operator when capacity expansion is required. But it is not clear the “access pricing” or infrastructure charging rules currently applied.

Private sector participation: where, when, how?

Irrespective of the reform model being followed all transition railways require large amounts of finance to rehabilitate or renew track, stations, locomotives and rolling stock. This is necessary to upgrade infrastructure and operating standards and make them compatible with neighbouring countries, as is the case for EU accession railways, but also to compete with road transport in terms of speed and reliability of delivery. These investment needs are large and well beyond the financial resources of most transition railways. It is estimated that the PKP subsidiary in charge of rail infrastructure, for example, will need to invest about US\$ 1 billion annually to adjust the network conditions to EU standards by 2020. In Russia, some estimates put the total investment needs to upgrade the rail network to good operating standards at US\$ 22-25 billion.

An important difficulty in meeting the investment financing needs of the railways is that the two traditional sources of finance are substantially limited. On the one hand, the railways themselves are in a weak financial condition. On the other hand, the government is limited in its ability to finance public spending either by the fiscal discipline associated with public debt targets dictated by EU accession requirements (e.g., Poland) or IMF programs (e.g., Romania, Ukraine). In these circumstances, the involvement of the private sector is sought to finance investments and improve services.

The railway reform being pursued in transition countries is intended in theory to attract private sector participation in different ways, for example, as outright buyers of rail businesses, which would generate privatisation proceeds, or as independent

competitive operators with access to the track. Thus far, however, private sector participation in the railways of the region has been minimal. The railways of Europe and Central Asia have only been able to attract 0.3% of all the private infrastructure activity that took place in the region during the last twelve years (World Bank, 2003). According to the World Bank Private Participation in Infrastructure (PPI) database², 568 private infrastructure projects attracted a total of US\$ 97 billion in Europe and Central Asia in the period 1990-2001. Private transport activity took place in 10 countries, which awarded 43 projects during 1993-2001 for a total of US\$ 5.1 billion (transition countries had no private activity in transport during 1990-92). Most of the private infrastructure activity has been in toll roads and airports. Railways, however, attracted little private sector participation. Only two countries, Czech Republic and Estonia have recently introduced private participation in railways attracting about US\$ 300 million most of which went to Eesti Raudtee, the Estonian railway company that was partially privatised in 2001. The rest corresponds to regional railway leases which the Czech government awarded to private operators willing to maintain local services. This rather small private sector participation, as defined by the World Bank PPI database, is due to the railway reform being in the early stages of implementation and to the commercial and regulatory risks perceived by the private investors.

Private sector involvement in the railway business, however, can take forms other than through outright sales or via infrastructure concessions. Given the poor state of the freight car fleet in most railways of the region and the associated poor service quality provided, the private sector has stepped in by acquiring their own railcar fleet and making it available to the incumbent railways to transport their commodities. As a consequence the freight car market is growing fast. Nowhere is this more apparent than in Russia where the growth of the private car fleet is also induced by a rail tariff policy that provides discounts to commodities transported with private rail cars and wagons. Currently RZD carries 60 per cent of railway freight forwarding business but the railway reform program expects the share of freight cars owned by private operators to

² The World Bank Private Participation in Infrastructure (PPI) Project Database covers infrastructure projects that have reached financial closure and are owned or managed by private companies in developing or transition countries. A project is considered to have private participation if a private company or investor bears a share of the project's operating risk. The PPI database includes management and lease contracts, concessions, management or operating contracts where major private capital expenditures are involved, green-field projects and divestitures.

grow to 50 per cent by 2006 and reach a long term goal of 80-90 per cent. In Poland, some operating licenses have been awarded but no private sector operations have started.

The incentive to develop a private rail car fleet in Russia is primarily with the independent transport companies that provide forwarding services to producers of oil, petrochemicals and metals using their own rail car fleet or leasing them from RZD. There are also other government departments and private companies that are growing their own rail car fleets. It is not clear if the growth of the private rail car fleet in Russia will translate into competition on the track. Currently the Russian authorities favour the growth of a private rail car fleet because the RZD is poorly maintained. For the time being, the private companies shipping their commodities need to do so by using the locomotives and operations run by the incumbent and only railway operator. The development of competitive pressures will depend on the successful implementation of third-party access rules and regulations.

Sovereign guarantees: blessing or curse?

In the absence of private sector financing, and with weak balance sheets, the railways still need direct government support, through budgetary transfers, for example, to finance capital expenditures, or through subsidies to finance loss making passenger services. The government can also support reform with the provision of sovereign guarantees. These types of government support, however, are not without problems.

Many transition countries show a strong reluctance to commit public funds directly to the railway sector. In Poland, for example, the Maastricht criterion based on a ceiling of 60 per cent of public debt to GDP ratio is now a constitutional requirement. In these circumstances, some governments tend to the use of sovereign guarantees to support the reform while others set a very low ceiling to the sovereign guarantees they are prepared to issue. The Polish government, for example, provided guarantees to PKP for the recent bond issue intended to meet the restructuring costs resulting from overdue payments to creditors and subsidies to loss making regional passenger company. PKP is making operating losses but is expected to meet its financial repayment commitments through the sale of assets as envisaged in the restructuring programme. On the other

hand, the Russian government, even enjoying a fiscal surplus refuse to relax their strict government guarantee limits.

While government subsidies and guarantees may be needed to overcome credit rationing constraints (irrespective of whether financing sources are domestic –i.e., local banks- or foreign –i.e., a multilateral; see, such guarantees have some drawbacks. (Eichengreen, 1994). The reliance of long-term finance on the availability and allocation of government subsidies and guarantees moves the focus of decision making from the corporate board to Parliament and budget discussions: from operational management to the political arena. The consequences are that financial decisions (e.g., investment expenditures) end up not necessarily being determined by the debt or capital raising capacity of the company but by the vagaries of public finance discussions and political pork barrel. This, in turn, softens the budget constraint faced by railways and undermines their incentives to behave commercially.

Government subsidies and guarantees also relax the incentives that lenders or investors have to monitor corporate performance. This is an instance of moral hazard derived from asymmetric information: railway managers know the true status of the network and the effort they are putting into running the railways; lenders are only aware through the information they receive periodically from the company and their compliance, or otherwise, with agreed financial covenants. But as long as the debt service is guaranteed by the sovereign, lenders are not necessarily bothered by the lack of performance. It is the combination of bad performance and reduced debt capacity, both external and internal, of the sovereign that may become a concern for lenders. A way to address this moral hazard is to agree on conditionality that, if fulfilled, ought to improve financial performance and advance reform, but if unfulfilled would increase the costs of serving the debt and penalise management. An example is by the lender (say, an IFI) to agree on sale revenue targets with the borrower (say, a national railway company) that if unmet will increase the price of the loan thereby providing a financial incentive for the borrower to comply with the loan conditionality.

Another way to address the moral hazard problem is effective public sector regulation. The meaning of effective public sector regulation can take different forms in the railway industry of transition economies depending on the institutional capacity and degree

of sophistication of the public administration. With public sector management, effective regulation can take the simple form of benchmarking according to service contracts with performance benchmarks that are verifiable ex-post and a system of incentives and penalties for management. With private management or participation via a concession, for example, effective regulation translates into the adherence to contract specifications.

There are clear limits, however, to the likelihood of designing and implementing effective public sector regulation in many transition countries now. In CIS countries, for example, management have a short-run incentive to accommodate to political pressures from regional government authorities to provide freight services to large customers, which also represent the traditional pool of customers the railways have had in the past. These are either public companies (e.g., Ukraine) or large private companies (e.g., Russia, Kazakhstan) with political clout.

Finally, railways in transition economies enjoy more than explicit government subsidies and guarantees. They also benefit from implicit subsidies in the form of deferred tax payments. Similarly, railway companies are a vehicle for soft budget constraints if their account receivables, especially those from public sector clients, are allowed to build up without corrective action.

V. Conclusions

Certain patterns in the way railway reform is taking place across transition economies are starting to emerge. The status of reform in the five large transition countries surveyed in this paper reveals at least two broad patterns. On the one hand, the reform speed of EU accession railways, such as Poland and Romania, is being determined by pressures associated with EU accession requirements but also by the poor financial condition of the railway companies themselves and the fiscal discipline imposed on governments by the Maastricht criteria (e.g., Poland) or IMF conditionality (e.g., Romania). Railway restructuring is seen in CEB countries as a way to improve infrastructure provision but also to reign on public spending to achieve macroeconomic stabilization targets. Privatisation proceeds from the sale of railway assets can contribute to improve the government fiscal balance.

On the other hand, CIS railways, such as those in Russia and Kazakhstan, which are not financially weak, have approved reform agendas but they are not experiencing external pressures for a rapid implementation of those agendas. At a domestic level, relatively stable public finances aided by high oil prices help relax railway reform pressures. While all CIS governments acknowledge the need for railway reform to reduce costs and improve the competitiveness of their economies, given the high railway dependency of these economies, railway reform continues to be highly politicised.

All railway reform agendas in transition economies are experiencing delays in relation to approved plans and timetables. These delays are caused by different factors, some political, some market-related. Progress with railway reform in the medium term in transition economies will continue to depend on a combination of market and political developments. These developments include:

- (i) changes in the structure of the economy, away from heavy industry and into services, which will mitigate the strong dependency of the railways on a few large industries;
- (ii) the capacity of the railways to adapt to market pressures coming from the road transport industry;
- (iii) ability to consolidate commercial incentives and independent decision-making by railway managers and gradually reduce the political influence exercised through the railway tariffs and investment decisions by government; and
- (iv) progress with structural reforms in other dimensions of a market economy, in particular, enterprise restructuring and financial market developments.

The assessment of the political economy of railway reform in transition economies needs further analysis. Because railway reform is being designed or

implemented in various transition countries subject to different economic and political backgrounds, and at varying stages of transition to market, the study of the institutional factors internal to the railways that can hinder or facilitate reform could yield useful insights for future policy design.

The eventual success or failure of railway reforms in transition countries will depend on a successful implementation of the “vertical model” of separation of infrastructure and operations, which most transition economies have decided to follow. It is not clear that such model suits best the market and institutional capacity features of some transition economies. Experience from Western Europe is inconclusive. Some degree of separation, such as accounting separation, should enhance financial transparency. A successful corporate and operation separation is much more difficult to predict, especially given the uncertainties regarding the regulatory capacity needed for a smooth and coordinated functioning of non-discriminatory third party track access.

The success or failure of reform will also hinge on the ability to attract private sector into operations and financing to address the rehabilitation and maintenance backlog all transition railways find themselves in. While government guarantees can help raise funding in the local and foreign market, their availability will be increasingly limited due to supranational public spending criteria, as in EU accession countries (as long as they are accounted for as an “on-balance sheet” item), or as a result of a deliberate policy to restrict the contingent liabilities of the sovereign, as in Russia today. Additionally, sovereign guarantees will continue to create moral hazard and relax the incentives for reform implementation unless accompanied by effective regulation, a key component of the railway reform agenda in all countries.

REFERENCES

Barry Eichengreen, “Financing Infrastructure in Developing Countries: Lessons from the Railway Age”, October 1994, Department of Economics Working Paper, University of California at Berkeley.

European Conference of Ministers of Transport (ECMT), *Trends in the Transport Sector 2003*, OECD, Paris.

Guriev, Pittman, and Shevyakhova, 2003, “Railroad Restructuring in Russia: Competition vs. Regulation”. Presentation at CEFIR, Moscow, June 30, 2003, www.cefir.org

IBM and Humboldt University, *Rail Liberalisation Index 2002*, January 2003, www.europa.eu/int/comm/transport/rail.

José A. Gómez-Ibáñez: *Regulating Infrastructure - Monopoly, Contracts, and Discretion*, 2003, Harvard University Press.

Odling-Smee J. and P. M. Thomsen, “Putin at Mid-term: Where Should Economic Reforms Go From Here? A Commentary”, April 2002, The International Monetary Fund, Washington D.C.

Pittman, Russell: “How to Avoid Derailing Russia’s Railways Reform” Transition Newsletter, 2001, The World Bank Group, Washington D.C.

Lou S. Thompson, “The Benefits of Separating Rail Infrastructure from Operations”, 1997, Public Policy for the Public Sector, Note No. 135, The World Bank Group.

Lou S. Thompson, “What role for the railways in the East?”, 2001, European Conference of Ministers of Transport.

EBRD *Transition Report 1996, Infrastructure and savings*, London.

EBRD *Transition Report 2000, Ten years of transition*, London.

World Bank, *Russia Development Policy Review*, Poverty Reduction and Economic Management Unit, Europe and Central Asia Region, 2003, pp 21-22.