

TRANSPORT IMPORTANCE IN GLOBAL TRADE

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Abstract: In the paper Author presents importance of transport for the global trade development. The development of global trade in its volume and directions is analyzed. The considerations are based on wide review of transport features related close to the global trade, the historical revolutionary changes in transport enabling global trade development. Author also presents future trends in international goods transport.

Key words: transport, global trade, transport costs.

Introduction

Globalization of production and trade is among the defining characteristics of our era. The scale of economic activity is just as impressive as the speed of technological development, and lower production costs and higher productivity have contributed to the creation of greater wealth today than ever before.

Without a doubt, transport is an indispensable part of this process. It provides vital distribution for production, as well as essential personal mobility, directly interconnecting businesses to worldwide markets. Transport is a key element of economic growth and competitiveness [20.].

Transport can be call the heart of globalization, indeed the term of globalization would be meaningless without the ability to move goods and people around the planet. The opportunities for individuals and businesses to benefit from globalization are increased by efficient, cost-effective transport networks. A competitive, responsive, well-organized transport sector facilitates trade, but creating the conditions for this poses policy challenges that must be tackled if transport is to contribute fully to globalization.

The rise of a global trade is a relatively recent phenomenon. For most of human history, bulk products were too costly to transport over great distances, which made economic production effective to the location of key natural resources. A major factor, breaking down these constraints is what N. G. Lundgren describes as three “revolutions” in transport technology [12.]. The first such revolution occurred between the 16th and 18th centuries with a series of crucial improvements to sailing ship design and efficiency. Although high costs still made it too expensive to ship all but the most expensive commodities, such as coffee, cocoa, spices and precious metals, across the oceans, sail transport gradually linked the coastal areas of North and South America, Africa and Asia with Europe, creating for the first time a “global economy”.

A second transport revolution occurred in the mid-19th century when the introduction of steam power to land and sea transportation transformed the economics of moving low-value

goods cheaply across great distances. As railways replaced overland transport by horses, and as metal steamships took the place of wooden sailing vessels, a wide range of primary commodities, particularly agricultural products, in North America, South America, Africa and Asia were suddenly economically accessible to the world's industrial centres. This, in turn, greatly expanded the incentive to engage in overseas trade, exploration and investment and significantly widened the scope for industrial expansion. Transatlantic transport costs fell roughly 60 per cent in the decades between the 1870s and the beginning of the 20th century accelerating global trade and the process of industrial specialization.

A third revolution in transport technology occurred after the 1950s with the dramatic increase in the average size of merchant ships. The closure of the Suez Canal in 1956-57 (and again in 1965) played a major part in launching this process. Suddenly faced with the expense of transporting oil, coal, iron ore and other bulk commodities over much greater distances, the shipping industry decided to invest in huge, specialized bulk carriers, as well as in the harbour facilities needed to handle these new vessels. Whereas oil tankers averaged 16,000 deadweight tonnes in the early 1950s (their design partly constrained by the need to navigate the Suez Canal), they averaged over 100,000 dwts by the 1990s – with modern “super-takers” exceeding 500,000 dwts and capable of carrying over 3 million barrels of oil. The same technological advances have transformed bulk freighters, with ships growing from an average of less than 20,000 dwts in 1960 to about 45,000 dwts in the early 1990s.

Introduction of steam transport dramatically reduced the cost of goods trade after the mid-1800s, new transport design technology has dramatically reduced the costs of shipping a vast range of low-value bulk commodities in the post-war period. Freight rates decreased by 65 per cent in the period between the 1950s and 1990s, while bulk commodity trade grew from about 500 million tonnes to 3,977 million tonnes – a 657 per cent increase [15.]. Overall the cost of transporting natural resources has fallen an astonishing 90 per cent between 1870 and 1990. This, in turn, has massively expanded the volume of raw materials traded, the distances covered, and the commodities involved. Almost every conceivable bulk commodity – from iron ore and phosphate fertilizers, to crude oil and natural gas – is now routinely shipped vast distances across land and oceans. Even resource waste – such as metal scrap, mining tailings, or rejects from forestry and agriculture – is increasingly traded globally.

Today, the transportation volume of products traded globally is focusing mainly on the sea between Far East origin locations and Europe and North America destinations. Far East is also one of the most important destinations of delivery from Europe and North America (Figure 1.).

Transportation costs are a central theme in international trade theory. For example, their decline are typically given a central role in the trade growth of the late 19th century [4.]. The barriers that result from transportation costs are almost as large or larger than those from tariffs. According to Yi [19.], US tariffs in 1994 were 4.5 percent. Hummels [8.] finds that US import weighted transportation costs were 3.9 percent in the same year.

While transportation costs are considered important, they have typically been studied much less than tariffs. A major reason for this neglect is the lack of good data. However, there are a few elaboration pointing on the transportation importance in global trade development [2., 3., 11., 19.].

Kopp noticed that there is widespread agreement that the reduction in long-distance transport and communications costs has been an important determinant of today's globalisation. For a long time it was believed that trade costs were of little importance for the structure and quantity of global trade; however it is now acknowledged that these costs are significant [10.].

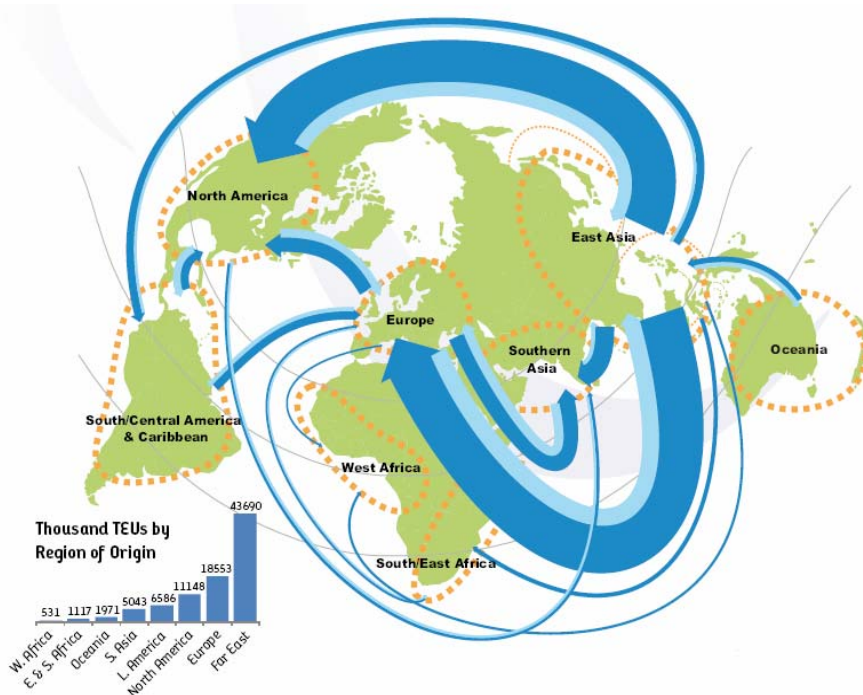


Figure 1. Containers moved by Sea (TEUs), 2008 [5.]

Trade costs can be influenced by time and duration, or not [6.]. These are mainly:

- Non-time related costs:
 - Resource cost of transportation (the cost of transporting goods from one international location to another),
 - Insurance,
 - Financial costs of exchange,
 - Other (legal costs, charges for transit procedures, legal or illegal facilitation payments etc.).
- Time-related costs:
 - Interest,
 - Storage,
 - Depreciation.

Trade costs (especially transport costs varies with distance - roughly half of world trade takes place between countries located within 3 000 kilometers of each other [7.], weight and bulk density of the product [16.], and its handling requirements in transit) can reduce the amount of international trade by making it unprofitable. In such a situation, countries rely more on their own resources and this deprives them of the gains that flow from international trade. Broadly defined trade costs include all costs incurred in getting a good to a final user other than the marginal cost of producing the good itself. A rough estimate of the “representative” tax equivalent of trade costs for industrialized countries is 170% of the “original” value. This estimate includes 74% international trade and transport costs (made up of 21% transport costs, and 44% border-related trade barriers) and 55% local distribution costs. The international transport costs comprise direct freight transport costs as well as a 9% tax equivalent of the time value of goods [1.].

This is a problem that is often faced by landlocked, developing countries, which as a result of their geographical disadvantage. They have many problems with integration into the global trading system, because goods coming from or going to a landlocked country are subject to additional trade barriers such as lengthy border-crossing procedures, poor infrastructure, a lack of information technology, an underdeveloped logistics sector and a lack of cooperation with neighbouring transit countries. Finally, the distance to markets, as compared to countries with direct access to seaports, can also be a disadvantage in some cases [17.].

Time is another important factor in the cost of international trade. Time is required to transport the good from its origin to its destination, as well as to load and unload it, and to process the goods and the vehicle through customs clearance and border crossings. Given that it takes time to carry out international transport of goods, it is necessary for companies to hold stock and to spend money for several costs of warehousing [14.]. Therefore, trying to minimize these time-related costs, it is important to choose the fastest possible means of transport (obviously taking into account the resource cost of each mode).

Moreover time delays and the variability of transit times are of greater concern to shippers than direct transport costs, as they affect companies ability to meet agreed delivery schedules and therefore necessitate large stockholding. Hummels [9.] has used the costs of different modes of transport to infer the costs of time from the amount that firms are prepared to pay to reduce it. His results suggest that a one-day delay in shipping leads to an average cost equivalent to a 0.8% tariff.

Global trade activity – past and recent trends

The World Trade Organization (WTO) provides the most comprehensive data on trade volumes and trends. Figure 2. shows the long-term growth in international trade volumes in all product categories, but most notably in manufactures.

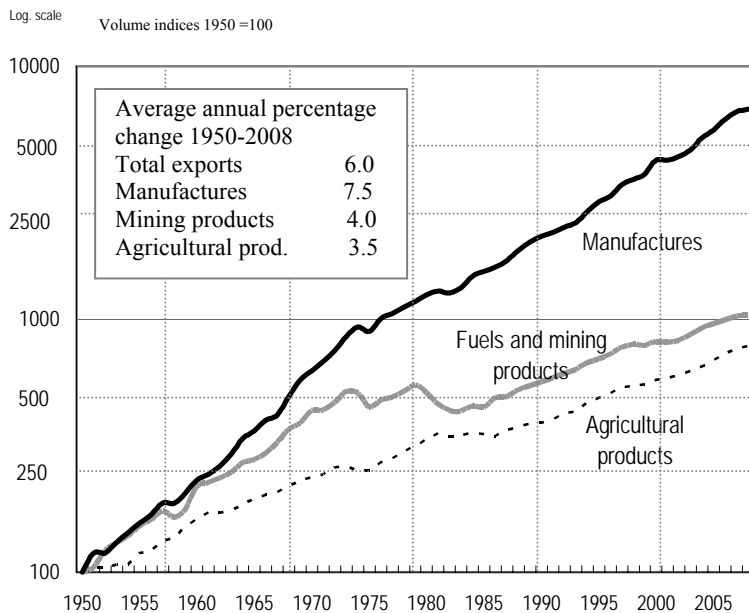


Figure 2. World merchandise trade volume by major product group, 1950-2008 [18.]

In some world countries (eg. central European) ratio of exports and imports of goods and commercial services to GDP is higher than 100 %, in many countries are between 60 and 100% (Figure 3.) that confirm that the volume of international and global trade is high.

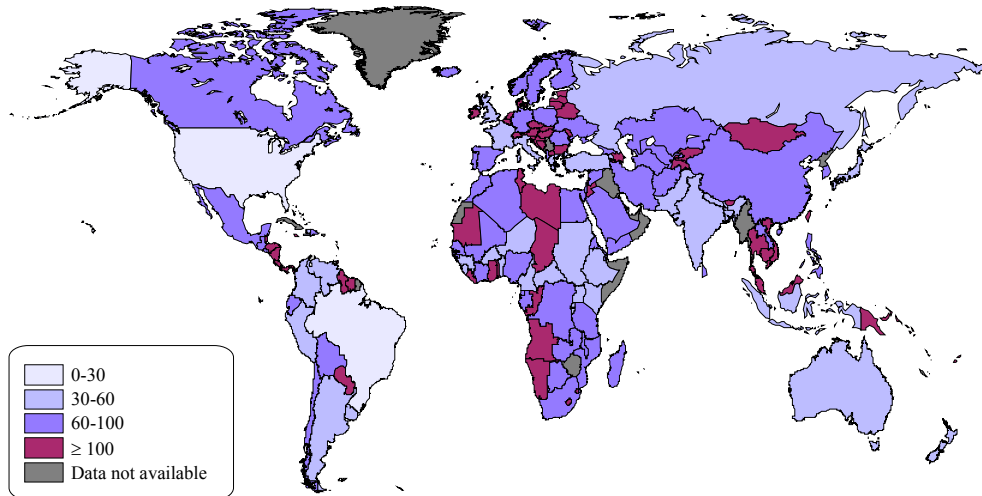


Figure 3. Ratio of exports and imports of goods and commercial services to GDP [18.]

In general, trade growth has exceeded the increase in GDP over this time period; between 2000 and 2006, trade growth was approximately twice the GDP increase [18.] (WTO, 2007). The top six flows involve just three regions, Europe, Asia and North America, with trade within and between these regions accounting for three-quarters of world trade value. Internal European flows alone make up almost one-third of all international trade. Six of the top 10 countries involved in international trade are European, with two each from North America and Asia.

Table 1. shows the average annual growth in trade to and from each of the world regions for the 2000-06 period. Globally, the value of goods traded increased by an average of 11% per annum. North America recorded lower than average growth, and those regions less involved in international trade experienced higher than average growth rates, but remain relatively insignificant in comparison to Europe, Asia and North America.

Table 1. Annual percentage change of value of goods in world merchandise trade by region, 2000-2006 [18.]

Export	Region	Import
20	CIS	23
16	Middle East	15
16	Africa	14
14	South and Central America	10
12	Asia	12
11	Europe	11
11	World	11
5	North America	7

Increasing geographical coverage of global trade one should consider regional trading blocs those are an important factor influencing international trade and transport movements. Table 2. shows the major trading blocs involved in merchandise trade, with the two most significant by far being the European Union (EU) and the North American Free Trade Agreement (NAFTA). The EU has expanded geographically over time, taking in 27 countries by 2007, and has removed internal trade barriers while developing unified trade agreements for extra-EU trade. EU countries were involved in 38% of global merchandise trade by value in 2006. Of this, two-thirds was traded internally between EU countries. By contrast, trade between the three NAFTA countries (Canada, Mexico and USA).

Table 2. Involvement of major trading blocs in world merchandise trade (as % of total world merchandise trade value, 2006) [18.]

Exports	Trading bloc	Imports
37.5	European Union (EU)	38.3
13.9	North American Free Trade Agreement (NAFTA)	20.5
6.4	Association of Southeast Asian Nations (ASEAN)	5.5
3.9	Gulf Cooperation Council (GCC)	1.7
2.3	European Free Trade Association (EFTA)	1.7
1.6	Southern Common Market (Mercosur)	1.1
1.3	South Asian Preferential Trade Arrangement (SAPTA)	1.9
1.0	Southern African Development Community (SADC)	1.0
1.0	Common Market for Eastern & Southern Africa (COMESA)	1.0

Summary

Transportation is one of the aspects where economic progress has made itself most palpable. An efficient global transport system plays a significant role in the global trade and economic development.

International manufacture is becoming increasingly common over time as companies seek out low wages and land costs to achieve low production costs [13.] that is the reason for global trade development. However, this results in the need for long-distance international transport.

Reduction of transportation costs may have encouraged the increase in vertical specialization. Breaking the production process into stages that are done in different locations incurs higher transportation costs than production that is done within a single location. A part may be transported many times, incurring multiple shipping fees.

Trucks and air freight offer same day or overnight service, but at a much higher cost than rail and water transit. When transportation costs are high, it may be impractical to ship parts many times using relatively expensive modes of transportation that can be a threat for future global trade development.

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