

Country experience: Germany (Chapter 14)

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14.52. In Germany, the following formula is applied for the calculation of transportation costs: transportation costs = weight x freight rate (subject to mode of transport, product group (in the case of sea transport) and distance). In order to apply that formula, the information matrix of table 14.3 is used.

Table 14.3
Information matrix to calculate transportation costs

	Weight	Product characteristic	Distance	Unit cost	Nationality
Sea cargo	x	x	(x) ^a	x	x
Air cargo	x		(x)	x	x
Inland Waterways cargo	x			x	x
Road cargo	x		x	x	x
Rail cargo	x		x	x	x
Pipelines	x		x	x	x

^a In the case of sea and air cargo, unit costs already take account of the distance.

14.53. In order not to increase the burden for reporters, the information needed for the estimation is taken from the public data sources set out in paragraphs 14.54 through 14.59.

14.54. **Weights** The weights for imported and exported goods are taken from foreign trade statistics and are available on a monthly basis.

14.55. **Freight rates** As a second best solution, information extracted from online publications specialized in transport, which focus on more than 30 major carriers and data from transport services associations, is used. On the basis of that information, the transport costs for a standard container (20 ft. equivalent unit (TEU) with an average loading weight of 14 tons) are calculated for the various modes of transport. With regard to sea transport, owing to the availability of additional information, a further breakdown of transport costs by container, bulk goods and crude oil is made.

14.56. **Transport prices** The transport prices for each mode of transport, which fluctuate considerably over the course of a year, are updated on the basis of transport price indices calculated by the Federal Statistical Office.

14.57. **Mode of transport** As an expedient, a "main mode of transport" is used as the basis for the estimation. The longest part of the total transport route (and, hence, as a rule, also the stretch with the highest value) is covered using that mode of transport. Information on the mode of transport is derived from foreign trade statistics, in which an obligatory inquiry is made about the active mode of transport used to cross the external border of the European Union. That is mainly sea or air, and is a good approximation of the actual main mode of transport. If another mode of transport is stated in the trade statistics, it is assumed that, in the case of non-European countries, the goods were transported by sea to large ports in the Netherlands and Belgium¹⁾ and then transported to Germany on the stated mode of transport. Table 14.4 shows an example of transportation cost calculation.

Table 14.4
Example of transportation cost calculation for imports from China

Imports from China: 1,109,537 tons	Mode of transport (percentage)	Distance	Product group	Unit cost	Cost in €1,000
Sea cargo	85.6				
Sea->inland waterways	3.9				
Sea->road	8.3			€139 per ton	151,141
Sea->rail	0.2				
Air cargo	2.0			€8,479 per ton	188,022
Inland waterways cargo	3.9			€4.90 per ton	212
Road cargo	8.3	300 km		€0.08776 per ton per km	2,424
Rail cargo	0.2	300 km		€0.04636 per ton per km	30

Note: 1,109,537 x (0.856+0.039+0.083+0.002) x 139 = 151,141

14.58. **Nationality of carrier** A number of different sets of statistics are used to determine the relevant partner country. The nationality composition of road toll statistics is used for the regionalization of truck transport (adjusted to compensate for the disproportionately large share of German trucks due to domestic transport). The ownership (not flag) share of the countries among the world fleet is used for sea transport. Since only some sea transport is carried out using scheduled services, the breakdown of the world fleet by country can be regarded as an informative approximation. The same applies to air transport, i.e., the world market shares of the airlines are used. With respect to inland shipping, information on the flags of the ships is the sole data available, hence only that information is currently used. As cross-border rail transport has been liberalized only since 2007, no statistics for it are yet available. A robust estimation for the rail system is carried out on the basis of the technical systems of national railway networks (e.g., track width, line voltage and operating licences).

14.59. **Transport insurance** The amount of transport insurance is also estimated using this procedure, although no further details are supplied regarding the methodological particularities of insurance companies (service fee included in the insurance premium, etc.). Unlike transport costs, the insurance costs are calculated as a share of the import value. That share is in line with the premium rates set by transport insurance brokers for transportation to and from various regions. The rates were calculated in tandem with the determination of the transport costs by surveying several international transport insurance companies. The reported country structure for transport insurance is used for the regional breakdown of those costs.

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[1] For mineral oil imports, Italy (Trieste) is assumed to be the unloading port for the Middle East countries.