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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

Working Party on Rail Transport

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Item 7 (a) of the provisional agenda

**INVESTMENT IN RAILWAY INFRASTRUCTURE AND ROLLING STOCK**

Railway Infrastructure Investment Trends in the  
United Nations Economic Commission for Europe Region

Report by the secretariat

**I. MANDATE**

1. The programme of work of the Inland Transport Committee (ITC) for the period 2008-2012 specifies that a report on rail infrastructure investment is to be submitted to the Working Party on Rail Transport (ECE/TRANS/SC.2/208, Annex, activity II (a)). The following report was drafted by the secretariat for the consideration of the Working Party that may wish to decide whether and how to address the matter at hand in its future work.

2. The report is organized as follows. Section II considers the latest available information on rail infrastructure investment trends in the United Nations Economic Commission for Europe (UNECE) region from the mid-1990s to 2007. Section III discusses briefly the impact of the global economic crisis on rail investment. Section IV considers some issues related to the financing of investment in railway infrastructure and rolling stock during the post-crisis period. Section V concludes.

## II. TRANSPORT INFRASTRUCTURE INVESTMENT TRENDS IN THE UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE REGION

3. Main trends in inland transport infrastructure investment over the period 1995-2007 were recently documented by the International Transport Forum (ITF) on the basis of a targeted survey (ITF, 2009). The ITF database on transport infrastructure investment and maintenance includes entries for 35 countries from the UNECE region and four non-UNECE countries (Japan, Mexico, New Zealand and Republic of Korea).<sup>1</sup> Most of the EU-15 and EFTA countries and new member States of the EU are represented, as well as South-Eastern Europe (4 countries), Eastern Europe and the Caucasus (3 countries) and the United States of America.

4. According to ITF (2009), transport infrastructure investment accelerated strongly since 2003 in European transition economies (CEEC),<sup>2</sup> Russian Federation and Turkey while its pace remained subdued in Western Europe and the United States. In recent years, the share of GDP devoted to transport infrastructure investment in CEEC countries and Russian Federation was approximately twice as high as in the United States and Western Europe. These findings are consistent with the logic of the economic catch up of UNECE emerging market economies to high income countries of Western Europe and North America.

5. Between 1995 and 2007, the share of the rail sector in inland transport infrastructure investment increased noticeably in Western Europe, Russian Federation and Turkey while falling in CEEC (Chart 1). In 2007, this share was highest in the Russian Federation (42 per cent), followed by Western Europe (33 per cent), CEEC (17 per cent) and Turkey (16 per cent). In the United States, rail accounted for 10 per cent of inland transport infrastructure investment in 2003.<sup>3</sup>

6. Rail infrastructure investment levels have continued to be uneven across the European Union (EU) countries. Average running, renewal and new rail investment expenditure tends to be much higher in the EU-15 old member States than in the new member States (CER, 2009). At the same time, track access charges in the EU-10 new member States with rail systems are relatively high, in particular for freight transport.<sup>4</sup> This reduces cost competitiveness of rail freight services in the new member States. The relatively high access charges on freight trains shift a tax burden on the business sector and are likely to deviate from the socially optimal marginal-cost prices.<sup>5</sup>

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<sup>1</sup> ITF data on infrastructure investment and maintenance at current prices and exchange rates are available at <http://www.internationaltransportforum.org/statistics/investment/data.htm>.

<sup>2</sup> CEEC countries include Croatia, Czech Republic, Estonia, the former Yugoslav Republic of Macedonia, Hungary, Latvia, Lithuania, Poland, Romania, Serbia, Slovakia and Slovenia.

<sup>3</sup> The US data for subsequent years are not available in the ITF database.

<sup>4</sup> For a detailed analysis of the railway access charges in EU countries, see Thompson (2008).

<sup>5</sup> According to Andersson (2007), most infrastructure managers in Europe do not have the data needed to estimate accurately changes in infrastructure wear and tear costs associated with marginal variations in traffic volumes. His own research indicates that the railway access charges in Sweden are well below marginal costs, imposing a burden on tax payers. The opposite is the case in new member states where access charges for freight trains probably exceed marginal costs.

### III. EFFECTS OF THE ECONOMIC CRISIS ON RAIL INVESTMENT

7. The economic crisis has been reflected in a pronounced downturn in transport activity and subdued investment spending throughout the UNECE region. Reduced sales and lower profits have had adverse impacts on the investment financed by retained earnings of railway companies. In most of the countries of the UNECE region, however, the bulk of rail infrastructure investment continues to be financed by the public sector. The effect of the economic crisis on public infrastructure investment has reflected the robustness of fiscal positions of national governments. In a number of countries, governments have initiated fiscal stimulus packages in order to revive consumer and investment spending. Assuming that such packages continue to be implemented in 2009 and 2010, the public rail infrastructure investment may well be sustained in some parts of the UNECE region. However, rail investment is under threat in the transition economies that have been hit hard by the global downturn and confronted with unsustainable fiscal balances.

8. The available information about the structure and implementation of national railway investment programmes is rather limited. In the United States, the American Recovery and Reinvestment Act of 2009 provides for infrastructure investment of \$80.9 billion; core rail investments amount to \$9.3 billion. Comprehensive data on the actual volume and structure of investment are not available yet; however, early reports imply that road projects have been implemented faster than rail projects. In the EU, a number of governments have adopted fiscal packages with infrastructure spending components. The latest available data from Eurostat indicate that civil engineering construction output in the EU area increased by approximately 2 per cent in the first quarter of 2009 over the preceding quarter, but fell almost 3 per cent over the corresponding quarter of the previous year. Monthly output figures indicate the first positive year-on-year growth in April 2009 when engineering construction output rose by almost 4 per cent over the April 2008 level.<sup>6</sup> This pattern is consistent with gradual increases of infrastructure investment expenditure; however, a sectoral breakdown of civil engineering construction is not available.

9. In the Russian Federation and Turkey, two largest emerging market economies in the ECE region, major rail investment projects have continued to proceed and are likely to be completed with the aid of external funding. In 2009 Russian Railways, a state-owned corporation, proceeded with a large domestic bond issue (90 billion roubles or \$2.8 billion) and borrowed \$500 million from the European Bank for Reconstruction and Development (EBRD) to finance its massive investment programme. In Turkey, large high-speed railway projects as well as the strategic Marmaray project connecting the Asian and European parts of the country continue to proceed with the financing provided by the state budget and international financial institutions.

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<sup>6</sup> More detailed information on construction activity in reporting EU countries is available at [http://epp.eurostat.ec.europa.eu/cache/ITY\\_PUBLIC/4-17062009-BP/EN/4-17062009-BP-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/4-17062009-BP/EN/4-17062009-BP-EN.PDF).

#### IV. FINANCING OF INVESTMENT IN RAILWAY INFRASTRUCTURE AND ROLLING STOCK DURING THE POST-CRISIS PERIOD

10. The structure and levels of transport infrastructure investment beyond 2010 are rather difficult to predict, given the uncertain impact of the global economic downturn on future growth patterns and international supply chains. While it is possible that structural changes in the global economy could divert some container traffic from the existing gateways (ITF, 2009), one can still expect that in the longer term the existing backbone network of main international railway lines in the pan-European region would be affected by increasing traffic levels and bottlenecks that have been identified in recent rail infrastructure master plans.<sup>7</sup> The traffic constraints imposed by infrastructure bottlenecks may well become effective somewhat later than predicted in the master plans but one would have to assume rather extreme scenarios to make them disappear.

11. Most experts agree that additional sources of finance will be needed for major investment projects that aim to improve noticeably the productivity and quality of service on pan-European railway networks. Given the likely fiscal retrenchment during the post-crisis period, the public-private partnership (PPP) financing model is deemed appropriate for such projects.<sup>8</sup> However, the availability of private finance for PPP projects in the transport sector has declined, reflecting the massive shift of funds to cash or highly liquid securities by most investors in the aftermath of the Lehman Brothers collapse in September 2008.

12. Moreover, even before the recent economic downturn the rail sector accounted for a miniscule proportion of PPP transport infrastructure projects in UNECE emerging market economies (Chart 2).<sup>9</sup> In addition to improving the environment for doing business in order to stimulate private infrastructure investment, new financing models need to be developed for PPP financing of major railway projects in countries with transition economies.

13. The availability of private finance for investment in rolling stock could improve noticeably, if countries were to adopt and implement the Rail Protocol to the Convention on International Interests in Mobile Equipment.<sup>10</sup> The Convention and its Aircraft Protocol were ratified by more than 30 contracting parties, including the United States and European Community. In contrast, the Rail Protocol pertaining to the financing of rolling stock (locomotives, carriages and wagons) was signed to date by only 4 countries and ratified by none.<sup>11</sup> The Protocol aims to create an international legal system for registering and recognizing priority claims to recover assets (in the event of debtor insolvency) of secured parties such as banks and private lessors.

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<sup>7</sup> See e.g. UIC (2008).

<sup>8</sup> See e.g. 'EC and railways promote PPP in rail infrastructure,' *Infrasite News*, 2 February 2009 <[www.infrasite.net/news/news\\_article\\_pda.php?ID\\_nieuwsberichten=11088&language=en](http://www.infrasite.net/news/news_article_pda.php?ID_nieuwsberichten=11088&language=en)>.

<sup>9</sup> In contrast, rail accounts projects account for the bulk of PPP transactions in the United Kingdom.

<sup>10</sup> The Convention on International Interests in Mobile Equipment was adopted in Cape Town in 2001. The Convention and its Aircraft Protocol became effective in 2006. The Rail Protocol was adopted in Luxembourg in 2007. For details, see <[http://www.railworkinggroup.org/JIBFL\\_Fleetwood.pdf](http://www.railworkinggroup.org/JIBFL_Fleetwood.pdf)>.

<sup>11</sup> In order to become effective, the Rail Protocol must be ratified by at least 4 countries and its international registry must be certified to be operational by the Intergovernmental Organisation for International Carriage by Rail (OTIF).

## V. CONCLUSIONS

14. The share of rail in transport infrastructure investment picked up noticeably over the last decade in Western Europe, Russian Federation and Turkey while decreasing in CEEC countries. Expansionary fiscal packages in a number of UNECE countries could support rail infrastructure investment in 2009 and 2010. The expected fiscal retrenchment in the post-crisis period implies that private finance has to be mobilized in order to maintain investment levels in railway infrastructure and rolling stock. PPP projects could reduce the funding gap, providing that rail transport infrastructure projects would become more attractive for private investors, especially in non-EU countries with transition economies. The accession to the Luxembourg Rail Protocol by a critical number of countries could boost the private financing of rolling stock acquisitions.

Chart 1  
Share of the Rail sector in inland transport infrastructure investment (percentage)

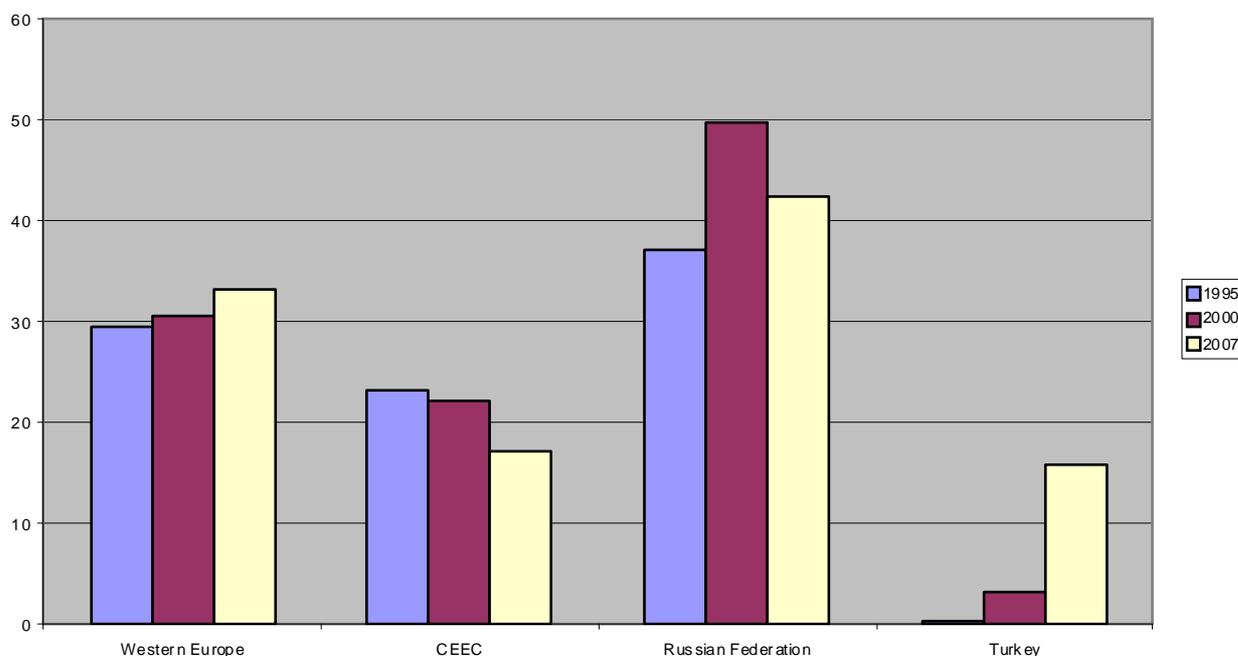
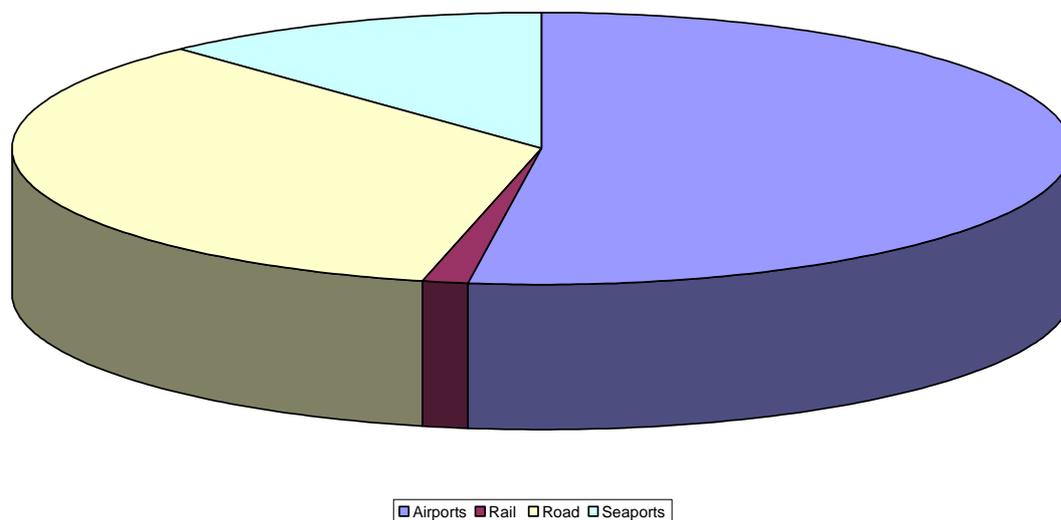


Chart 2

**Structure of PPP transport infrastructure investment in UNECE emerging market economies, 1993-2007 (percentage)**



*Source:* PPI database, World Bank.

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