

# Modal Share of Rail Transport (2009-2023)

Internal note

UIC Statistics Platform

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This note presents trends in the modal share of rail transport worldwide, focusing on, passengers, and infrastructure investment. The data used comes from the [OECD](#).

Freight transport: Tonnes-kilometres (tkm)

Passenger transport: Passenger-kilometres (pkm)

Infrastructure investment: Euros (€)

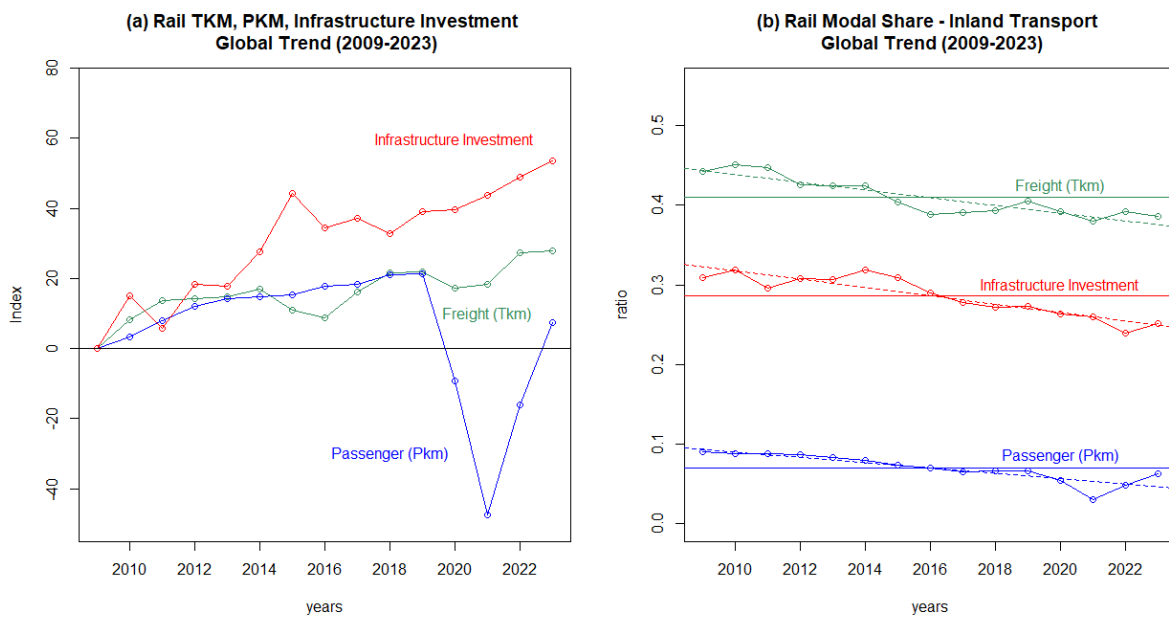


Fig.1. (a) Trend in global rail tonne.km, passenger.km and infrastructure investment. (b) Rail modal share in inland transport.

## 1. Freight transport by rail: a relative decline in modal share

Between 2009 and 2023, the share of rail in total inland freight transport (measured in tonnes-kilometres) has declined globally, although regional trends vary considerably. The analysis considers rail and road only, excluding pipelines and inland waterways.

In the European Union (EU-27), rail accounted for an average of 19% of inland freight transport over the period. This share remained relatively stable until 2019, followed by a slight decline in 2020 and stagnation at around 17% through 2023. Certain Member States saw notable growth: in Germany, the rail share increased from 24% in 2009 to 31% in 2023; in Hungary, from 18% to 24%; and in Italy, from 10% to 13%. Conversely, the Baltic States experienced a steep decline, from roughly 50% to below 20%. In the Nordic countries, the trend was mildly negative: Norway's share fell from 18% to 14%, Finland from 24% to 22%, and Sweden from 37% to 34%. In non-EU Eastern European countries such as Belarus, Ukraine, and Georgia,

rail freight still accounts for more than 50% of inland tonnes-kilometres, but these countries also show a negative trend.

In North America, rail remains a key mode for freight, averaging around 46% over the period. However, a gradual decline has occurred since 2016, with the modal share reaching approximately 40% in 2023. This trend is largely driven by the United States (down from 44% to 39%), while Canada remains stable at about 60% and Mexico around 26%.

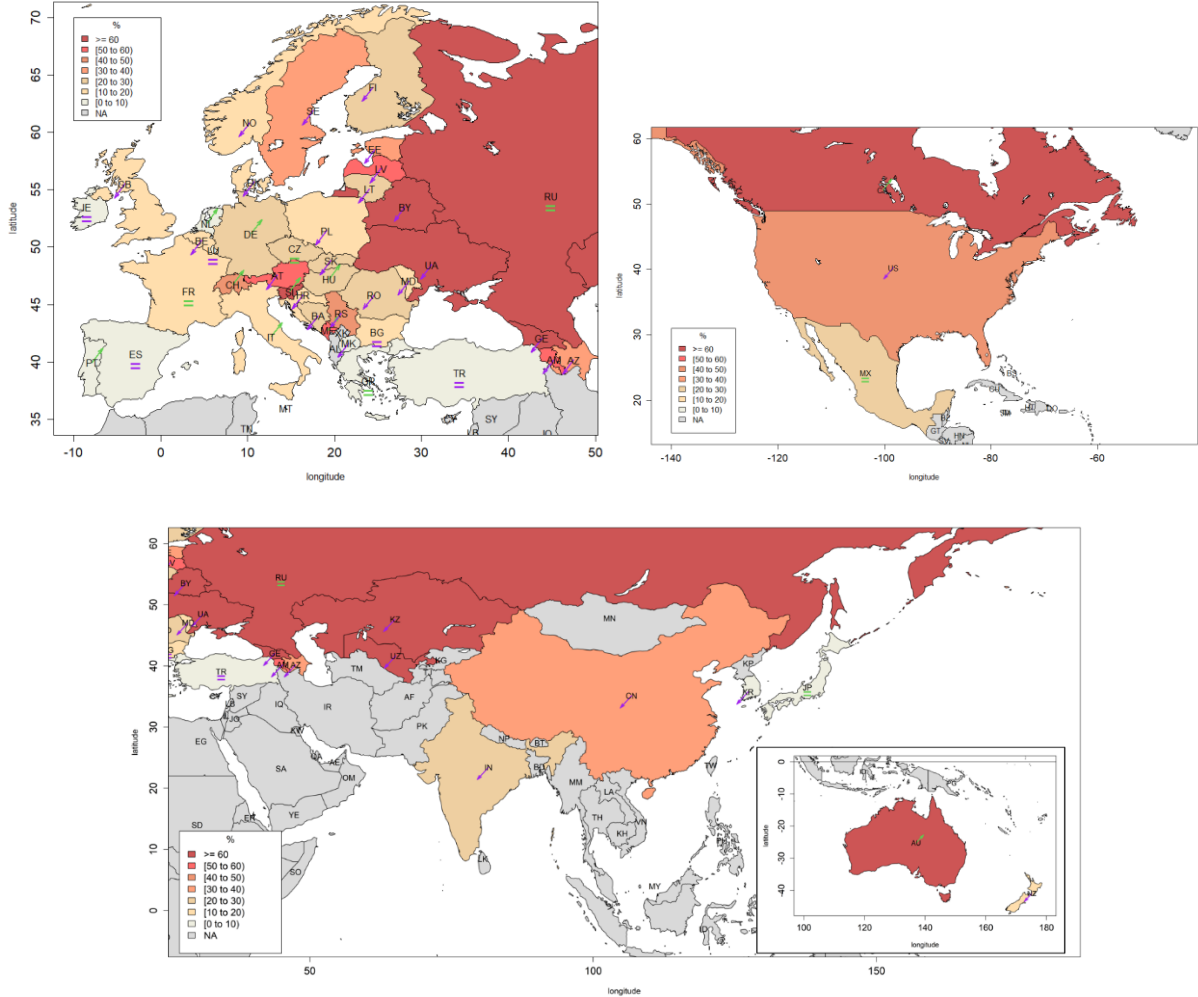


Fig.2. Rail modal share in inland freight transport.

In the Asia-Pacific region, rail’s share has also fallen significantly. China decreased from 40% in 2009 to 33% in 2023, and India from 34% to 25%. Australia is an exception, with a marked increase from 57% to 66%.

Globally, across countries with available data, rail’s share in inland freight transport fell from approximately 44% in 2009 to 38% in 2023, a 6-percentage-point drop. This is primarily due to the faster growth of road freight, particularly in China and India.

**2. Rail in passenger transport: recovery and persistent challenges**

Inland passenger transport (measured in passenger-kilometres) includes rail and road modes. Over the 2009–2023 period, rail’s modal share remained modest globally and highly sensitive to external shocks, particularly the COVID-19 pandemic.

In the EU-27, rail accounted for approximately 8% of inland passenger-kilometres until 2019. The pandemic caused a sharp decline, reducing the share to around 6% in both 2020 and 2021. A rebound was observed in 2022 (8%), with the share reaching close to 10% in 2023. In the United States, rail’s role remains negligible, accounting for less than 1% of passenger-kilometres. In South Korea, the rail share increased slightly over the period, while other countries generally saw a decrease, mainly due to pandemic effects. Reliable road data were unavailable for China and several other Asian countries, limiting broader comparisons.

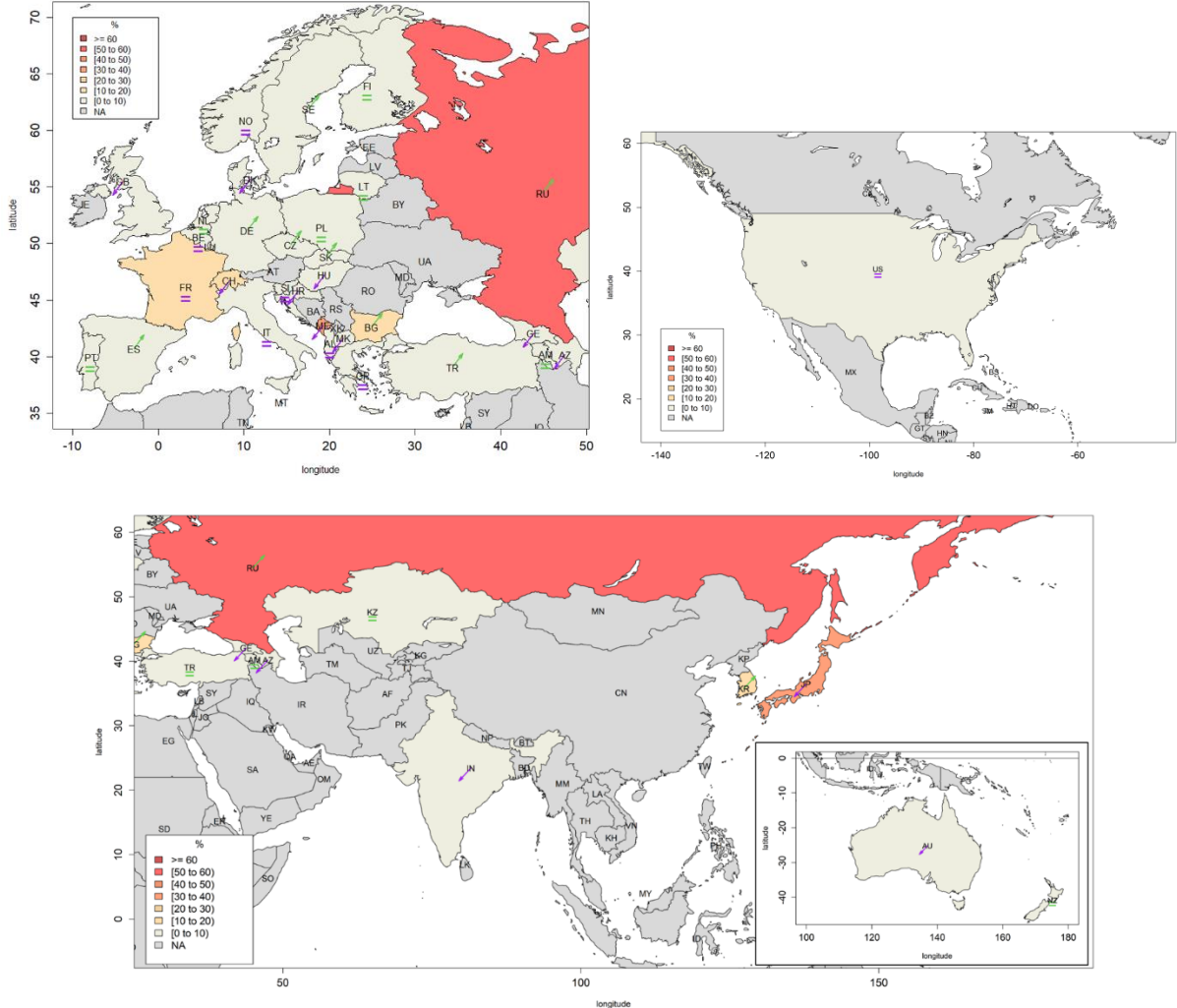


Fig.3. Rail modal share in inland passengers’ transport.

Overall, for the countries with available data, rail accounted for roughly 7% of inland passenger-kilometres between 2009 and 2023. A slight downward trend is observed, with a marked dip in 2020–2021 and a partial recovery thereafter. As of 2023, the global average remained around 6%, still below pre-pandemic levels.

**3. Infrastructure investment: shifting priorities**

Inland transport infrastructure investment (in euros), limited to rail and road modes, reflects the strategic choices made by national governments. On average, rail accounted for 29% of total inland transport infrastructure investment over the 2009-2023 period. However, this share declined after 2014, from 32% to 25% in 2023, mainly due to the sharp reduction in China.

In the EU-27, the rail share in infrastructure investment averaged 40% over the period, rising significantly from 34% in 2009 to 45% in 2023. Several countries reported increases exceeding 20 percentage points, notably Slovenia, Portugal, France, and Italy. Austria had the highest share in 2023, at 86%. In contrast, a general decline was recorded in Eastern Europe.

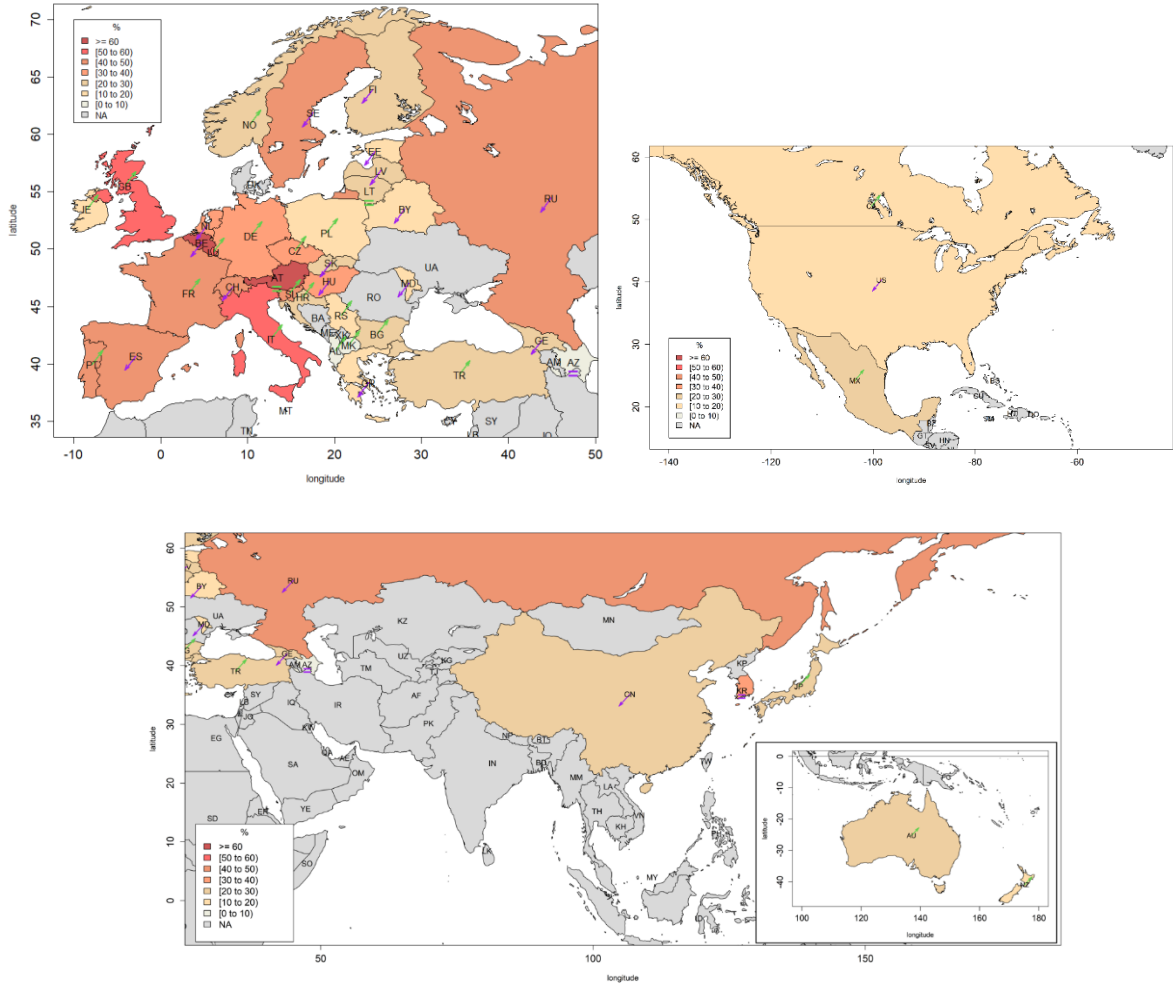


Fig.4. Rail modal share in inland transport infrastructure investment.

In North America, rail accounted for approximately 12% of inland transport investment. After increasing from 10% in 2009 to 16% in 2015, the share gradually dropped to 8% in 2023.

In the Asia-Pacific region, investment in rail infrastructure increased in Australia, Japan, and South Korea. However, China’s share fell significantly, from 40% in 2009 to 20% in 2023. Investment data were unavailable for India.

**Conclusion**

Between 2009 and 2023, rail transport, measured in tonnes-kilometres for freight and passenger-kilometres for passengers, faced diverging trends across the globe. While some countries, notably in the EU and Oceania, strengthened rail’s role through targeted investment and modal shift policies, the overall global trend shows a relative decline. This is largely driven by the rapid growth of road transport and, in some regions, a reallocation of infrastructure investment away from rail.