
Trade Connections and Economic Specialisations in the Baltic Sea Region

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Introduction

The Baltic Sea region¹ is one of Europe's most important economic areas, with a strong potential for further integration in the future. Eight of the nine states that border the sea are members of the European Union. The ongoing structural change towards service – and knowledge-based societies; the intensification of economic interconnections in global goods, services, and labour markets; the increasing integration of neighbours within the region; and the ongoing demographic changes will all have considerable influence on the region. While such trends bring challenges, they also offer opportunities and further potential.

In the following a brief overview on some economic indicators of the Baltic Sea region in comparison to the EU27² is given. In 2014, 39.7 million people lived in the Baltic Sea region, which is 7.9% of the EU27

population of 502.7 million inhabitants). Due to the very low population density in Sweden and Finland, the Baltic Sea region is sparsely inhabited on average (35 people per square kilometre, compared to a figure of 117 inhabitants/km² for the EU27). However, from an economic point of view, the region has been very successful. In 2013, the Baltic Sea region generated a GDP of €1,244 billion, which was 9.5% of EU27 GDP. In the past, the region's GDP growth figures have also been very positive (cf. Stiller/Wedemeier 2011). Its per capita income of €31,300 was considerably higher than the EU average of €25,900. In addition, in 2013 the unemployment rate was lower (8.0% vs. 10.1%) and the workforce participation rate higher (54.8% vs. 51.4%) than in the EU27 (cf. Eurostat 2015).³ These facts demonstrate that the Baltic Sea region is a key driver of growth for the entire European economy. In this context, it is important to note that the region's

1 We define the Baltic Sea region as the EU countries Denmark, Estonia, Finland, Latvia, Lithuania, and Sweden as well as parts of Germany and Poland, specifically the German federal states of Hamburg, Mecklenburg-Western Pomerania, and Schleswig-Holstein as well as the Podlaskie, Pomeranian, Warmian-Masurian, and West Pomeranian voivodeships of Poland. In addition, the trade analyses in the Baltic Sea Trade section take Russia into account.

2 All references to the European Union refer to the EU27, i.e., all member states except Croatia.

3 For a good overview on economic development of the Baltic Sea region, see. Stiller/Wedemeier (2011).

economic success is significantly dependent on the intensity of trade within the region as well as between the region and foreign countries. Its future, moreover, depends not only on continued trade and economic growth, but on maintaining its market-leading position as well as its comparative economic advantages.

This paper aims at analysing the trade connections of the Baltic Sea region. We take both relationships within the region into account. On the one hand the intra-regional trade, and on the other we consider the trade networks of the Baltic Sea region with other countries. These trade analyses are complemented by a critical review of what we call the Baltic Sea region's 'economic specialisations', that is, the focal sectors of its economy). This analysis is particularly helpful in identifying the Baltic Sea states leading position in the international trade market.

Baltic Sea trade

Locations near sea coasts tend to attract more concentrated economic activity thanks to transport cost advantages and intensified trade (cf. Großmann et al. 2006).

According to empirical studies, the costs of transporting goods from one region to another increase by 20 to 30%, when the two regions are twice as far apart (cf. WTO 2004). This correlation helps us to understand why international trade relationships tend to be more intensive when the distance among the trading partners is smaller.

Spatial proximity is only one factor explaining the intensive trade links among the Baltic Sea states. Other reasons include historical ties among these countries, especially among the cities once part of the Hanseatic League. Thus, to a certain extent these economic and social connections are the result of path dependency.

Accordingly, Baltic Sea states make up a high percentage of each other's imports and exports. Germany imports 13% of its goods from the region, mostly from Poland (7%). Russia is also an important trading partner for Germany (11%). Estonia (74%), Latvia (73%), and Finland (61%) are especially highly dependent on imports of goods from Baltic Sea trading partners. Lithuania (60%) and Finland (47%) have especially high import links to Russia (see table I).

Export flows from Germany go mainly to Poland (7%), Sweden (3%), and Denmark

TABLE I
Import share of EU intra-regional trade within the Baltic Sea region, %

To / from	Germany	Denmark	Estonia	Finland	Lithuania	Latvia	Poland	Sweden	BSR ¹	Russia ²
Germany	:	2.2	0.1	1.2	0.3	0.1	7.0	2.3	13.1	11.5
Denmark	29.5	:	0.6	1.9	0.9	0.7	4.8	17.7	56.2	4.1
Estonia	14.1	1.9	:	18.3	9.4	10.2	9.2	10.8	73.9	34.7
Finland	22.4	6.2	4.2	:	0.8	0.5	3.6	23.1	60.8	46.6
Lithuania	17.1	2.4	4.1	3.2	:	10.8	14.8	4.9	57.3	59.7
Latvia	14.4	2.8	9.6	7.3	21.1	:	13.4	4.0	72.5	40.1
Poland	38.9	1.9	0.2	1.3	1.0	0.3	:	3.5	47.1	33.3
Sweden	25.1	10.6	2.4	7.3	1.1	0.6	4.7	:	51.8	16.3

¹ Baltic Sea region

² Russia's import share of extra-regional trade

Source: Eurostat (2015).

TABLE II
Export share of EU intra-regional trade within the Baltic Sea region, %

From/ to	Germany	Denmark	Estonia	Finland	Lithuania	Latvia	Poland	Sweden	BSR ¹	Russia ²
Germany	:	2.6	0.3	1.3	0.4	0.2	7.3	3.3	15.4	6.1
Denmark	28.5	:	0.4	4.4	0.7	0.5	4.3	18.5	57.3	3.8
Estonia	6.7	3.6	:	21.2	7.3	14.8	2.7	24.9	81.3	35.4
Finland	20.9	3.1	5.6	:	1.2	2.2	4.5	19.2	56.7	19.4
Lithuania	13.2	4.3	7.9	2.4	:	16.7	15.1	6.5	66.0	46.1
Latvia	9.5	5.1	16.2	2.7	25.7	:	8.9	7.4	75.6	46.5
Poland	34.0	2.1	0.9	1.1	1.9	1.3	:	3.7	44.9	18.5
Sweden	17.1	11.9	1.3	12.0	1.0	0.5	5.0	:	48.9	4.7

1 Baltic Sea region

2 Russia's export share of extra-regional trade

Source: Eurostat (2015).

(3%). Germany is an important purchasing and sales market for most Baltic Sea states, though some states within the Baltic Sea region trade more intensively with other partners than Germany. Nonetheless, for Denmark, Germany is the most important export market (29%); other important Danish trading partners are Sweden (19%) and Finland (4%). Finland's (21%), Poland's (34%), and Sweden's (17%) most important export market in the context of EU intra-regional trade is also Germany. As for the three Baltic states of Estonia, Lithuania, and Latvia, they each have a high share of EU extra-regional exports going to Russia (between 35 and 46%) (see table II).

Germany plays a crucial role in trade in the Baltic area. In 2004, it imported and exported €102.5 billion worth of goods from and to the Baltic Sea region. By 2014, the trade value expanded to €175.5 billion, which is an increase of 71%. The three Baltic Sea states showing the largest growth in trade over the same ten-year period from 2004 to 2014 were Poland (+161%), Latvia (+157%), and Lithuania (+149%). In comparison, Finland (+35%), Denmark (+37%), and Sweden (+42%) had the lowest growth figures. The EU27 – intra regional trade of the Baltic area

increased by 53% (to €1,894 billion); meanwhile, the EU27 – extra regional trade value of the region grew by 75% (to €1,103 billion) in this period. Overall, exports and imports of the Baltic Sea states increased dynamically not only with partners within the region, but internationally as well.

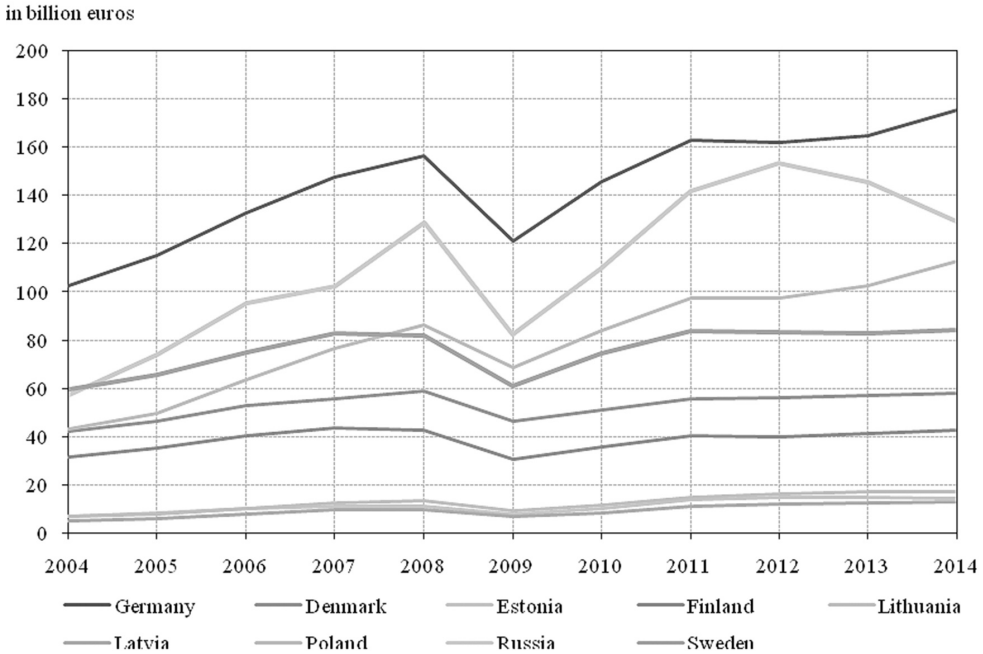
All Baltic Sea states, including Russia, experienced an economic downturn between 2008 and 2009 due to the global economic and financial crises. After recovering in 2011, the Baltic Sea states have returned to growth. Altogether, the trade development of the Baltic Sea states has generally run in parallel, with the exception of Russia. In 2012, exports and imports to and from the Baltic Sea states began a decline that continues to this day (see figure I). The reasons for this decline are manifold, beginning with the decline in the world price of oil, the rubble crisis, and the implementation of economic sanctions on Russia because of its annexation of Crimea.

Generally, the development of the traded value per kilogramme (that is, the value – volume ratio) to and from the Baltic Sea region increased rapidly between 2004 and 2014, with the exception of Russia and extra-regional trade with the EU27.

Since 2012, the extra-regional traded values per kg have decreased slightly, while for many states (Germany, Denmark, Estonia, Lithuania, Poland, and Sweden), the development of the value-volume ratio has

actually stagnated. Explanations for these phenomena are diverse, ranging from exchange rate fluctuations to low interest rates and low primary prices (that is, for oil products and raw materials).

Figure I. International trade within the Baltic Sea region¹



¹ without Russia
Source: Eurostat (2015).

Broader trading patterns within the Baltic Sea region can be summarized as follows: Germany mostly trades processed industrial goods (with a 31% share of its total trade with the region), capital goods (13%), capital goods, parts, and accessories (9%), and transport equipment plus parts and accessories thereof, (also 9%). Germany is not unique in this respect, as other Baltic Sea neighbours also trade mostly industrial and capital goods to the Baltic Sea region. While, Denmark and Lithuania specialise in trading processed food and beverages

mainly for household consumption (11% for the former). Estonia specialises in trading capital goods, parts, and accessories (10%). Finland's largest category is processed fuels and lubricants (9%), as is Latvia's (12%). Poland, meanwhile, exports important shares of transport equipment, parts, and accessories thereof (10%), and Sweden capital goods, parts and accessories (8%) to the Baltic Sea neighbours. Uniquely, Russia's foreign trade with the Baltic Sea states depends strongly on the selling of primary fuels and lubricants (see table III).

TABLE III
Trade of the Baltic Sea region by trading partner, product, and value in % 2014

BEC-Code ¹	Germany	Denmark	Estonia	Finland	Lithuania	Latvia	Poland	Sweden	Russia	EU27-Extra	EU27-Intra
Total in bn EUR	175.5	58.1	14.4	42.5	16.7	13.1	112.7	84.2	129.3	1,103.0	1,894.4
111	1.1	2.0	0.6	0.2	1.6	1.5	1.3	0.3	0.1	0.8	0.8
112	1.4	2.0	2.1	1.0	4.0	3.1	1.7	1.9	0.7	1.0	1.7
121	0.7	0.9	0.6	0.4	1.0	0.8	0.8	0.5	0.3	0.5	0.7
122	6.0	11.1	7.4	4.2	8.5	8.4	5.5	4.9	2.4	2.4	5.5
210	2.5	3.0	3.7	3.3	3.3	4.7	2.3	3.1	1.0	2.2	2.3
220	30.7	23.2	24.9	33.3	29.1	25.9	30.5	27.7	15.3	20.8	28.5
310	0.4	1.3	0.4	0.9	1.0	0.6	0.7	1.0	32.5 ²	8.8	2.5
321	0.1	1.1	1.5	2.2	0.7	1.2	0.2	1.7	:	0.3	0.4
322	1.8	4.1	5.6	8.9	8.5	11.6	3.9	5.9	8.0	2.5	3.5
410	12.6	13.5	15.7	12.7	9.0	10.9	10.8	15.6	9.9	17.2	12.3
420	8.8	7.6	10.4	7.2	3.5	3.4	7.5	7.9	4.3	10.6	8.0
510	5.1	2.7	4.2	4.6	2.2	3.9	1.8	4.5	1.9 ¹	7.3	5.6
521	2.5	2.1	2.1	2.8	2.5	1.8	1.7	2.7	1.7	3.9	3.0
522	0.2	0.2	0.1	0.3	0.2	0.1	0.1	0.3	0.1 ¹	0.3	0.2
530	8.7	2.2	3.1	3.7	2.6	2.5	10.4	4.7	2.9	6.7	8.5
610	4.1	3.9	3.4	2.7	6.0	4.2	4.9	4.7	1.5	2.7	3.3
620	6.0	6.7	5.1	4.5	4.7	4.8	5.9	4.9	1.8	4.7	4.7
630	5.4	7.4	5.2	4.6	8.2	6.6	5.9	5.1	3.4	5.5	6.1
700	0.2	0.6	0.4	0.4	0.7	0.4	1.1	0.7	0.8	1.2	0.6

1 BEC = Broader Economic Categories; 111 Food and Beverages, primary, industry; 112 Food and Beverages, primary, household; 121 Food and Beverages, processed, industry; 122 Food and Beverages, processed, household; 210 Industrial supplies, primary; 220 Industrial supplies, processed; 310 Fuels and lubricants, primary; 321 Fuels and lubricants, processed, motor spirit, 322 Fuels and lubricants, processed, other; 410 Capital goods, except transport equipment; 420 Capital goods, parts and accessories; 510 Transport equipment and parts and accessories thereof, passenger motor cars; 521 Transport equipment and parts and accessories thereof, other, industrial; 522 Transport equipment and parts and accessories thereof, other, non-industrial; 530 Transport equipment and parts and accessories thereof; 610 Consumer goods, durable; 620 Consumer goods, semi-durable; 630 Consumer goods, non-durable; 700 Goods not elsewhere specified

2 without Denmark

Source: Eurostat (2015).

Economic specialisations of the Baltic Sea region

The Baltic Sea region exhibits some specialisations in economic activity, meaning that certain sectors are less important for its economy. Although there are strong differences within the Baltic Sea region, by means of using location quotients the region's most important economic sectors can be identified. For this purpose the sector

shares in the Baltic Sea region, measured by gross value added (GVA), are compared to the corresponding shares in the EU27. Values of the location quotient higher than one imply that the corresponding economic sector has greater than average significance within the Baltic Sea region compared to the EU27 as a whole, and correspondingly values lower than one mean that the sector has less than average significance.

These quotients can be found in Table IV.

TABLE IV
Economic specialization (GVA) of the Baltic Sea region in comparison to EU27 in 2012¹

Economic sector (NACE Rev. 2)	Location quotient
A Agriculture, forestry and fishing	1.20
B Mining and quarrying	1.34
C Manufacturing	0.95
D Electricity, gas, steam and air conditioning supply	1.14
E Water supply; sewerage, waste management and remediation activities	0.84
F Construction	0.93
G Wholesale and retail trade; repair of motor vehicles and motorcycles	1.06
H Transportation and storage	1.36
I Accommodation and food service activities	0.55
J Information and communication	1.03
K Financial and insurance activities	0.83
L Real estate activities	0.94
M Professional, scientific and technical activities	0.95
N Administrative and support service activities	0.85
O Public administration and defence; compulsory social security	0.93
P Education	1.00
Q Human health and social work activities	1.27
R Arts, entertainment and recreation	0.97
S Other service activities	1.19

¹ Data for Polish regions are from 2011.

Sources: Central Statistical Office of Poland (2015); Eurostat (2015); Federal Statistical Office (2015).

Notable findings include that the region's economy features a considerably greater emphasis on agricultural and mining activities, as well as on transportation and health services. On the other hand, accommodation and food service activities are in particular strongly underrepresented.

Notwithstanding the above examples, it is clear that the quotients in most cases are quite close to one. This is due to the fact that, on the one hand, the aggregation of economic activity by sectors is not very detailed, and, on the other hand, the averaging of this activity over several countries or regions hides interesting information.

A closer look at the data reveals that the relatively high location quotient of the transport sector, for example, is mainly due to the Baltic countries Latvia and Lithuania as well

as the German federal city-state of Hamburg. In comparison to EU27, Hamburg features a location quotient of 2.21 in this sector. This is hardly surprising, because Hamburg's important port sector has a strong need for sufficient transport capacities and therefore works hand in glove with the logistics sector. In agricultural activities, on the contrary, Hamburg – as a highly urbanised city-state – has by far the lowest location quotient of all Baltic Sea regions, with 0.07. Agriculture is therefore very unimportant for Hamburg's economic sector structure. However, the highest values of location quotients in the Baltic Sea regions are reached in this sector. The Podlaskie and Warmian-Masurian voivodeships in Poland and the German federal state Mecklenburg-Western Pomerania have, with location quotients of 6.48, 5.32,

and 2.05 respectively, very strong specialisations in agriculture. But even for the Pomeranian and West Pomeranian voivodeships agriculture features a high location quotient compared to EU27 (cf. Central Statistical Office of Poland 2015, Eurostat 2015, and Federal Statistical Office 2015).

These results show that knowledge – based structural change has not yet reached every part of the Baltic Sea region. In particular, the eastern European regions have further need for the expansion of knowledge-based industries and services. This is very important for the region's future prospects, because the demographic change will lead to a declining population, especially in rural areas (cf. Eurostat 2015). In order to counteract this development, these regions have to increase their attractiveness for immigrants. A knowledge – based economic structure attracts more companies, which in turn draws more people, and so on. In this manner the regions can help to slow this demographic change.

Conclusions

To conclude, the Baltic Sea states are highly interlinked through intensive trade connections. These trade patterns can be explained by a long historical, cultural, and societal affinity, as well as spatial proximity.

The foundation of the Hanseatic League fundamentally shaped today's Baltic Sea region, especially in its patterns of urbanisation and international trade. Its remarkable contemporary development is reflected in the first macro-regional strategy of the European Commission for the Baltic Sea region.

The Baltic Sea states' past and future is highly interdependent. Their development dynamic depends on GDP growth, on foreign trade links – including to trading partners outside the EU, such as Indonesia or the BRIC (Brazil, Russia, India, and China) countries, and on their economic structure. For Russia, St. Petersburg plays an important role as a Baltic Sea port because it connects the markets in central Russia to the EU. The states of the Baltic Sea area have some leading positions and global brands (agriculture, food, and beverage products, furniture, logistics, software, toys, etc.) in the international trade market.

However, one critical prerequisite for future competitiveness in the region is ensuring its industrial knowledge capability and its innovation power. This requires a broad but specialised knowledge base and the ability of its inhabitants and workforce to adapt to innovation while also being experimental and creative enough to invent new products and processes on their own.

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