Railway freight transport statistics

Statistics Explained

Data extracted in October 2021.
Planned article update: November 2022.

This article presents the main trends in rail freight transport statistics in the European Union (EU) , and the EFTA countries Norway and Switzerland as well as the candidate countries Montenegro, North Macedonia and Turkey. It covers quarterly and annual data for total transport and annual data for national, international and transit transport. Railway transport by type of goods is also presented. This article, together with the article Railway passenger transport statistics - quarterly and annual data , presents a complete overview of railway transport in Europe.

Downturn for EU rail transport performance in 2019 and 2020

The evolution of the EU rail freight transport performance between 2010 and 2020 is presented in Figure 1. It has to be noted that the data from Belgium are not included. A sharp increase was observed between 2010 and 2011 (+7.2 %), subsequently followed by a decline in 2012 (-4.2 %). A rebound was observed in 2013 (+1.2 %), followed by two consecutive growths in 2014 and 2015 (+1.1 % and +1.2 %, respectively). In 2016, again a decline (-0.9 %) was registered, but immediately followed by significant rises in 2017 and 2018 (+3.1 % and +3.0 %, respectively), reaching a peak at almost 400 billion tonne-kilometres (tkm). In 2019 and 2020, rail freight transport performance fell by 2.2 % and 5.9 %, respectively, compared to the previous year. To prevent the spread of the COVID-19 pandemic, countries took restrictive measures since the beginning of 2020. The rail freight transport was certainly impacted by those restrictions albeit at a much lesser extent than rail passenger transport, which almost halved between 2019 and 2020.

Rail freight transport for main undertakings, EU, 2010-2020
(billion tonne-kilometres)
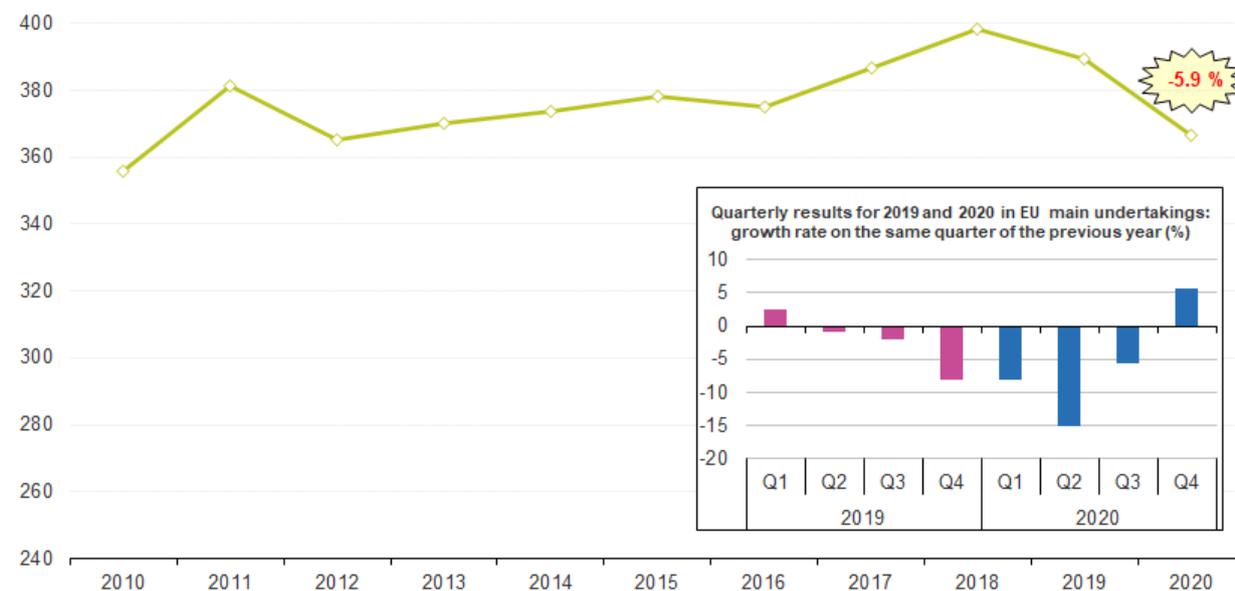
Note: The y-axis is cut. Data for Belgium are not included. Quarterly data have been used for Luxembourg in 2010 and 2011.

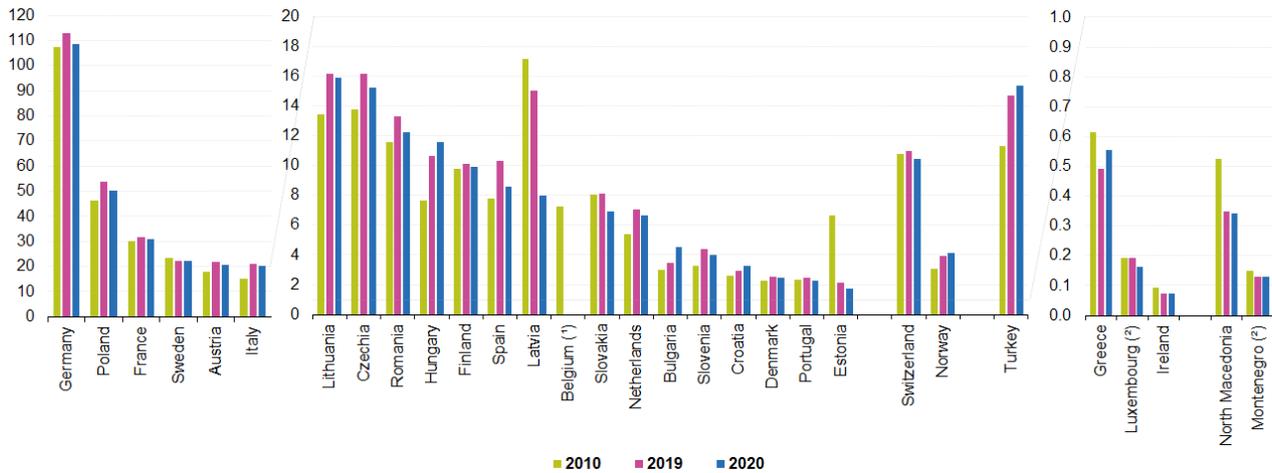*Source:* Eurostat (online data codes: rail_go_typepas and rail_go_quartal)

Figure 1: Rail freight transport for main undertakings, EU, 2010-2020 (billion tonne-kilometres) Source: Eurostat (rail_go_typepas) and (rail_go_quartal)

The decline in the years 2019 and 2020 started already in the second quarter of 2019 (-0.9 % compared to the same quarter of the previous year), and continued in the third and fourth quarters with -2.1 % and -8.0 %, respectively. This negative trend continued also in the first three quarters of 2020 with further substantial drops (-8.2 %, -15.1 % and -5.7 %, respectively). In contrast, the first quarter of 2019 and the last quarter of 2020 recorded a growth compared to the same quarter of the previous year (+2.4 % and +5.6 %, respectively).

Germany recorded the highest rail freight transport performance in the EU

Germany was by far the largest contributor to the rail freight transport performance in the EU, with 108 billion tkm in 2020, representing around 30 % of the total EU (see Figure 2). Poland and France followed with 50 and 31 billion tkm, respectively. At the other end of the scale, Greece, Luxembourg and Ireland registered less than 1 billion tkm in 2020. The two candidate countries Montenegro and North Macedonia had less than half a billion tonne-kilometres in 2020.

Rail freight transport for main undertakings, 2010, 2019 and 2020
(billion tonne-kilometres)

Note: Countries are ranked based on 2020 data. Cyprus and Malta have no railways.
(¹) 2019 and 2020 data not available.
(²) 2010 based on quarterly data.
Source: Eurostat (online data codes: rail_go_typepas and rail_go_quartal)

eurostat

Figure 2: Rail freight transport for main undertakings, 2010, 2019 and 2020 (billion tonne-kilometres) Source: Eurostat (rail_go_typepas) and (rail_go_quartal)

Only five EU Member States recorded an increase between 2019 and 2020: Bulgaria (+28.9 %), Greece (+13.1 %), Croatia (+12.6 %), Hungary (+9.1 %) and Ireland (+2.9 %). The EFTA country Norway (+5.3 %) and the candidate countries Turkey (+4.3 %) and Montenegro (+0.1 %) also registered a growth over the same period. The rail transport performance in all remaining countries dropped between 2019 and 2020. The highest decrease was observed in Latvia (-46.9 %), followed by Estonia (-19.8 %), Spain (-16.7 %), Slovakia (-15.1 %) and Luxembourg (-15.0 %). Also in absolute terms, Latvia was the country with the highest decrease, with a 7.0 billion tkm drop between 2019 and 2020. Germany followed with a decrease of 4.7 billion tkm over the same period.
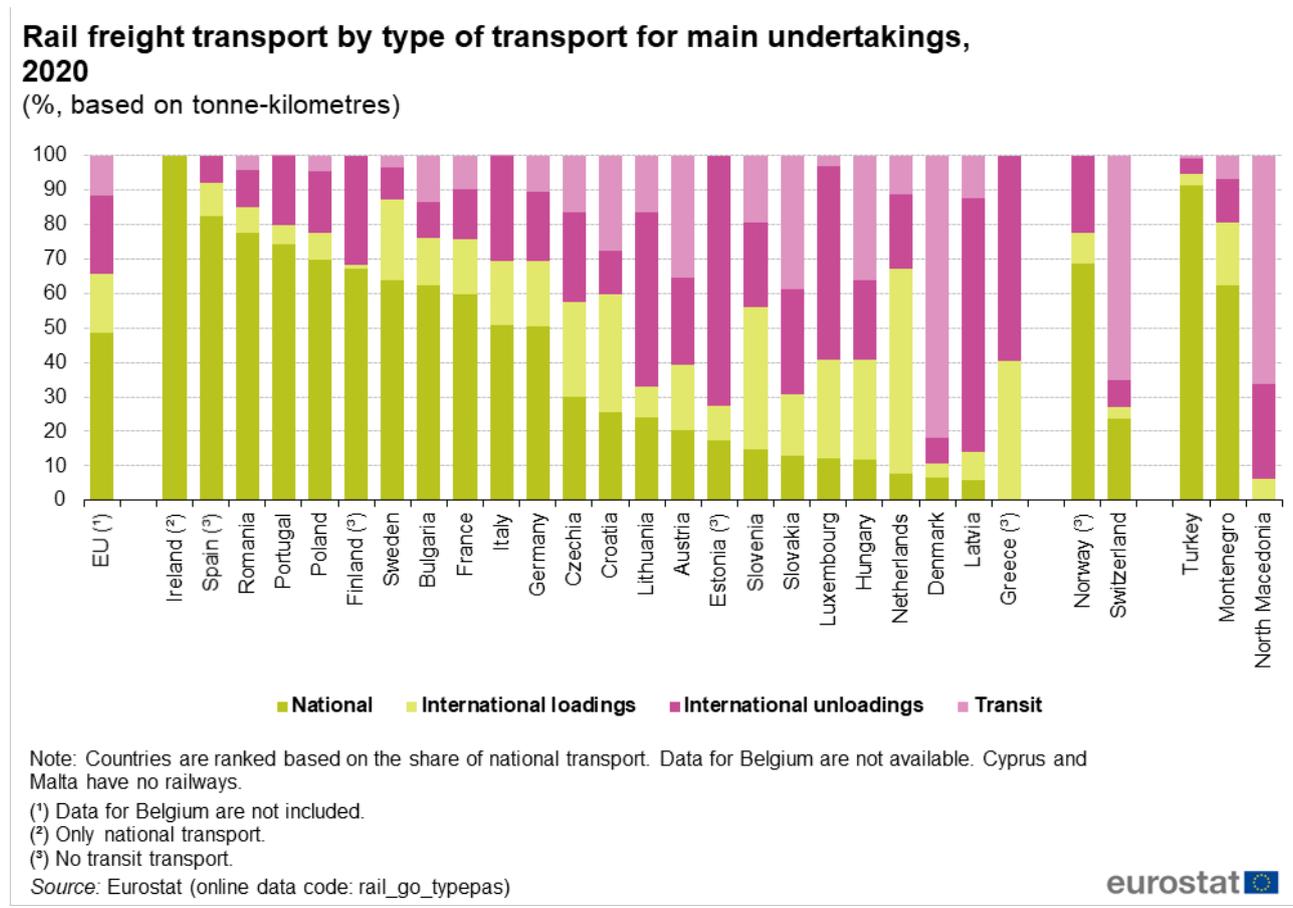
Geographical location plays a key role in the share of international transport

Rail freight transport performance by type of transport (national, international loadings/unloadings and transit) in total tkm performed is shown in Figure 3. For the EU as a whole, the share of international loadings could be estimated at almost 17.1 % in 2020, international unloadings at 22.4 %, transit at 11.8 % and national at 48.7 %. In this context, transit transport performance for the EU is calculated as the sum of the transit transport performance reported by each EU Member State.

The share of international transport in the various countries is strongly linked to their geographical position within Europe. The countries which registered the highest share of international transport are located in the key corridors within the European market. In the Baltic States Latvia and Estonia, situated at the border between the EU and Russia, international unloadings accounted for 73.7 % and 72.6 % of the total transport performance in 2020, respectively. The Netherlands, strategically situated in the heart of the European market, registered a share of international transport of 81.2 %, mostly loadings (59.7 %), in total tkm performed. The key import port of Rotterdam, with large sea/rail transfers of goods dispatched within the EU, strongly influences these figures. Greece registered the highest share of international transport on total transport performance in 2020, with 99.6 %. Luxembourg also registered a high share of international transport with 84.7 %.

By contrast, countries with specific geographical characteristics (at the periphery of the European Union or islands) recorded a low share of international transport by rail. No international transport has been reported by Ireland for 2020 and small shares were observed for Denmark (11.8 %), Spain (17.6 %) and Romania (18.1 %). For such countries, the preferred mode for international freight transport remains maritime transport, goods being delivered at the nearest port to the point of their destination and then being forwarded in the country mainly by road, but also by rail (accounted as national transport). Turkey also recorded a low percentage (8.0 %) which may also be linked to its

peripheral position.

Rail freight transport by type of transport for main undertakings, 2020

(%, based on tonne-kilometres)

Note: Countries are ranked based on the share of national transport. Data for Belgium are not available. Cyprus and Malta have no railways.
(¹) Data for Belgium are not included.
(²) Only national transport.
(³) No transit transport.
Source: Eurostat (online data code: rail_go_typepas)

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Figure 3: Rail freight transport by type of transport for main undertakings, 2020 (%, based on tonne-kilometres) Source: Eurostat (rail_go_typepas)
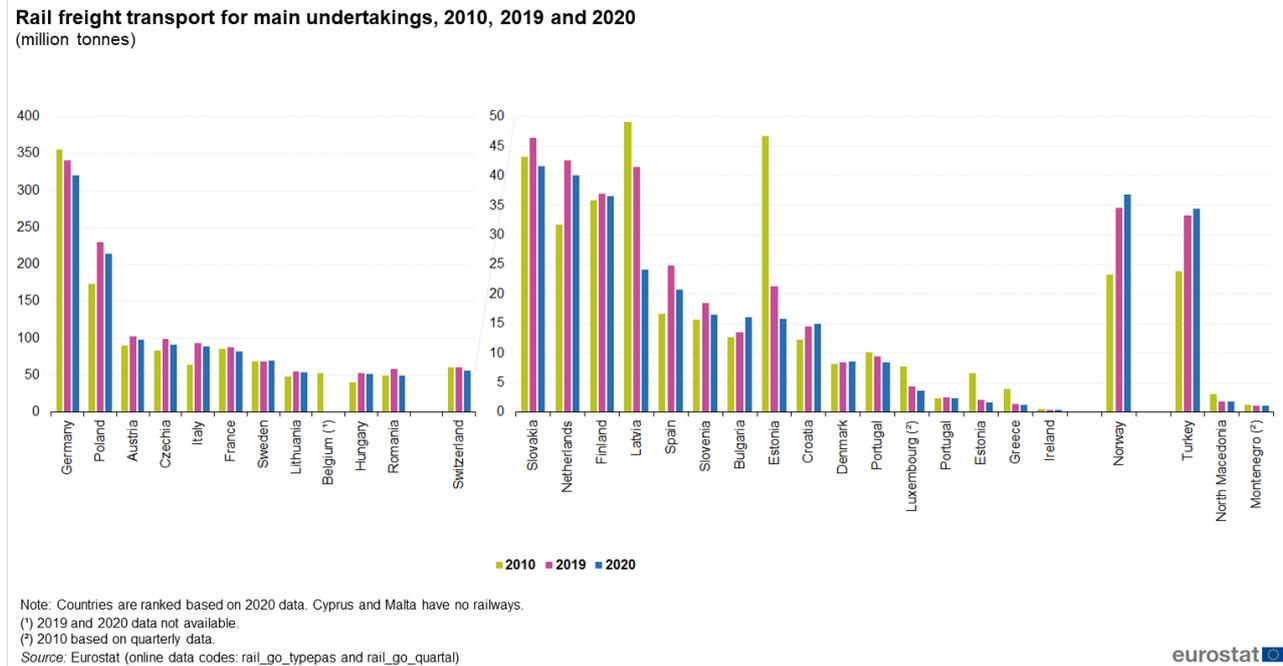
Regarding transit transport in the EU, Denmark registered the highest share in 2020, with 81.8 %, followed by Slovakia (38.8 %), Hungary (36.1 %) and Austria (35.3 %). Switzerland (65.2 %) and North Macedonia (66.1 %) also had high shares of transit transport in 2020. By contrast, five EU Member States and Norway did not report any transit rail transport in 2020.

When looking at national transport, the highest shares in 2020 were observed in Ireland (100 %), Spain (82.4 %), Romania (77.7 %), Portugal (74.2 %), Poland (69.8 %), Finland (67.1 %), Sweden (63.7 %) and Bulgaria (62.2 %). National transport was also relatively high in Norway (68.8 %) and Turkey (91.2 %). On the other side of the scale, national transport represented 0.4 % in Greece, 6.0 % in Latvia, 6.4 % in Denmark and 7.5 % in the Netherlands. In North Macedonia, national transport was 0.3 %.

Only five EU Member States recorded an increase of the rail freight transport between 2019 and 2020

Rail freight transport expressed in tonnes is presented in Figure 4. The picture is slightly different when analysing the evolution between 2019 and 2020. Only five EU Member States recorded an increase between these two years. Ireland registered the highest growth (+29.7 %), followed by Bulgaria (+18.7 %). Denmark and Sweden registered an increase between 2019 and 2020 in terms of tonnes while they recorded a fall in terms of tonne-kilometres, reflecting somehow a reduction in the distances covered in those two countries. In contrast, Greece and Hungary recorded a drop in terms of tonnes between 2019 and 2020, while a growth was registered in terms of tkm. The highest decrease was observed in Latvia (-42.0 %), followed by Estonia (-26.0 %), Luxembourg (-17.7 %), Spain (-16.5 %) and Romania (-15.9 %). In absolute terms, Germany was the country with the highest decrease, with a 20 million
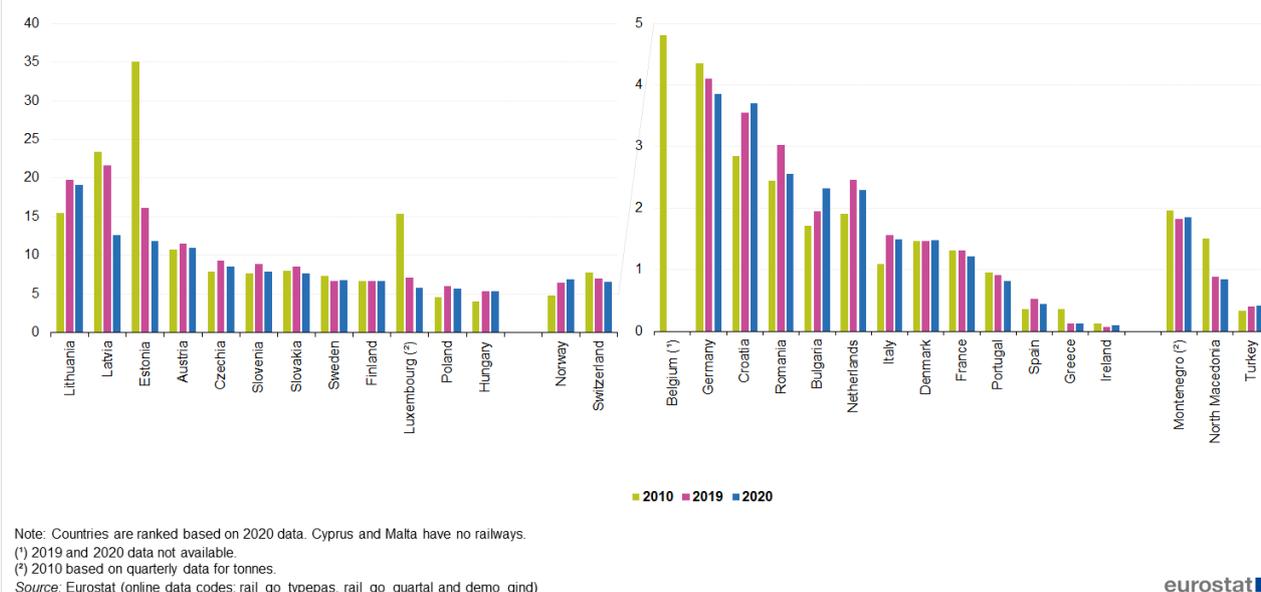
tonnes drop between 2019 and 2020. Latvia followed with a decrease of 17 million tonnes over the same period.

Rail freight transport for main undertakings, 2010, 2019 and 2020
(million tonnes)

Note: Countries are ranked based on 2020 data. Cyprus and Malta have no railways.
(¹) 2019 and 2020 data not available.
(²) 2010 based on quarterly data.
Source: Eurostat (online data codes: rail_go_typepas and rail_go_quartal)

eurostat

Figure 4: Rail freight transport for main undertakings, 2010, 2019 and 2020 (million tonnes) Source: Eurostat (rail_go_typepas) and (rail_go_quartal)

Figure 5 presents the tonnes transported in relation to the population of the reporting countries. The three Baltic countries Lithuania, Latvia and Estonia had the highest ratio in 2020, with 19.1, 12.7 and 11.9 tonnes per capita. Austria was the other country with more than 10 tonnes per capita (10.9). Eight EU Member States had between 10 and 5 tonnes per capita, eight others had between 5 and 1 tonnes and four had less than 1 tonne per capita. Greece and Ireland registered the lowest ratio with 0.1 tonnes per capita in 2020. Also, North Macedonia and Turkey recorded less than 1 tonne per capita in 2020. When comparing to 2019, Latvia and Estonia registered the largest decline in 2020, with -9.0 and -4.2 tonnes per capita. When comparing to 2015, the loss in 2020 was even stronger for Estonia with -23.2 tonnes per capita.

Rail freight transport for main undertakings, 2010, 2019 and 2020
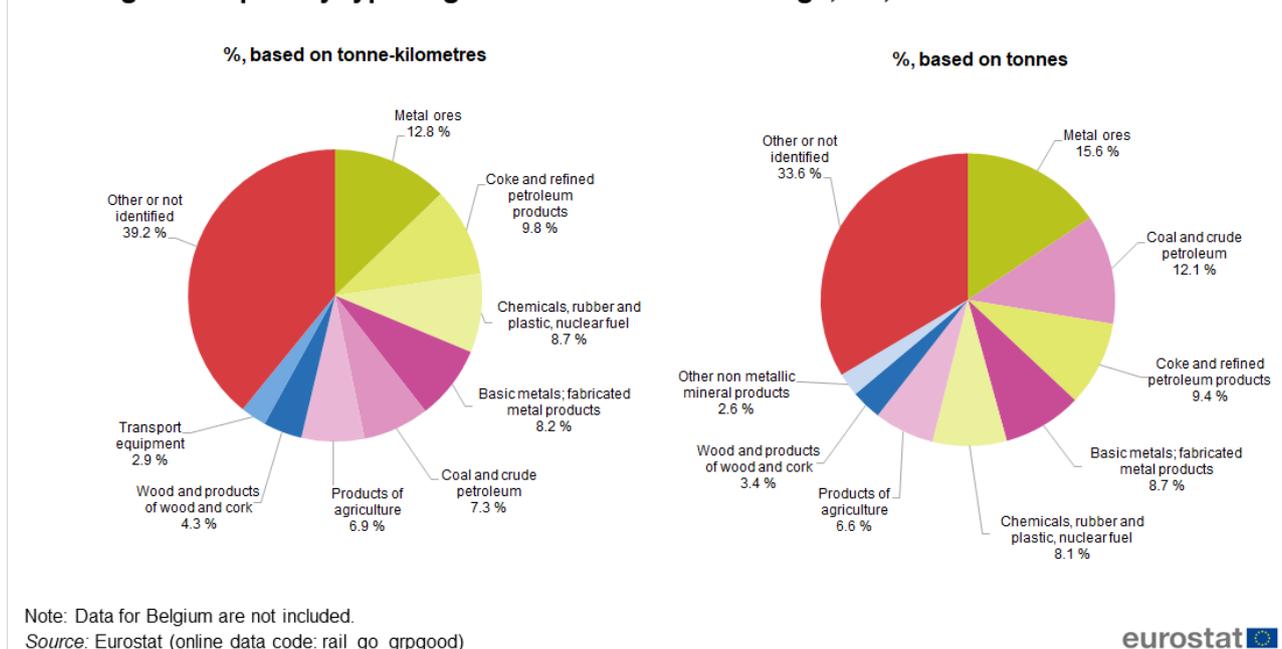(tonnes per capita)

Note: Countries are ranked based on 2020 data. Cyprus and Malta have no railways.
(¹) 2019 and 2020 data not available.
(²) 2010 based on quarterly data for tonnes.
Source: Eurostat (online data codes: rail_go_typepas, rail_go_quartal and demo_gind)

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Figure 5: Rail freight transport for main undertakings, 2010, 2019 and 2020 (tonnes per capita) Source: Eurostat (rail_go_typepas) and (rail_go_quartal)

The largest individual goods category transported by rail in 2020 was 'Metal ores'

Figure 6 presents the share of the type of goods (according to NST_2007 classification) transported by rail, expressed in tonne-kilometres and tonnes. It shall be noted however, that the high share of unidentifiable goods reported has an impact on the results presented.

At EU level, the main types of goods transported in 2020, based on tkm, were 'metal ores' (12.8 %), 'coke and refined petroleum products' (9.8 %), 'chemicals, rubber and plastic, nuclear fuel' (8.7 %) and 'basic metals; fabricated metal products' (8.2 %). In terms of the weight, the main type of goods was also 'metal ores', but with a higher share (15.6 %). The second main product was 'coal and crude petroleum' (12.1 %), which was only in fifth position in terms of tonne-kilometres (7.3 %). 'Coke and refined petroleum products' came third, with a share of 9.4 %. The fourth main product was 'basic metals; fabricated metal products' (8.7 %), similarly to tonne-kilometres. 'Chemicals, rubber and plastic, nuclear fuel' was in fifth position with 8.1 %.

Rail freight transport by type of goods for main undertakings, EU, 2020

%, based on tonne-kilometres

- Metal ores 12.8 %
- Coke and refined petroleum products 9.8 %
- Chemicals, rubber and plastic, nuclear fuel 8.7 %
- Basic metals; fabricated metal products 8.2 %
- Coal and crude petroleum 7.3 %
- Products of agriculture 6.9 %
- Wood and products of wood and cork 4.3 %
- Transport equipment 2.9 %
- Other or not identified 39.2 %

%, based on tonnes

- Metal ores 15.6 %
- Coal and crude petroleum 12.1 %
- Coke and refined petroleum products 9.4 %
- Basic metals; fabricated metal products 8.7 %
- Chemicals, rubber and plastic, nuclear fuel 8.1 %
- Products of agriculture 6.6 %
- Wood and products of wood and cork 3.4 %
- Other non metallic mineral products 2.6 %
- Other or not identified 33.6 %

Note: Data for Belgium are not included.
Source: Eurostat (online data code: rail_go_grpgood)

eurostat

Figure 6: Rail freight transport by type of goods for main undertakings, EU, 2020 Source: Eurostat (rail_go_grpgood)

Source data for tables and graphs

- Rail freight transport statistics: tables and figures

Data sources

The figures presented in this article have been extracted from the Eurostat rail transport database. They include data on national, international and transit transport of the Member States, EFTA and Candidate countries, collected according to the Regulation (EU) No 2018/643 recast of Regulation (EU) No 2016/2032 . There are no railways in Cyprus and Malta. The various elements present data collected under the detailed reporting system, meaning that data include only main undertakings which are defined as follows:

- Until 2015: undertakings with a total transport performance greater than 500 million tonne-km or 200 million passenger-km.

- From 2016: undertakings with a total volume of goods transport of at least 200 million tonne-km or at least 500 000 tonnes or a total volume of passengers transport of at least 100 million passenger-km.

Railway undertakings which are below the thresholds may however be included for some countries. Basic results and derived indicators (such as growth rates and shares in % of total) in the tables are rounded. However, the figures are based on the non-rounded original data. As a result, the sum of shares in % of total, as shown in the tables, is not necessarily equal to 100 %. Explanatory notes for countries are available in the metadata on the Eurostat website. **Symbols**

:	not available
-	not applicable
0	actual zero or very negligible transport
c	confidential data

Context

The content of this statistical article is based on data collected within the framework of Regulation (EU) No 2018/643 recast of Regulation (EU) No 2016/2032 .

Other articles

- All articles on transport
- Transport statistics at regional level
- Railway passenger transport statistics - quarterly and annual data

Tables

- Transport , see:

Railway transport (t_rail)

Goods transport by rail (ttr00006)

Database

- Transport , see:

Railway transport (rail)

Railway transport measurement - Goods (rail_go)
Historical data (1982-2002) (rail_go_h)

Dedicated section

- Transport

Publications

- Energy, transport and environment statistics - 2020 edition

Methodology

- Glossary for transport statistics - 5th edition - 2019
- Reference manual on rail transport statistics

Legislation

- Regulation (EU) No 2018/643 recast of Regulation (EU) No 2016/2032 .
- Summaries of EU legislation: EU rail transport statistics