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Baltic Sea Region vs. Dutch Maritime Cluster
A comparison

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1 Introduction

The European Union stands for strong cohesion within Europe. It promotes politics, economics, rights and everlasting progress in all areas. From this position, a pilot project was developed in 2009 to improve the situation in the maritime regions and promote economic efficiency in this sector. This is the EU Strategy for the Baltic Sea Region. The Baltic Sea Region is a maritime macro-regional cluster. The cluster concept is often used to analyse the economic specialisation of a country. A cluster is a geographically concentrated set of firms related to a common product or process. This set of firms is homogenous: some firms play a more significant role in the development of the cluster than others.

Both aspects, the set of firms acting in a cluster as well as the efficiency of the Baltic Sea Strategy are the centre of the following essay. Therefore, a comparison between the Baltic Sea Region and the Dutch Maritime Cluster will be done. The Baltic Sea Region is selected due to its pilot role. The Dutch Maritime Cluster is selected due to its large network of firms and the specialisation on leader firms and leader firm's behaviour. The following question is the guideline for the essay, trying to be answered in the end: What are similarities and differences between the two maritime clusters of the Baltic Sea Region and the Dutch maritime cluster?

The essay is split into three main content chapters. Chapter 2 is to give a definition of clusters and related terms that are important for the work. Besides that, the two cluster regions will be presented and analysed. Chapter 3 contains two SWOT-Analysis of both, the Dutch Maritime Cluster and the Baltic Sea Region in order to compare them. Finally, the transferability of the EU Strategy for the Baltic Sea region will be examined in chapter 4 as well as a conclusion will be drawn, and an outlook will be given.

2 Regional maritime clusters

The following chapter serves to define clusters and related terms as well as to create a profile of the Baltic Sea Region and the Dutch Maritime Cluster.

2.1 Definition

Clusters denote the high concentration of related companies and enterprises. According to Porter 1990, a cluster is “a population of geographically concentrated and mutually related business units, associations and public (private) organizations centred around a distinctive economic specialization” (Myles 2017, p. 202).

That leads to the definition of clusters as a spatial concentration of interconnected enterprises and institutions within a given sector of the economy. In addition to companies in networked sectors, the cluster may also include other organisational units relevant to competition (e.g. research institutions, universities, chambers of commerce, public authorities, financial intermediaries, standard-setting bodies, etc.). As a spatial agglomeration of people, resources, ideas and infrastructure, a cluster presents itself as a highly complex network with dynamic internal interactions, which need not necessarily be congruent with administrative boundaries. The basic consideration is that spatial proximity promotes economic development and the emergence of knowledge and innovation (cp. Springer Gabler GmbH n.d., n.p.). A cluster can be distinguished in four different dimensions. These are horizontal, vertical, institutional and external. The horizontal dimension describes the simultaneous presence of companies producing similar products and therefore competing with each other. Although they do not maintain intensive contacts with each other, they benefit from a co-presence at one location, which enables them to inform themselves about competitors' products and production conditions. This is especially possible when they are close by, but difficult to reach over longer distances (cp. Springer Gabler GmbH n.d., n.p.). The vertical dimension refers to the concentration of upstream and downstream business units. As soon as a specific industrial cluster exists, there is an incentive for suppliers, customers and service providers to establish themselves in the same region in order to exploit agglomeration effects. The more intensive the division of labour within the cluster's value chain, the greater the incentive to locate (cp. Springer Gabler GmbH n.d., n.p.). Institutional dimension refers to the fact that regional concentration processes justify the formation of a specific system of rules and standards. Thus, the cluster actors share the same or complementary ideas of

technology and work values, so that firm relationships and conventions are formed which form the basis for reliability and trust in each other's performance (cp. Springer Gabler GmbH n.d., n.p.). The last dimension is the external one. It expresses the fact that the openness of a cluster to the outside world is of substantial importance. The continuous integration of external impulses is regarded as an indispensable prerequisite for ensuring reproductivity and generating innovation and growth processes via cluster-internal networks. That so called lock-in means a creative drying up of a cluster due to a lack of impulses form the outside (cp. Springer Gabler GmbH n.d., n.p.). This should be avoided. Otherwise a cluster can also pose a threat to the economic development of a region. This is particularly true if the cluster consists of only a few sectors in which the region unilaterally specialises, e.g. in the provision of infrastructure, economic development or the qualification of workers. Such an adaptation-resistant monostructure makes a region particularly vulnerable to structural and economic crises (cp. Springer Gabler GmbH n.d., n.p.). It should also be noted that if a cluster is too strongly oriented towards local relationships and institutions, important national or international references are neglected. In addition, there are classic agglomeration disadvantages. Cluster-related economic growth leads to regional burdens from high property prices and rents, rising labour costs and an overburdened infrastructure. An increase in the cost of living and environmental pollution causes the immigration of qualified workers and thus competitiveness to decline again.

When talking about clusters it is mandatory to define leader firms and the leader firm concept. Leader firms are firms with a relatively large impact both on other companies in the cluster and the cluster as a whole (cp. Myles 2017, p. 216). They therefore can be defined as “strategic centres with superior co-ordination skills and the ability to steer change” (Myles 2017, p.216). Four ways of contribution to the competitiveness of partner firms are distinguished. These are strategic outsourcing, sharing of knowledge, forming a bridge between different networks and focusing on competition on a value chain or network level rather than on a firm level (cp. Myles 2017, p. 217). The most prominent outcome of leader firms is the role they play in innovation and internalisation. The benefits of both innovation and internalisation spread to all members of the network. Therefore, two investments with substantial cluster externalities are identified: training and education provision as well as knowledge and information infrastructure.

These investments lead to an improvement of the competitiveness of the cluster. Finally, leader firms are highly relevant when talking about cluster genesis and development (cp. Myles 2017, p. 218).

The now given overview of clusters and leader firms is adaptable to both, clusters on the mainland and maritime clusters. In the following part of the paper, the Baltic Sea Region and the Dutch Maritime Cluster will be analysed with a special focus on leader firms.

2.2 The Baltic Sea Region – A Profile

The Baltic Sea Region consists of the following countries: Norway, Sweden, Finland, Estonia, Lithuania, Latvia, Poland and Denmark. The following figure shows the Baltic Sea region and the division of countries into EU and non-EU states.

Fig. 1: The Baltic Sea Region (Source: EUSBSR 2019, n.p.)

As the Baltic Sea region has faced many problems in the past and has no economic strength, demands have been made on the European Union to deliver an improvement strategy. As an answer, the EU Strategy for the Baltic Sea Region was developed in October 2009. This is a new way of working together in the Union. It will enable regions in eight Member States, almost 100 million people, to plan, prioritise and implement

activities in the knowledge that their colleagues and neighbours are working in the same direction and towards a common goal. This will help the Baltic Sea Region to achieve a sustainable environment and optimal economic and social development (cp. Europäische Gemeinschaften 2009, p. 2).

The strategy was requested by the European Council following the work of the European Parliament. A strong network of partners and stakeholders at different levels supports the new strategy. Through close cooperation, funds and other means that are available to improve the future of the region should be used effectively. In addition, expertise and energy will be used more efficiently to enable all inhabitants of the Baltic Sea region to share in the benefits of EU legislation (cp. Europäische Gemeinschaften 2009, p. 2).

The action plan drawn up to implement the European Strategy for the Baltic Sea Region contains 80 projects. Projects concern environmental improvements (e.g. reducing nitrate and phosphate levels in the Baltic Sea), efforts to increase prosperity (e.g. encouraging entrepreneurship), better accessibility (e.g. improving transport links) and the promotion of safety (e.g. responding more effectively to accidents) (cp. EUSBSR 2019, n.p.).

Eight EU Member States, each with its own priorities and concerns, economic constraints and political concerns, share much of the 8000 km of Baltic Sea coastline. Almost one hundred million people live around the Baltic Sea, which is used as a transport route and all too often as a dumping ground. But despite years of cooperation to improve the condition of the Baltic Sea, it still deteriorated. That is why the Member States have asked the Commission to develop a life strategy to give the region a better future (cp. Europäische Gemeinschaften 2009, p. 3).

Due to its physical and cultural intimacy, the Baltic Sea Region is the right place for an unprecedented strategy that encompasses an entire macro-region. This strategy is also an important first step towards the regional implementation of the Integrated Maritime Policy. The four main objectives of the strategy are to make this part of Europe environmentally sustainable, prosperous, accessible, attractive and safe (cp. EUSBSR 2019, n.p.).

The four main concerns of the strategy are formulated in such a way that nothing is excluded. In view of its decision to be structured and not selective, the Commission has designed a framework with the following elements:

Priorities, continuous actions and projects with a deadline for implementation. In this way, a sustainable and adaptable methodology has been created which can be applied even when individual objectives and the means to achieve them change as a result of developments in the region. This means that the strategy cannot only be used to structure a concept for the region for the coming years. This strategy should also allow each participant - Sweden, Finland, Estonia, Latvia, Lithuania, Poland, Germany and Denmark - to have their priorities recognised under this strategy. Not every actor will adopt all priorities, but every actor has a priority that will be addressed (cp. Europäische Gemeinschaften 2009, p. 3). The strategy intends to use primarily the Northern Dimension framework, a common policy of the EU, Russia, Norway and Iceland, for the external aspects of cooperation, but with the possibility of using other paths where appropriate (such as the Council of the Baltic Sea States). Russia and other neighbouring countries have stated that they appreciate the EU's efforts to keep them informed and the EU looks forward to working with them on matters of common interest. The strategy does not require additional funding at this stage - it is about coordinating the many people and organisations participating in the area and making the best use of current national and EU policies. It is practical rather than idealistic and touches on many aspects of daily life in the region. For example, new projects will help to reduce high levels of pollution in the sea, improve transport systems and energy networks and strengthen protection against major maritime and land-based disasters (cp. Europäische Gemeinschaften 2009, p. 4).

The strategy can be used immediately, with proposals building on actions already initiated, to address key challenges and seize the best opportunities. The main topics are sustainability of the environment, increasing prosperity, accessibility and attractiveness of the region and security. These are presented below.

Sustainabilty of the environment

The Baltic Sea, whose average depth is only 58 metres, is losing its quality and biodiversity due to the massive discharge of nitrates and phosphates from agriculture, industry and private households. The substances enter the sea and cause increasing eutrophication (cp. Europäische Gemeinschaften 2009, p. 4). This excessive algae growth transforms large parts of the sea into stinking green slime that extracts oxygen from the water and kills many of the species living in the affected area. As it takes more

than 30 years for the waters to be completely renewed, pollution is a particular problem. The strategy includes building on measures already taken in the region to stop the use of phosphates in detergents. Phosphate-free detergents could reduce by a quarter the phosphate that ultimately ends up in the Baltic Sea, which would also reduce algal blooms. A formal network of agricultural environmental consultants from all Baltic Sea countries should be established to identify best practices that reduce the use of fertilisers while maintaining or even reducing productivity (cp. Europäische Gemeinschaften 2009, p. 4). It is important, to clear the water in the sea and to save the rich and healthy wildlife.

Increasing Prosperity

The biggest weakness of the region is the low internal competitive pressure. Some countries in the region do not have a market large enough to promote the necessary competition. The only solution is to integrate the region more. The Services Directive should lead to a genuine internal market for services within the EU by reducing bureaucracy and helping people move or start a business in another country. But this directive is being applied amateurishly and incoherently in the Baltic Sea region. The strategy therefore includes measures aimed at implementing the directive more effectively, thereby promoting trade and giving SMEs more opportunities (cp. Europäische Gemeinschaften 2009, p. 5).

In order to help tomorrow's entrepreneurs, it is necessary to improve the education available. The strategy therefore recommends setting up an "Ivy League" of colleges and universities. This would ensure quality and bring together disciplines dealing with the same subjects in different educational institutions. It is also a priority to promote the right of people to move freely in the region to receive training or teaching (cp. Europäische Gemeinschaften 2009, p. 5).

In summary, the aim is to have the Baltic Sea Region as a frontrunner for deepening and fulfilling the single market and to improve its global competitiveness.

Accessibility and Attractiveness of the region

The East and North remain too isolated from the rest of the Union, which is increasingly becoming the gateway from Asia to Europe. Of all European regions, Northern Finland, Sweden and the Baltic States are still the most difficult to reach (cp. Europäische Gemeinschaften 2009, p. 5). Energy supply and energy security are also of particular

concern: The region has few sources of its own and is therefore dependent on imports. However, it does not have the appropriate connections to guarantee security. Energy is an important issue for the region - and a decisive factor in making the region an attractive place to live. Here, too, the strategy relies on the practical and direct support for existing measures. In addition, infrastructure needs to be expanded at various levels in order to reach the East and North in a cost-effective, environmentally friendly and time-saving manner (cp. Europäische Gemeinschaften 2009, p. 6).
To sum up, the Baltic Sea Region is in need of good transport conditions to connect people in the region and requires a reliable energy market.

Security

Maritime transport will increase and there is a very real risk of accidents given the huge oil tankers that use the sea as a transport route. In difficult winter conditions, the risk increases and ships are often not adequately protected against ice. Organised crime also makes the region less secure. Crime in the Baltic region, which is vulnerable simply because of its location, is exacerbated by economic and social disparities. The region, with its long external borders, needs coherent transnational action to stop the trade in people, drugs and weapons. Common border protection systems would be useful, including a cooperation in law enforcement in the field of maritime law (cp. Europäische Gemeinschaften 2009, p. 6). The action plan contained in the strategy proposes to coordinate the fight against crime, integrating the existing organisations in order to promote their cooperation. It recommends joining forces to combine law enforcement, mobile patrols, investigative teams, intelligence and intelligence teams, equipment sharing between services and increased cooperation in the development, purchase, provision and application of technologies. In order to deal with the dangers at sea, the Action Plan recommends the creation of an integrated network of reporting and monitoring systems for all maritime activities such as ensuring maritime safety, protecting the marine environment, fisheries control, customs, border control and law enforcement (cp. Europäische Gemeinschaften 2009, p. 6).
The following figure summarises the central objectives of the EU Strategy for the Baltic Sea Region.

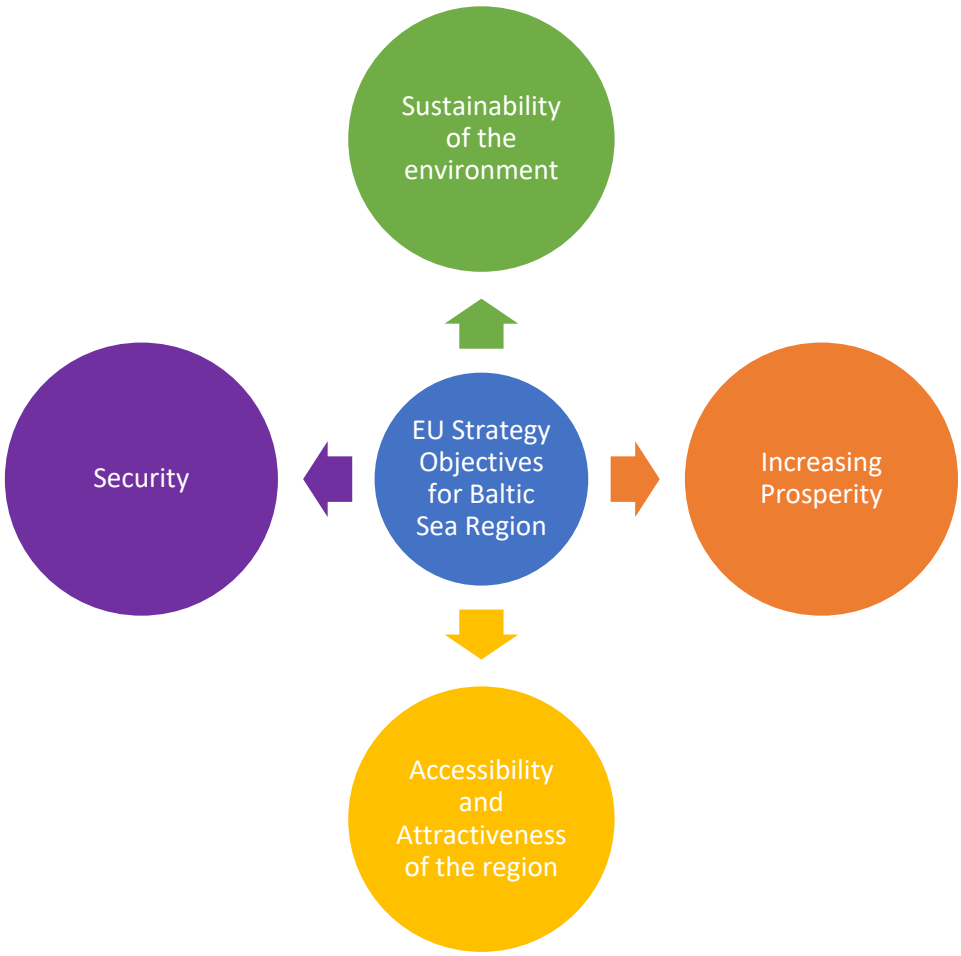

Fig. 2: EU Strategy Objectives for Baltic Sea Region (Source: own figure)

Being an innovative and, to a large degree, experimental project, the EU Strategy for the Baltic Sea Region is of particular importance for Europe. It is innovative, since the Strategy is managed at the transnational rather than the regional level and it strives to involve non-EU countries in the process (the European Neighbourhood Policy). The very fact of EUSBSR's existence stresses the need for the gradual development of a new level of the EU administration between the levels of nation-states and the European community (cp. Kosov & Gribanova 2016, p. 34).

Another central question is what makes the Baltic Sea region so special and why it is so important to protect and develop it further. The ecosystem of the sea is unique - almost sweet water fills the northern parts, which lie under ice for up to six months of the year. Where the North Sea meets the Baltic Sea, on the Danish straits, the water is salty (cp. Europäische Gemeinschaften 2009, p. 7). This stark contrast has created a unique ecosystem in which marine life reacts sensitively to the salinity of the water and only certain fish species can survive. This delicate equilibrium makes the

ecosystem particularly vulnerable to changes in its physical and chemical composition or in the structure of the food web. The area around the Baltic Sea from which waste water is discharged into the sea is approximately four times the size of the Baltic Sea itself. About 20% of it is used for agriculture and grazing, while other areas are densely populated. Therefore, discharges and sewerage are essential factors that contribute to the development of algal blooms (cp. Europäische Gemeinschaften 2009, p. 7).

After presenting the EU Strategy for the Baltic Sea Region in all its facets, some general data about economy shall be given in the following. Over the past two years, the Baltic Sea Region has developed into an integrated, high performing economic region. The Baltic Sea Region economies have performed strongly since 2000, outpacing many of their European peers (cp. Fig. 3). As a group, they have averaged a GDP growth rate of 2,7%. And even in a challenging post-crisis environment, the Baltic Sea Region economies have performed well – growing faster than many other crisis-hit European economies, as well as the broader EU group (cp. Skilling 2018, p. 5). This growth performance has been led by very strong growth rates by the lower income Baltic Sea Region economies. On average, the Baltic states have grown at close to 4% since 2000. This has enabled a process of strong income convergence (cp. Skilling 2018, p. 7).

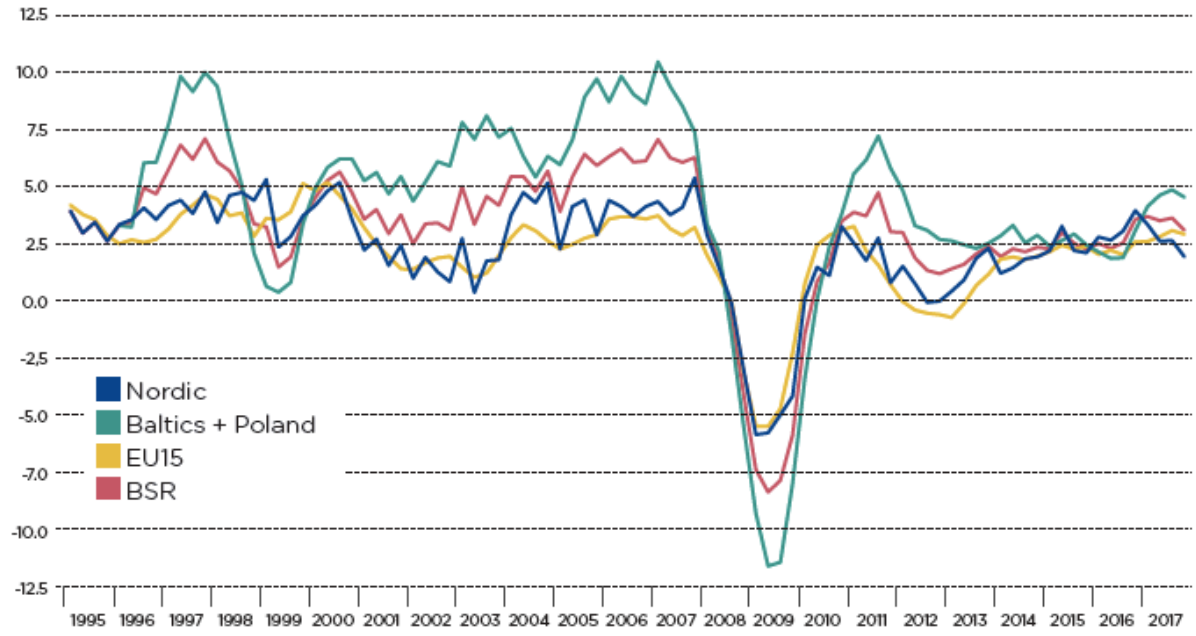

Fig. 3: Real GDP growth in % from 1995 – 2017 (Source: Skilling 2018, p. 7)

The most important maritime sector in the region is Shipping and Seaports, generating 44,6% of the total gross domestic product. Second is marine equipment and offshore supply, that generate 25,1% of the GDP (cp. Salvador et al. 2015, p. 11). Concerning the employment, similarities are found. With 41,3%, Shipping and Seaports contribute almost half of the maritime jobs. A link can therefore be drawn between the EU Strategy for the Baltic Sea Region and the current situation: If the Strategy's objectives can be implemented, more new jobs shall be created by achieving the objectives.

Besides the growing and success, there are several emerging challenges and opportunities that Baltic Sea Region economies will need to respond to in order to sustain their recent performance. For one thing, many Baltic Sea Region economies are facing aging populations. A greater contribution will be required from labour productivity growth – and at a time when productivity catch-up gains are less available because the Baltic Sea Region economies are closer to the income frontier. In addition, the open economies of the Baltic Sea Region will need to respond to challenges and opportunities in the global economy. First, there is rapidly increasing global competition which means that the Baltic Sea Region economies will need to work to sustain a competitive edge. China's global export share has risen from 3% to 10% since 2000, and it is increasingly moving into knowledge intensive activities in which several Baltic Sea Region economies have traditionally had an advantage. There are many new sources of competition (cp. Skilling 2018, p. 8). Figure 4 below gives an overview of the exports of goods and services in the Baltic Sea Region since 1995.

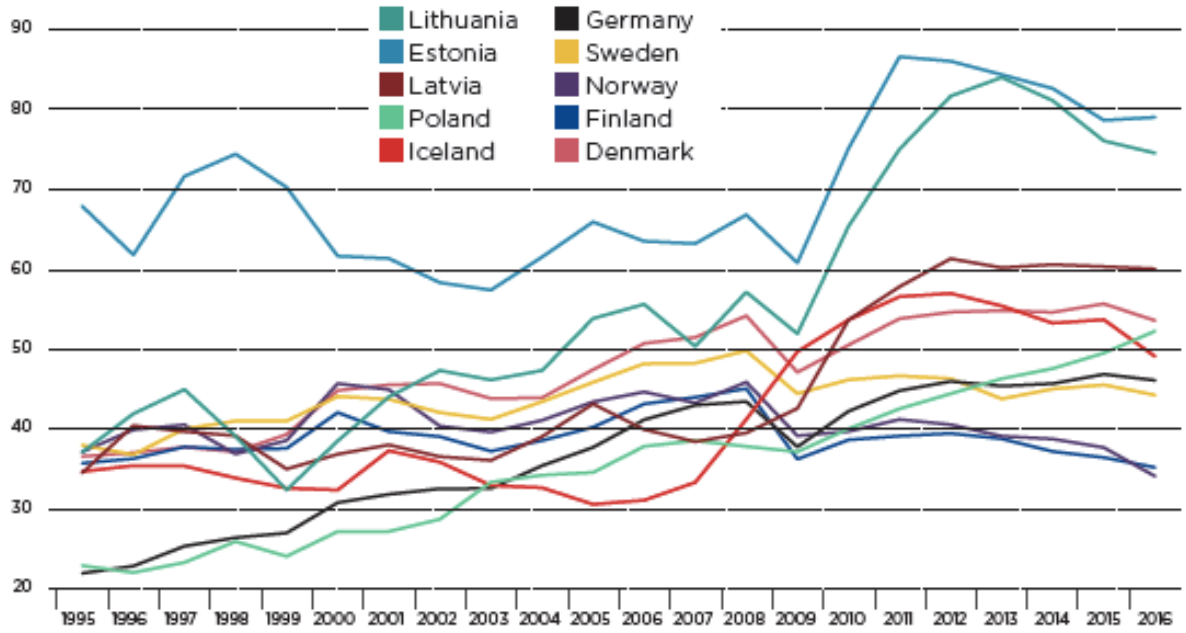

Fig. 4: Exports of goods and services in % of GDP from 1995 – 2016 (Source: Skilling 2018, p. 8).

The second challenge the BSR has to face is, that the global economic and political environment that has supported Baltic Sea Region growth is facing a series of risks, from protectionism, to the weaponisation of international commerce through sanctions, to heightened geopolitical uncertainty. Open economies are deeply exposed to these dynamics. Many Baltic Sea Region economies were impacted by the Russian sanctions, for example, and are exposed to the threats of further protectionist measures (cp. Skilling 2018, p. 11). And third, disruptive technologies such as automation are bringing a series of new growth opportunities as well as the potential to disrupt labour markets and economies. There are clear opportunities in terms of productivity, which will overcome the negative impact of aging populations and high labour costs across the region. But capturing value from these technologies will require significant investments in skills and in new business models (cp. Skilling 2018, p.14-15).

2.3 The Dutch Maritime Cluster – A Profile

The Dutch Maritime Cluster is part of the North Sea Basin. Besides the Netherlands Denmark, Belgium and Germany are part of this Region. Germany is the Regions country with the biggest GDP, 41,6% in 2015, followed by the Netherlands with 27,7% (cp. Salvador et al. 2015, p. 17).

The maritime sector has been a significant part of the Dutch business community for centuries. Thriving on the core principles of cooperation, innovation and entrepreneurship, the sector has become a global leader in delivering innovative solutions to the international markets. The foundation “Nederland Maritiem Land (NML)” connects twelve maritime sectors in the country. These are ports, offshore, maritime suppliers, shipbuilding, ship operating, dredging, maritime services and knowledge institutions, inland shipping, Royal Navy, yacht building / watersports industry and fisheries (cp. NML 2018, p. 4). Together, this 55,1-billion-euro industry comprises 17.200 companies employing more than 259.000 people, which is 2,9% of the total employment of the Netherlands (cp. NML 2018, p. 4).

Fig. 5: Dutch Maritime Cluster Sectors (Source: NML 2018, p. 3)

Concerning employment, the maritime sector seems to lag a little behind general business cycles. Direct employment declined slightly compared to 2016 with –0,5% in 2017. The strongest increases in absolute direct employment in 2017 occurred in the port sector (+1,750 people). The strongest decline took place in offshore employment (approximately -1,200 people). However, indirect employment only decreased marginally by –0,2% partly due to lower direct employment (cp. NML 2018, p. 5). Employment seems to be under pressure of increasing demand for general, yet highly skilled, technical staff. The sustainable influx of new personnel, at a variety of skills, backgrounds, and levels of education is essential for the future of the sector. Rapid economic, and technological development, such as the rise of digitalization, the internet of things, and robotization, calls for advanced training of students, and existing personal. The maritime sector grows more and more into an overall future-oriented labour market (cp. NML 2018, p. 5). The sectors most prominently contributing to the

overall added value of the sector are dredging, maritime equipment supply, offshore, maritime services, and the port sector. Most noticeable is the increase in added value by the maritime services sector, that is a total increase of 56%. Lagging behind are shipping, fishing, and shipbuilding.

The sector is focused on curbing the effects of an ageing population in the maritime sector. Many sectors in the Netherlands have been affected, although the degree may vary by region. For the maritime sector, this means that they should be open to attract new employees and offer competitive jobs in relation to other economic sectors (cp. NML 2018, p. 5). The maritime labour market shows considerable development in the period between 2006 and 2017. Sectors like the maritime services sector, offshore, dredging, and most prominently at thirty percent increase, the port sector. However, the shortage of highly skilled personnel in the Netherlands is also still felt in the maritime sector. Even the slight increase in popularity in technical and engineering studies can be perceived, in previous years also reflected in an increase in first-year students, seems to be insufficient to meet future demand (cp. NML 2018, p. 6). The demographic change of the western world reflects strongly in the maritime sector. Various part of the sector have to deal with the aging of employees and owners. There are for example concerns about the continuity of the family companies in the fisheries and the yacht building/ water sports industry. This is because of the fact that second generations are increasingly more unlikely to take over family businesses. Other sectors such as inland shipping, offshore, as well as the ports also express their concerns about aging associated replacement demand. These demographic changes put increasing pressure on the labour market's demand for new, ambitious, and skilled personnel (cp. NML 2018, p. 6).

Total exports amounted to nearly 26 billion euro in 2017, decreasing little less than 0,35 billion euro in comparison to the previous year. This decrease is mainly attributable to shipbuilding, where the export data show a substantial peak in 2016 compared to 2015 and 2017. In 2017, the cluster has a share of 3,9% in total Dutch exports of goods and services (cp. NML 2018, p. 5).

Even though the maritime sector shows modest recovery in 2017 compared to the previous year, it still lags behind in speed to other economic sectors. Within its trajectory of recovery, a sense of urgency to become increasingly more sustainable creates a new dynamic of business opportunities for new and existing businesses. The lack of finance options in context of the cost-inventiveness of the sector constrains

businesses in taking much needed risks in their ambitions in dealing with this much needed energy transition, for example in switching to alternative sources of energy, and biofuels (cp. NML 2018, p. 7). The shipping industry is mainly dependent on two elements, global economic development relating to the demand in transport volume and the supply of shipping space. Sharp, global, competition in freight rates will remain to put extra pressure on the recovery of the Dutch sector. This difficult market situation will be expected to continue in the coming period for many ship-owners, with the exception of both the inland and the ocean cruise business (cp. NML 2018, p. 7). In 2017 the shipbuilding sector had a difficult year. Although there is a small improvement of the number of orders, competition has increased because of the world wide over capacity. The extra work at low prices poses higher risks for both the yards and ship-owners. A specific niche market in shipbuilding, that most likely will grow from 2017 onwards, is on the large yacht construction (up to 160 meters) and the promotion of superyacht ports of call (cp. NML 2018, p. 7).
During 2017, inland shipping transported more goods with slightly higher tariffs compared to previous years, modestly restored overall profitability of that sector. Although increasing fuel costs will continue to have an impact. The number of inland ships is still declining, but due to the increasing economy of scale, the capacity will remain at a constant. The Dutch port infrastructure has been ranked first in 2017 for the fifth consecutive time in a row on the global comparative ranking of the World Economic Forum. Total freight turnover increased by 1 percent mainly because of container traffic. An important merchant flow for the ports constitutes the shipment of containers. This means that high-efficiency ports and or terminals that have an unobstructed nautical access to the largest ships and are able to bind large container flows to the port in the future due to their strategic location. Rotterdam is likely to remain ahead of its two competitors, Hamburg and Antwerp, in the following years (cp. NML 2018, p. 8).

After presenting the economic data of the Dutch Maritime Cluster, the following paragraph is to analyse leader firms in the cluster according to the leader firm concept (cp. Chapter 2.1). A case study of leader firms in the Dutch Maritime Cluster, conducted by Michiel Nijdam and Peter de Langen in 2003, identified nine different forms of leader firm behaviour (cp. Nijdam & de Langen 2003, p. 15).

A first form of leader firm behaviour is the coordination of production networks. Leader firms invest in the coordination of this network. As a consequence, the whole network becomes more competitive. In most industries examples of network coordination were found, ranging from building ships in series at different shipyards to the formation of partners in response to specific opportunities (cp. Nijdam & de Langen 2003, p. 15). A second form ist he role as a lead user. By expressing a 'critical demand', a more sophisticated demand than that of other firms in the market, leader firms improve the innovativeness of their suppliers. Several offshore and dredging companies in the Dutch Maritiem Cluster have a leading position in the world market. Their sophisticated demands motivate local suppliers to innovate. As a result, several maritime suppliers in the cluster have a strong position in international markets, based on their advanced systems and technologies. Leader firms, that set new standards, for instance of safety and pollution prevention, are the third form declined by the study. Other firms, especially suppliers that are confronted with such standards in an early stage, benefit. Several cases of new standards were found (cp. Nijdam & de Langen 2003, p. 16). As a fourth concept, Nijdam and de Langen identify leader firms, that specialize in creating new combinations of previously unrelated technologies. The combination of such technologies leads to new products. Other firms in the production network benefit from this product development. The presence of a heterogeneous set of companies in the Dutch Maritime Cluster often leads to the creation of new combinations. Examples can be found in offshore construction, where a company specialised in heavy lifting and a dredging company cooperatively designed a new way to install offshore windmill parks (cp. Nijdam & de Langen 2003, p. 16). The fifth form of leader firms is about improving the transfer of knowledge. A fast diffusion and transfer of knowledge adds to the competitiveness of a cluster. Because of the knowledge they possess and their central role in knowledge networks, leader firms improve the transfer of knowledge in the cluster. Several cases were found of informal networks were technicians from leader firms shared their knowledge with colleagues from other companies. Other examples are companies that have such a central position in the cluster that their large number of (commercial) contacts automatically leads to the diffusion of knowledge. These cases are mainly found in the dredging industry (cp. Nijdam & de Langen 2003, p. 17). Sixth, leader firms compete on international markets and therefor can encourage and enable internalisation. They can start production in other countries and urge or encourage firms in the cluster to internationalise in order to supply them in these

countries. Many leader firms lower the barriers to internationalise by letting suppliers use their international network or by guarantying a long-term contract for production facilities abroad. Seventh, leader firms engage in projects at the frontier of what is possible. Such projects are widely known in the industry and contribute to the reputation of the cluster as a whole. The Dutch Maritime Cluster has firms, that operated closely with the development of new techniques in the world wide context, that enhanced the reputation of the cluster (cp. Nijdam & de Langen 2003, p. 17). The eights form, the authors mention, is leader firms aiming to improve the labour market. The quality of the labour market is important for the competitiveness of the cluster. Leader firms invest to improve the quality of the labour market. Leader firms are often found among the larger firms in a cluster. Clearly these firms benefit the most from a well-trained professional labour force. This gives them the incentive to invest in education projects (cp. Nijdam & de Langen 2003, p. 17). The last form identified is about organisational infrastructure. Leader firms play a role in creating and maintaining the organisational infrastructure in the cluster. Such infrastructure is an important condition for effective cluster governance. The Dutch Maritime Cluster is an example of a strongly organised cluster. There are associations per industry and a cluster-wide organisation in which all industry associations participate (cp. Nijdam & de Langen 2003, p. 18). In summary, it must be mentioned that the authors have also stated in their study that some leader firms can be assigned to several concepts, while there are also leader firms that do not correspond exactly to any concept. Nevertheless, the study gives a good overview of the role and behaviour of leader firms in the Dutch Maritime Cluster.

3 SWOT Analysis

Given that the Baltic Sea region is a macro-region and the Dutch Maritime Cluster is "only" a normal regional maritime cluster, it is more difficult than expected to compare the two. However, the profiles in the previous chapter have shown that there are isolated aspects that are comparable. Therefore, in the following chapter all strengths, weaknesses, threats and opportunities of both regions are presented in the form of a SWOT analysis and summarised briefly. It is necessary

3.1 The Baltic Sea Region

3.2 The Dutch Maritime Cluster

3.3 Comparison

Looking at the two SWOT analyses, common features are particularly noticeable in the area of threats and weaknesses. Both regions have problems on the labour market caused by demographic change and an ageing population. There is a lack of attractive jobs or of young, committed and qualified specialists. It can be assumed that this problem is also central in other maritime regions of Europe. Furthermore, it is important in both regions to keep up with the global market and global developments and not to lag behind. For the Baltic Sea Region, the EU Strategy represents all opportunities and offers great chances to get the threats and weaknesses under control. Such an initiative is lacking in the Dutch Maritime Cluster.

4 Transferability of the EU Strategy and Conclusion

The aim of this essay was to compare the Baltic Sea Region and the Dutch Maritime Cluster. Chapters 2 and 3 showed that a direct comparison of the two regions is not possible. For this reason, the focus of this work has shifted more to the presentation of the two Maritime Clusters, and in particular to the EU Strategy for the Baltic Sea Region in all its facets. Therefore, in this conclusion the transferability of the macro-regional concept for the EU will be examined in order to give a final outlook.

In order to analyse the transferability, it is first of all necessary to mention, that the paradigmatic potential of the macro-region does not only depend on whether this level of action is manifested by legislative, financial or institutional mechanisms. What is also decisive is whether the macro-region concept is at all suitable for being extended to the entire territory of the EU. In principle, large regions within the EU are not a new phenomenon. Within the framework of European territorial cooperation, the Commission is implementing 13 transnational programmes corresponding to an extensive network of major European regions. One of these support programmes is the "Operational Programme Baltic Sea Region", the geographical structure of which is identical to that of the macro-region Baltic Sea (cp. Schymik 2011, p. 23). In the case of other transnational programme regions, it is plausible to reinterpret them as macro-regions, namely the "North Sea region", the "Alpine region", the "Atlantic area" or the "Northern periphery". However, the majority of the transnational programme regions appear not to have been created with the intention of defining strategic units. Rather, the largest regions - "North-West Europe", "South-West Europe", "Central Europe" and "South-East Europe" - are bureaucratic constructs designed primarily to ensure a balanced distribution of European funding (cp. Schymik 2011, p. 23). The current system of assisted regions therefore does not provide a basis for dividing the EU into macro-regions across the board. According to the European Commission, a macro-region is an area comprising several administrative regions but with enough common themes to justify a coherent strategic approach (cp. European Union 2017, p. 1). On the basis of this definition, four conceptual requirements can be identified in the case of the Baltic Sea region, which would entail an EU-wide extension of macro-regional units. These are multifunctionality, transnationality, symmetry and belonging to the territory of the EU (cp. Schymik 2011, p. 23). In order to expand the macro-region concept across the board, it is therefore necessary to identify territorial units that fulfil a minimum of these characteristics. A natural conception of the macro-region can be

transferred to the whole EU. In principle, each location in Europe can be assigned to one or more natural areas or ecosystems. The coastal areas of European marine regions (North Sea, Atlantic, Mediterranean, Black Sea) or maritime sub-regions (e.g. Adriatic, Aegean, English Channel) alone would already cover large parts of the EU as macro-regions. If the respective water catchment area is taken into account, the territory of the EU could theoretically even be completely defined as maritime macro-regions. be subdivided. On a more problematic note, however, many natural areas have only a few "common themes" beyond the environmental dimension which justify "a unified strategic concept". While the European marine regions - like the Baltic Sea - are not only ecosystems, but also historically evolved transport, trade, economic and security areas, this can only be said of non-maritime regions to a greater or lesser extent (cp. Schymik 2011, p. 24). With regard to transnationality, it is striking that the Baltic Sea Region has a distinct transnational character due to its size. However, many potential macro-regions do not have transnational dimensions. Important rivers such as the Vistula or the Loire or large lakes such as the Vänern or Lake Balaton lie entirely within the territory of a single Member State. Other regions have only bi- or tri-national dimensions, such as the Oder region between Germany and Poland, the Pyrenees between France and Spain (including Andorra) or the Aegean Sea between Greece and Turkey. Geographically, these potential macro-regions are concentrated in the hinterland of the European maritime regions. All these areas seem too small to be considered macro-regional in nature (cp. Schymik 2011, p. 25). Finally, the aspect of belonging to the territory of the EU seems to be one of the biggest problems in transferring the macro-regional concept to the EU. Potential macro-regions in other parts of Europe would not always have an internal character. In the North Atlantic for example, four member states would face just as many third states or autonomous territories. Both in the Adriatic region and in the Black Sea region, the member states of the EU would be in the minority. And the Mediterranean is predominantly surrounded by states that neither belong to the EU nor have any prospect of accession. For this reason, neither the Mediterranean Union nor comparable cooperation formats in the Black Sea region are in line with the concept of the macro-region, as it is set in the Baltic Sea (cp. Schymik 2011, p. 28).

In summary, the transferability of the macro-regional strategy for the EU can be rated as less good. Many aspects of the strategy are optimal for the Baltic Sea region and can be implemented excellently there but cannot form an adequate counterpart in

another region of Europe. For this reason, it can be assumed that large parts of Europe will remain divided into regional maritime clusters and that the Baltic Sea region will remain alone as a pilot project. Nevertheless, the concept for the Baltic Sea region offers many advantages that do not result in direct disadvantages for clusters outside the macro-region. The problems encountered in the Dutch Maritime Cluster, for example, also play a role in the macro-region. Therefore, a long-term goal would be to stop the decline in employment and create attractive and lucrative jobs in all maritime regions of the EU.

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Declaration

I confirm that the work for the following term paper was solely undertaken by myself and that no help was provided from other sources as those allowed. All sections of the paper that use quotes or describe an argument or concept developed by another author have been referenced, including all secondary literature used, to show that this material has been adopted to support my thesis.

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Lisbon, 30th of May 2019