The Economic Contribution of the Port of Hamburg

Analysis of the regional and overall economic Importance of the Port of Hamburg

- Executive Summary -

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Executive Summary

The Port of Hamburg contributes to the economic development in the metropolitan region and beyond in multiple ways. It creates added value and employment in a range of industries. Terminals and associated services providers, for instance, employ thousands of people. Moreover, the Port ensures that companies are supplied with raw materials as well as that they can sell their products overseas and within the European short sea markets. Companies based in the metropolitan region as well as shippers in the hinterland benefit from the Port. On top, port-dependent companies produce indirect impacts along the value chain through intermediate inputs from other companies as well as induced impacts through consumption by employees.

The present study aims to quantify the direct economic impacts of the Port and its terminal operations, along the transport chain and of the port-related industry as well as the indirect impacts along the value chain. The additional systemic relevance of the Port of Hamburg as a supplier of certain goods to the German market is not subject of this study.

Key results of the study:

- In 2019, Germany-wide roughly 606,700 jobs were in some way linked to the Port of Hamburg, for example through the export of goods via the Port.
- About 114,400 jobs were directly or indirectly dependent on the Port of Hamburg; they could not be maintained without the Port.
- The port-dependent jobs generated added value of roughly 9.8 billion euros and tax revenues of roughly 2.57 billion euros.

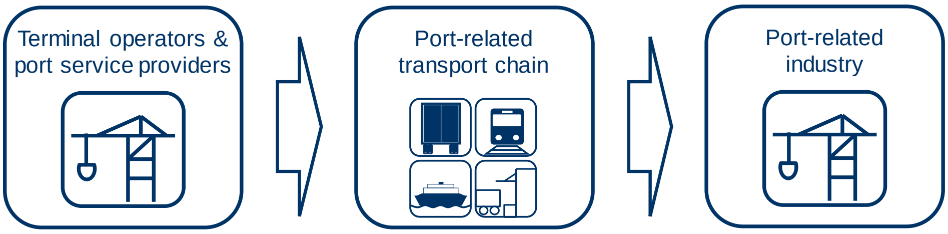
Because of methodology differences, it is not possible to assess the development of the economic importance of the Port since the previous study for the 2014 reporting year. Due to the different methodology used, the indicators measuring the regional importance of the Port are lower whereas its impacts outside the metropolitan region seem to be significantly higher than before.

How to read the Results

The study first examined the **direct impacts** – i.e. the impacts generated by companies **directly related to Port of Hamburg** – in various industries (see the 'directly port-related' column in Figure 2). Economic activities that are directly related to cargo handling and ship processing are taken account of in full; the activities along the port-dependent transport chain and in industrial companies that export their products through the Port are taken account of on a pro-rated basis.

Only some employees depend on the Port of Hamburg to an extent that they would be out of work if there were no cargo and passenger handling in the Port of Hamburg. Employees in companies linked to the Port in that manner can be deemed to be **directly dependent on the Port** (see the 'of which port-dependent' column in Figure 2).

Figure 1: Industries directly related to the Port

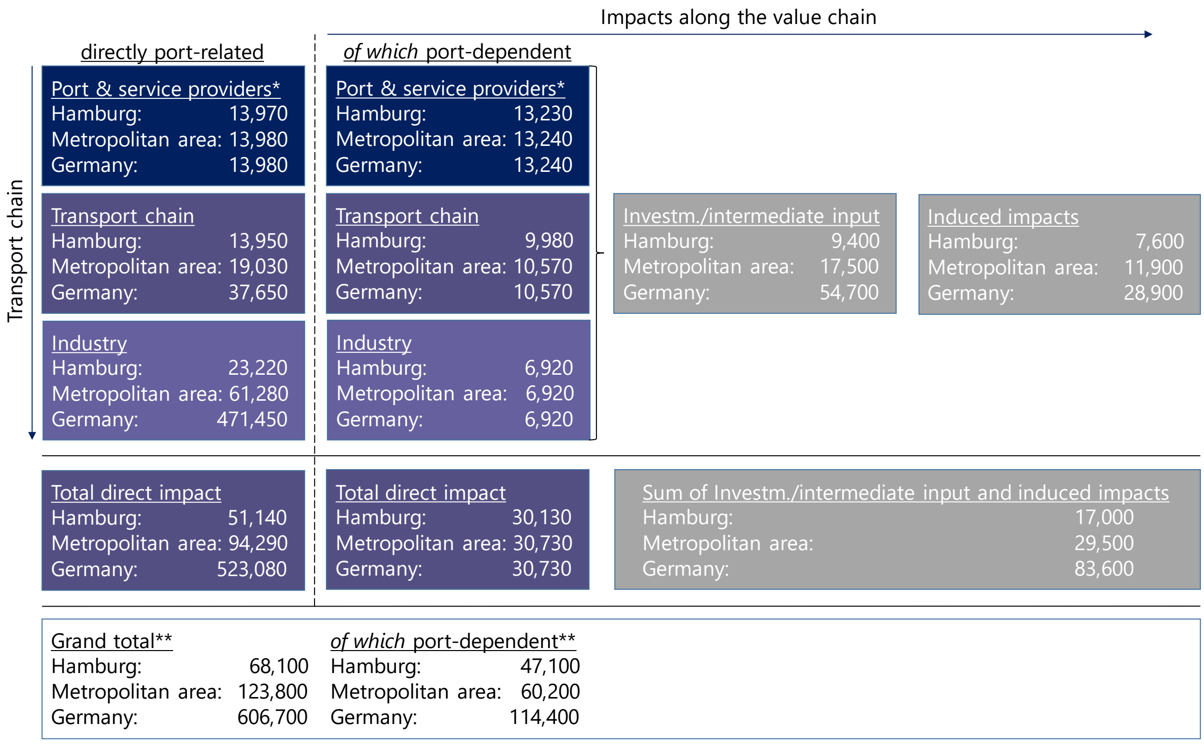


The port-related industries shown in Figure 1 invest in fixed assets and rely on intermediate inputs from other industries to produce their products and services, which creates added value and jobs. This study also takes into account other impacts along the value chain which arise from **investments** and **intermediate inputs** (see 'investm./ intermediate inputs' box in Figure 2).

The salaries and wages paid by the companies directly and indirectly related to the Port increase spending by employees, which is taken into consideration as **induced impacts** (see 'induced impacts' box in Figure 2).

For prudential reasons this study only estimates the indirect and induced impacts linked to investments, intermediate inputs and employee spending arising from employment directly dependent on the Port.

Figure 2: Overview of the Port of Hamburg's impact on employment in 2019



* including employment directly generated by the passenger spending
** each including impacts along the value chain

Note: There may be differences due to rounding

Overall, some 606,700 jobs in Germany are directly or indirectly supported by the Port, of which roughly one fifth are in the Hamburg Metropolitan Region. About 55 per cent of the port-related jobs in the metropolitan region are in Hamburg.

The port-related employees generated 50.8 billion euros of gross value added in Germany, of which 9.8 billion euros was classified as port-dependent (see Figure 3).

Figure 3: Port-related and port-dependent value added and employment in 2019

Indicator	Germany	*of which* Hamburg Metro-politan Region	*of which* Hamburg
port-related			
Value added in million EUR	50.841	12.370	8.062
employees	606.700	123.800	68.100
port-dependent			
Value added in million EUR	9.830	6.091	5.163
employees	114.400	60.200	47.100

Impacts on value added and employment at the regional level

The regional impacts in the Hamburg Metropolitan Region consist of economic activities directly related to the Port of Hamburg as well as indirect and induced impacts. Direct impacts arise from three areas:

- Terminal operations, complementary port services providers and cruise-dependent consumption: 13,980 employees
- Port-related transport chain, incl. logistics services: 19,030 employees
- Port-related industry: 61,280 employees

The aggregate regional economic impact arises from the roughly 94,300 employees mentioned above and a total of roughly 29,500 employees through indirect and induced impacts in the value chain. The roughly 123,800 employees created added value of approximately 12.4 billion euros in the metropolitan region in 2019.

Impacts on employment in Germany

One important conclusion drawn from a previous methodological study conducted for the German Ministry of Transport and Digital Infrastructure (BMVI)[1] is that studies that focus on regional impacts often significantly underestimate the economic importance of ports. Through their hinterland connections ports help to support jobs in the hinterland. In 2019 roughly 1.6 million industrial jobs were related to a seaport. Some 30 per cent of these jobs was supported by the Port of Hamburg, whereby the share greatly varies between industries. While in the vehicle export sector that share is about 8 per cent because most vehicles are exported through other German and foreign ports, the share for agricultural and chemical products is roughly 40 per cent. Hamburg's share in goods that are transported in containers or trailers is estimated

1 Institut für Seeverkehrswirtschaft und Logistik u.a., Untersuchung der volkswirtschaftlichen Bedeutung der deutschen See- und Binnenhäfen auf Grundlage ihrer Beschäftigungswirkung, Bremen 2019

to be roughly 34 per cent. Overall, the Port of Hamburg directly supported some 471,450 industrial jobs in Germany in 2019.

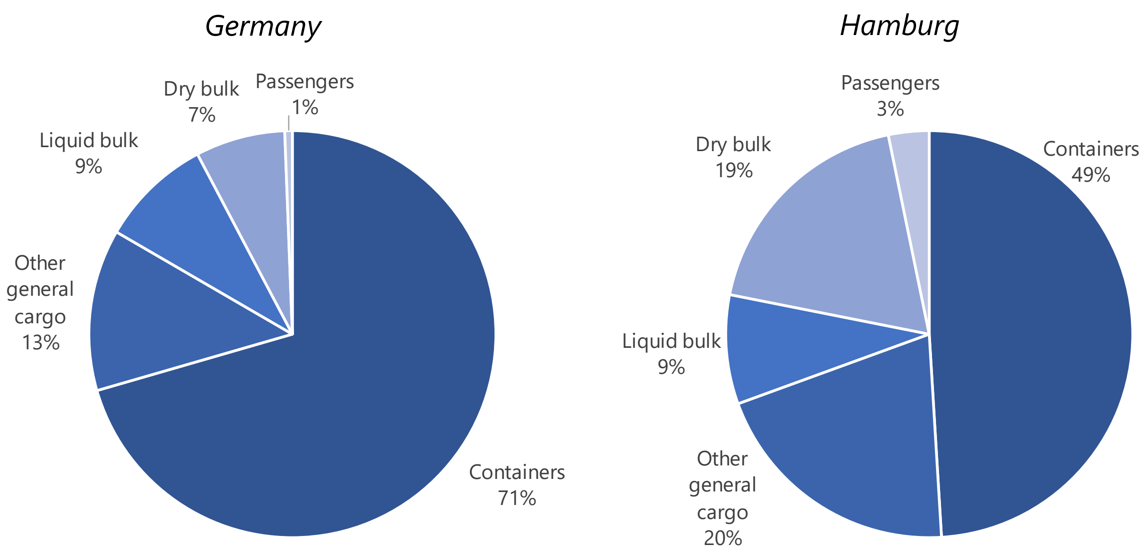
Furthermore, firms in the port-related transport chain provide jobs in the metropolitan region and beyond. Forwarding agents throughout Germany arrange shipments through the Port of Hamburg that are carried out by hauliers. Some 37,650 jobs in Germany are estimated to be linked directly to the Port of Hamburg in that sector.

In addition, indirect and induced impacts are generated far beyond the metropolitan region in the wider German economy.

Employment by cargo segments

The study examines the impacts on employment both by region and by cargo segments in the Port of Hamburg. To measure the direct impacts, companies were allocated to cargo segments (or to several cargo segments on a pro-rated basis). Investments, intermediate inputs and induced impacts were then multiplied by the respective share.

Figure 4: Employment by cargo segments in Germany and in Hamburg



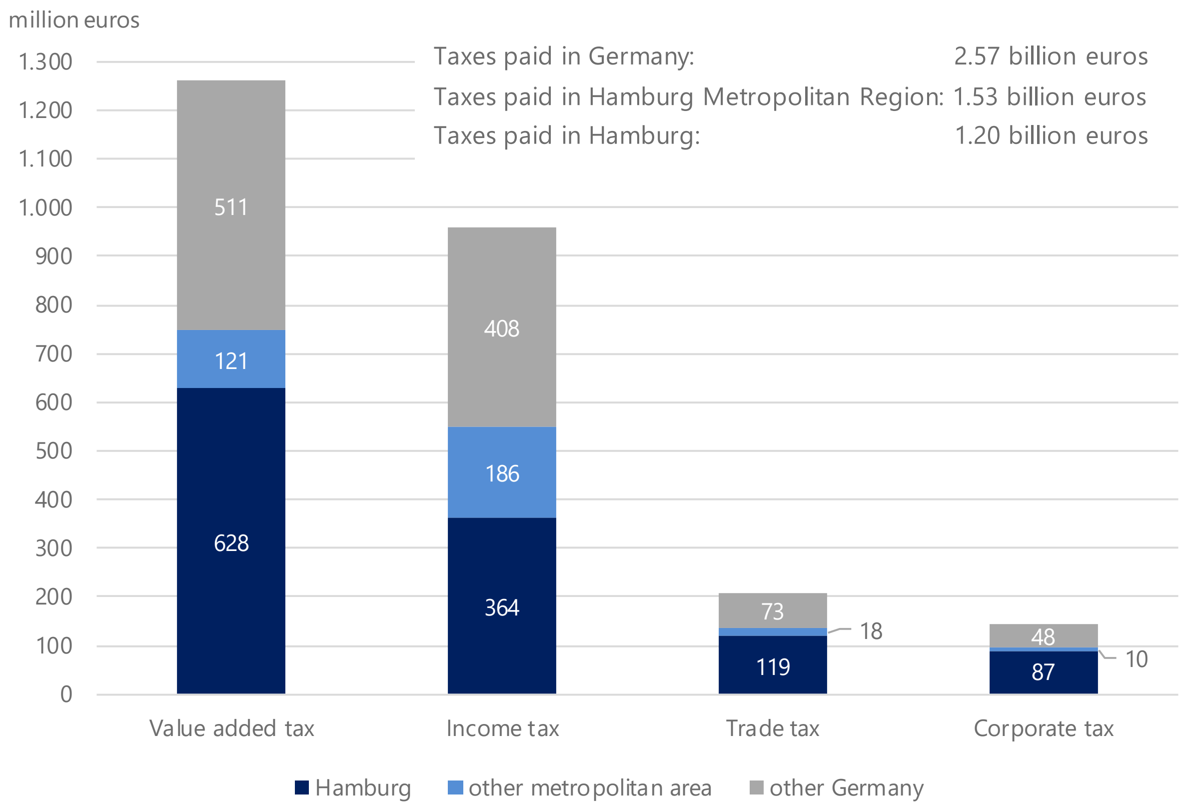
Note: There may be differences due to rounding

The share of container trade in total employment supported by the Port of Hamburg at the national level is estimated to be 71 per cent. The local share of dry bulks and general cargoes is above average, i.e. it is significantly higher in Hamburg than in the German-wide economy. The impacts on passenger-related added value and employment too are highest in Hamburg.

Tax impacts

The port-dependent industry's activities generate different types of taxes, in particular VAT and income tax as well as trade tax and corporate tax.

Figure 5: Tax payments related to the Port of Hamburg in 2019



For prudential reasons the study only considers port-dependent industries to determine the impacts on tax revenues, including the investments and the indirect and induced impacts they triggered.[2] Overall, the port-dependent industry generated some 1.53 billion euros in taxes within the Hamburg Metropolitan Region. Whilst the direct impacts mostly take effect in Hamburg and the metropolitan region, additional tax revenues of an estimated 1.04 billion euros are generated in particular through intermediate inputs in the rest of Germany outside of the metropolitan region. Germany-wide the industries dependent on the Port of Hamburg generate tax revenues of about 2.57 billion euros.

Methodology

The economic impacts of the Port of Hamburg were last established for 2014[3] in a follow-up study that based on a study for the base year of 2011[4]. In the **methodological study** published in 2019, the Federal Ministry of Transport and Digital Infrastructure (BMVI) made recommendations for carrying out studies of economic impacts in ports. The recommended methodology in part deviates from the methodology applied in previous studies conducted for the Port of Hamburg. The present study implements the BMVI's recommendations and

[2] Excluding import VAT tax which is not taken into account here as it is offset against input tax. The relevance of import VAT tax under competition policy is the result of a liquidity effect which is not apparent in the present analysis.

[3] PLANCO Consulting, Fortschreibung der Berechnungen zur regional- und gesamtwirtschaftlichen Bedeutung des Hamburger Hafens für das Jahr 2014, Essen 2015

[4] PLANCO Consulting, Untersuchung zu Arbeitsplätzen und Wertschöpfung sowie Einkommens- und Steuereffekten durch den Hamburger Hafen für das Jahr 2011, Essen 2013

assesses the economic impacts for the base year of 2019. The area for which the regional economic impacts have been assessed has been extended and reflects the current borders of the Hamburg Metropolitan Region. For the first time, **nationwide impacts** along the maritime transport chain and in the port-related industry have been examined; beyond the borders of the Hamburg Metropolitan Region, previous studies only considered indirect impacts (i.e. inputs ordered from all over Germany by the port industry) and induced spending impacts. Following the methodological recommendations in the BMVI study, this study only takes account of the physical transport chains, the port-related industry and the value chain. The Port's systemic relevance for trade and consumers has not been considered.

The modified methodology means that the results of the present study **cannot be compared to the results of previous studies**.

Changes compared to the previous study

Due to methodological differences between this and the previous study it is not possible to draw conclusions from the present study regarding the development of the economic importance of the Port of Hamburg. The effect of the major differences is illustrated below on the basis of employment figures.

In the metropolitan region 30,730 jobs are estimated to be directly dependent on the Port, which is **roughly 50,000 fewer jobs than in the previous study**. The difference can be attributed to the updated methodology:

- As is usual in comparable studies and recommended in the methodological study for the BMVI, banks and insurance providers count towards indirect impacts.
  Impact: 4,100 fewer employees (basis: 2014)
- Wholesale trade is no longer counted as port-dependent industry; no port-dependent wholesale firms could be identified.
  Impact: 19,000 fewer employees (basis: 2014)
- With regard to employees in the transport chain the impacts are estimated to be a lot lower than in the previous study. This could be due to the proviso from the methodological study that shipping companies are not to be included at all or that only their activities related to local ship calls are to be considered as well as that only forwarding agents are to be included that would be out of business without their activities in Hamburg.
  Impact: roughly 20,000 - 30,000 fewer employees (basis: 2014)

Investments, intermediate inputs and induced impacts are significantly lower because the input parameter to calculate them is the direct impact. Instead of the almost 190,000 employees mentioned in the previous study, the present study arrives at 83,600 employees in Germany.

If one looks at the direct impacts on both port-related and port-dependent employment, the number of employees this study established for the metropolitan region (94,300) initially appears to have increased since the previous study which did not differentiate between port-dependent and port-related employment. By limiting the basis for deriving the indirect and induced impacts to port-dependent employment, at 123,800 the number of people working in the transport and value chain in the Hamburg Metropolitan Region is significantly lower than in the previous study.

In conclusion, it can be summarised that the new methodological approach, which follows the BMVI's recommendations, defines port-dependent employment more narrowly. In particular this results in **lower indicators in terms of regional importance**. However, the national importance of the Port is examined more closely than in previous studies, which results in **significantly higher nationwide impacts**.

Relevance of the study against the background of the coronavirus pandemic

In view of the ongoing **coronavirus pandemic**, it may be assumed that the **economic impacts will be lower** in 2020, and possibly in the coming years, **than in 2019**.

The survey also asked companies to assess the **impact of the coronavirus pandemic on the economic development**. Although some 80 per cent of the companies surveyed in the spring expected turnover to decrease in 2020 compared with 2019, slightly more than half of them expected turnover to be similar or higher in 2021 than in 2019. Due to government aid and the extension of the furlough scheme as well as the prospect of a quick recovery **port-dependent and port-related employment** was not expected **to fall sharply**.

The coronavirus pandemic also adversely affected the conduct of the survey. It was of advantage, therefore, that the new methodology deliberately favoured a **data- and indicator-supported approach**. The survey primarily serves to take account of specific regional aspects and to verify the results. In segments with a particularly low feedback rate (from, e.g., the port-related industry) insufficient for extrapolation, the indicators established for the relevant German federal state and the respective industry were used. In addition to the survey, targeted research in company databases and annual reports was conducted to **reduce statistical volatility**. Furthermore, the approach allows for a collation of data from different sources and thus plausibility checks. It is also less dependent on feedback and increases the transparency of results[5], thus making it easier to maintain the continuity of time series in future studies.

The impact of the coronavirus pandemic could be assessed in a **2021 update** - an option that is contained in the specifications for this study - which apart from cargo trade statistics would also take account of the development of employment rates in the various industries and relevant key companies.

[5] The results of the survey conducted under the previous study are not available to the HPA. With regard to the current study the authors provided the HPA with all raw data (unless the sources were confidential) and survey results (if the companies surveyed agreed) available to them.