

Statistics Brief

► Infrastructure Investment

Trends in Transport Infrastructure Investment 1995-2009

The latest update of annual transport infrastructure investment and maintenance data collected by the International Transport Forum at the OECD shows:

- **GDP share of investment in inland transport infrastructure has remained almost constant in Western Europe (0.8%) and North America (0.6%) over the past decade;**
- **Record investment levels were reached in Central and Eastern European countries, with 7.6% growth in 2008/09, amounting to 2.0% of GDP (2009);**
- **The balance between road maintenance and investment has remained relatively constant over time in many regions, with maintenance making up 30% of total road expenditure on average.**

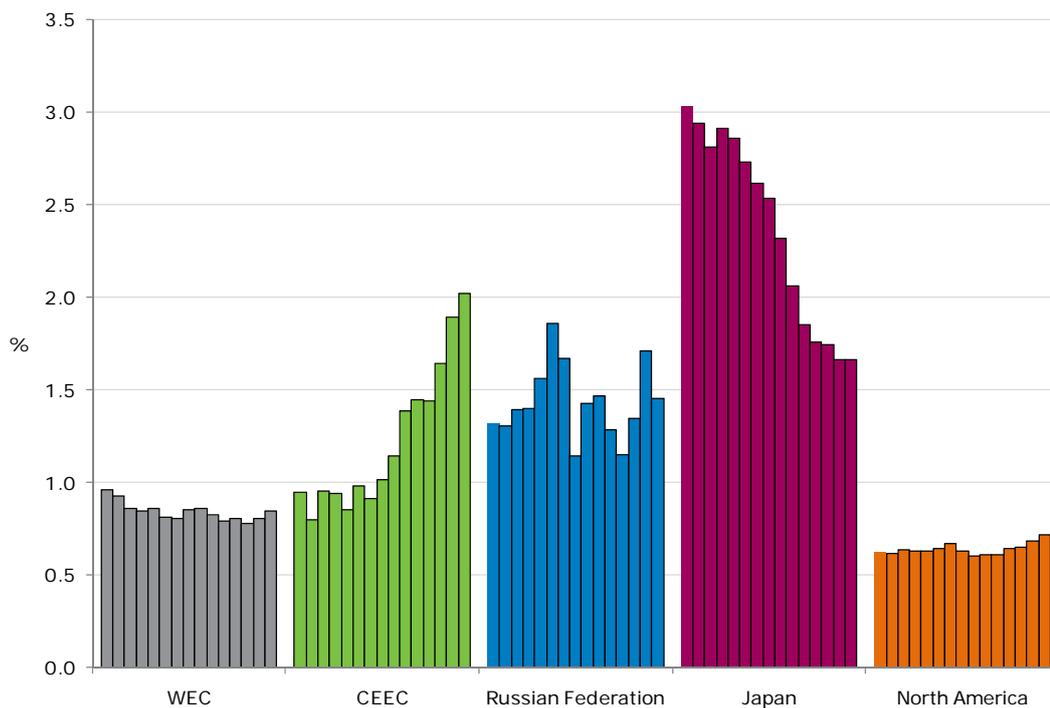
Investment in inland transport infrastructure (road, rail, inland waterways) as a percentage of Gross Domestic Product (GDP) has declined steadily in Western Europe since the 1970s. Our first reports from the 1980s noted this decline from an average 1.5% in 1975 to 1.2% in 1980 and further to 1.0% in 1982, after which it levelled off. Our most recent data show that investment in inland transport infrastructure as a percentage of GDP declined again in the 1990s in Western European countries (WECs), to around 0.8% in 2000, where it has remained (Figure 1). However, there are marked differences between countries, especially for recent years, varying from 0.5% in Denmark to 1.1% in Spain in 2009.

Data for North America show a rather constant GDP share (0.6%) since our data series began in 1995. However, the latest estimate indicate a slight growth in the GDP share of investment, reaching 0.7% in 2009. Growth has been particularly strong in Canada, where investment in inland transport infrastructure was recorded at 1.2% of GDP in 2009.

► **Trends in relation to GDP constant in WECs since 2000**

► **Investment share of GDP constant also in North America**

Figure 1. Investment in inland transport infrastructure 1995-2009
(as a percentage of GDP, at current prices)



Note: WECs include Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Spain, Sweden and the United Kingdom. CEECs include Albania, Croatia, Czech Republic, Estonia, FYROM, Hungary, Latvia, Lithuania, Montenegro, Poland, Romania, Serbia, Slovakia and Slovenia. North America: United States data 2003-2009 estimated. Public road investment based on Bureau of Economic Analysis data on Investment in Government Fixed Assets (highways and streets). Private road and private rail investment based on U.S. Census Bureau data on Construction Spending. Public rail investment estimated based on Bureau of Economic Analysis data on Investment in Government Fixed Assets (transportation) using fixed share for rail investment based on 2003 data. Inland waterways investment estimated based on data from U.S. Census Bureau data on Construction Spending (from 2003 level annual change). Japan: not including private investments.

Trends for Central and Eastern European countries (CEECs) differ markedly from those described above. The share of investment in inland transport infrastructure, which until 2002 had remained at around 1.0% of GDP, has grown sharply, reaching 2.0% in 2009 – the highest figure ever reported by these countries (1.9% in 2008). In the Russian Federation the investment share of GDP has been more volatile. Investment accounted for 1.9% of GDP already in 2000 but declined back to 1.2% in 2006. Latest data show renewed growth in investment levels, varying from 1.7% (2008) to 1.5% (2009). Rising levels of investment in Central and Eastern European countries certainly reflect efforts to compensate for the earlier underinvestment in the road network capital stock, reinforced by the demands of growing economies.

Data for Japan show different trend. Historically, transport infrastructure investment has been relatively high in relation to GDP but has been in decline since the 1990s. Expenditures have been affected by general budget cuts since the end of the 1990's, partly explaining the decline in investment relative to GDP. Further, data do not include private investments on roads, affecting overall results.

In Western European countries, the volume of investment (expenditure in real terms) remained nearly unchanged from 1995 to 2000. This period of stagnation appeared to end in 2001 when investment in inland transport infrastructure increased by 15% in real terms through 2003. The level of investment then declined again to 2008 when it was 1.7% above the 2003 level. The latest data for 2009 show growth of 3.6% over 2008 (Figure 2).

► Record investment levels in CEECs

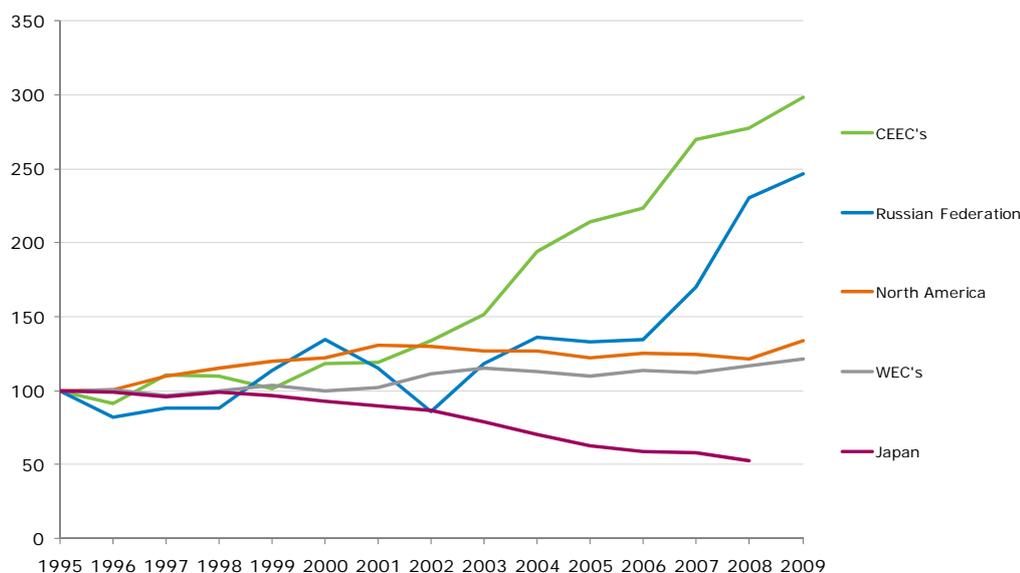
► Declining public investment share of GDP in Japan

► Volume of investment picks up in Europe

The volume of inland infrastructure investment in North America grew by around 30% from 1995 to 2001. Lack of comparable data for the United States from 2003 onwards has somewhat limited analysis, but our estimate based on available data suggests a slow decline in investment volume that continued all the way to 2008. Our estimate for 2009 suggests a 10.5% growth in the volume of investment over 2008 in North America, returning to the 2001 level in real terms.

► Estimate suggests investment growth also in North America in 2009

Figure 2. Investment in inland transport infrastructure 1995-2009
(at constant 2005 prices, 1995=100)



The volume of infrastructure investment has accelerated strongly in Central and Eastern European countries since 2003. This growth has shown no signs of slowing down and the volume reached yet another record level in 2009. Investment in inland transport infrastructure increased 7.6% in real terms from 2008 to 2009. Also the Russian Federation shows a surge in investment volume since 2003. Our data show that the growth in the volume of inland infrastructure investment continued strongly in 2009, rising to a new peak in real terms, growing 7.3% from 2008 to 2009.

► Volume of investment grew 7.6% in CEECs

Data for Japan appear to reflect both the declining public funds available, especially for road investment, and the maturity of the national transport system. Inland transport infrastructure investment in 2008 was nearly 47% lower than in 1995 in real terms.

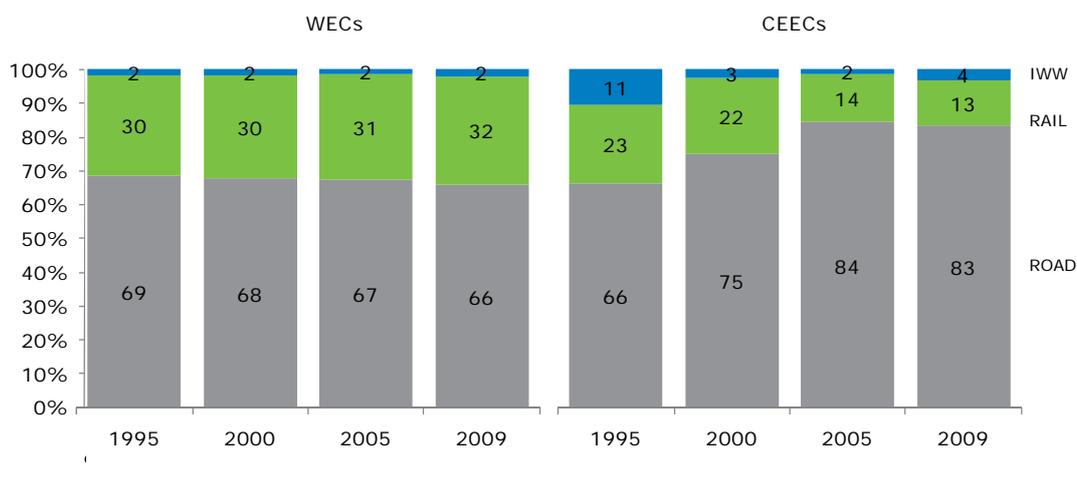
Data presented in Figure 3 show long-run trends in the modal share of investment in Europe. In the Western European countries, the share of investment in road infrastructure has declined slowly with a gradual increase in rail investment. While the share of road investment amounted to close to 80% in Western Europe in 1975, figures for 2009 put it at 66% of total investment in inland transport infrastructure. The share of inland waterways has remained at a constant 2% in recent years. The rail share of investment is particularly high in Austria (65%), the United Kingdom (55%), Luxembourg (52%), Sweden 45% and Belgium (41%). The trend observed in our data Western Europe is partly a reflection of the political commitment to the railways, and the recent data does not seem to indicate any change in this commitment.

► Gradual increase in rail share of investment in WECs

Whereas Western European countries have increasingly directed their investment toward rail, Central and Eastern European countries are investing more heavily in roads. The share of roads in inland transport infrastructure investment increased from 66% in 1995 to 83% in 2009. The last five years, however, suggest a stabilisation of the trend and the modal split of investment remained rather constant from 2005 to 2009.

► **Modal split of investment stabilizes in CEEC**

Figure 3. **Distribution of infrastructure investment between modes**
(Euros, current prices, current exchange rates)



The available data seems to suggest that the balance between maintenance and investment has been relatively constant over time in many regions. The volume of maintenance for road infrastructure in WECs has increased slightly more rapidly than the volume of investment; the former grew by 25%, while the latter by around 21% from 1995 to 2008. This has resulted in an increased share of maintenance in total road expenditure; from 26% in 1997 to 30% in 2009.

► **Maintenance share of road expenditure relatively constant**

Similar to the growth in volume of investment, the volume of maintenance has grown strongly in CEECs. The share of maintenance in total road expenditure has declined slightly, from 30% in 1997 to 27% in 2009. The increase in maintenance volumes in 2006 and 2007 (Figure 4) was partly due to a major increase in road maintenance in Hungary during those years.

In North America, the volume of maintenance has been relatively constant over time. The share of maintenance has declined from 33% in 1997 to 31% in 2009, according to preliminary estimates. As with investment data, data on maintenance is also prone to limitations and uncertainties (such as the allocation of spending between maintenance and renewals).

Figure 4. Road maintenance share of total road expenditure 1995-2009
(Euros, current prices and exchange rates)

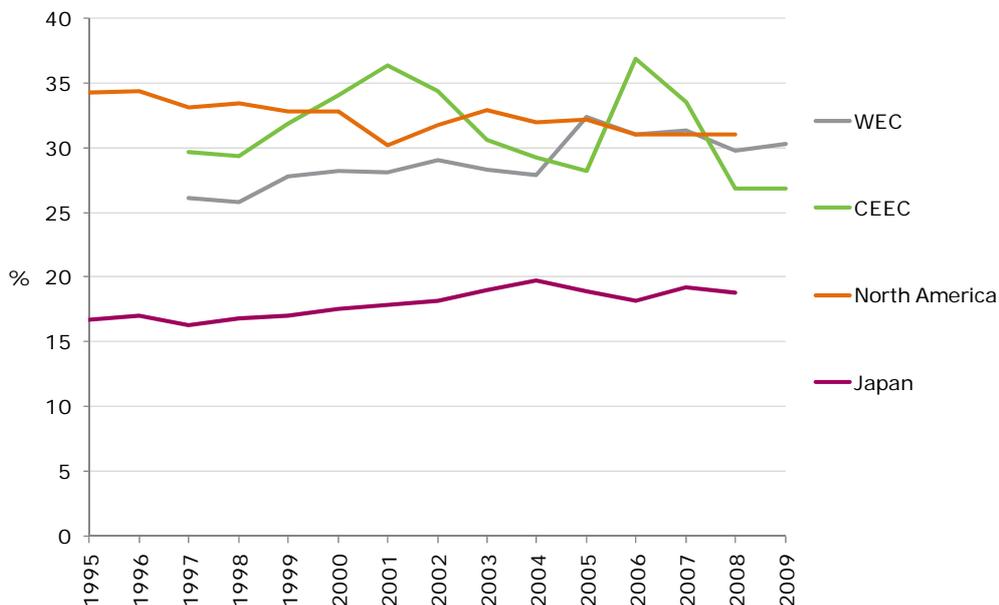
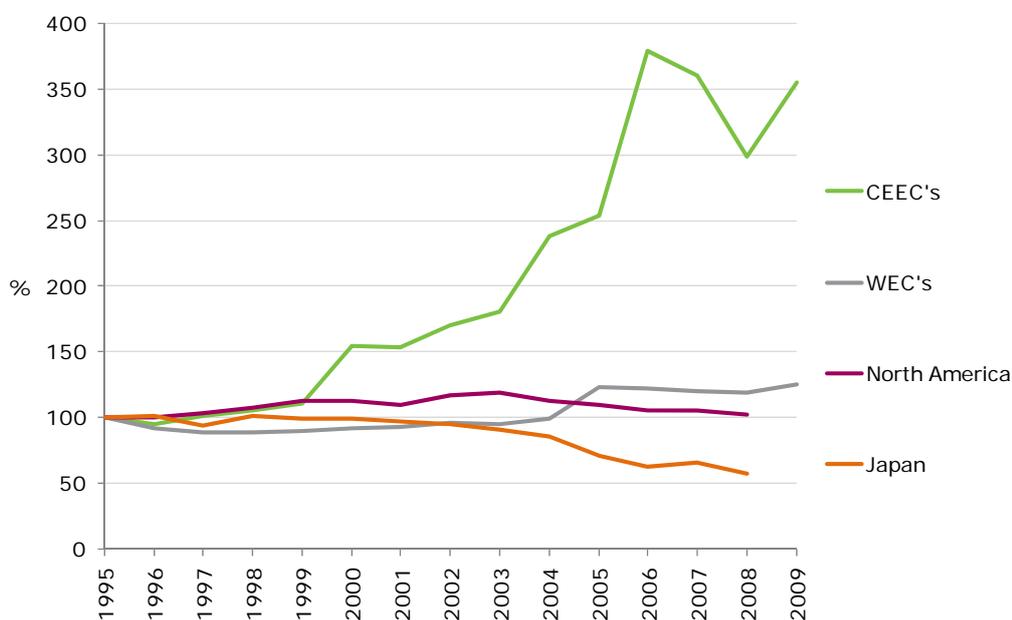


Figure 5. Road maintenance expenditure 1995-2009
(at constant 2005 prices, 1995=100)



Note: WECs include Belgium, Denmark, Finland, France, Iceland, Ireland, Norway, Sweden and the United Kingdom. CEECs include Albania, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Serbia, Slovakia and Slovenia.

Methodological note

The International Transport Forum statistics on investment and maintenance expenditure on transport infrastructure for 1995-2009 are based on a survey sent to 51 member countries. The survey covers total gross investment (defined as new construction, extensions, reconstruction, renewal and major repair) in road, rail, inland waterways, maritime ports and airports, including all sources of financing. It also covers maintenance expenditures financed by public administrations.

The Secretariat has collected and published data on this topic since the late 1970s. The latest survey covers the years 1995-2009. Member countries supply data in current prices. In order to draw up a summary of aggregate trends for selected countries, data has been calculated in Euro values at both constant (2005) and current prices. In order to ensure comparability, the Secretariat has devoted a significant amount of effort to collecting relevant price indices in order to make calculations at constant prices. Where available, a cost index for construction on land and water is used. Where these indices are not available, a manufacturing cost index or a GDP deflator is used.

Despite the relatively long time series, these data are often dogged by problems of definition and coverage, which make international comparisons difficult. Also there exists no purchasing power parity corrected general index for transport infrastructure investment. Finally, indicators such as the share of GDP needed for investment in transport infrastructure, depend on a number of factors, such as the quality and age of existing infrastructure, maturity of the transport system, geography of the country and transport-intensity of its productive sector. We therefore advise caution when making comparisons of investment data between countries.

This summary covers only aggregate trends in inland transport infrastructure (road, rail, inland waterways). Detailed country data on other items (maritime ports and airports) together with more detailed data descriptions and a note on the methodology are available at:

www.internationaltransportforum.org/statistics/investment/invindex.html

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