STATE OF THE REGION REPORT™

[2006]

The Baltic Sea Region –
Top of Europe in Global Competition

Baltic Development Forum

NORDIC INVESTMENT BANK

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Nordic Council of Ministers

Key messages

- The Baltic Sea Region has been particularly well placed to benefit from globalization but this effect is slowly receding, raising the need to confront the challenges of a sparsely populated region at the European periphery.
- The Baltic Sea Region continues to achieve stronger economic growth than peer regions, but its performance on world markets and investment attraction is much less impressive.
- The Baltic Sea Region is among the most competitive locations in the world, clearly ahead of other parts of Europe, but some non-European countries have been more effective in upgrading competitiveness over the last few years.
- A wide range of efforts to improve competitiveness are already under way in the Baltic Sea Region; better integration into a consistent strategy to position the Region in a changing global economy could strengthen their effectiveness.

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Foreword

We are proud to present to you the State of the Region Report 2006, a unique benchmarking instrument for competitiveness and innovation in the Baltic Sea Region and its 11 countries.

It is a well known fact that 'what cannot be measured cannot be managed'. We therefore need a comprehensive and objective tool to deliver sustained growth and prosperity in our Region and thus in Europe at large. The State of the Region Report fills this important purpose providing a factual picture of the Region's current state of affairs in terms of business attractiveness, innovation, research, policies etc. A central and unique element of the Report is the assessment of the Baltic Sea Region countries' progress on the European Union's Lisbon Agenda indicators.

Since its introduction in 2004, the State of the Region Report has become an appreciated and respected institution of competitiveness, economic performance and prosperity in the Baltic Sea Region. The report is widely used by governments, organizations, financial institutions and private actors as an essential basis for strategic policy decisions.

Representing three leading institutions supporting growth and development in the Baltic Sea Region we recognise the value this report provides as the backbone for understanding key drivers, potential and opportunities when we develop new regional strategies.

The analysis and conclusions in the State of the Region Report are those of the authors and does not necessarily reflect the views and commitments of our organizations. However, we remain hopeful that the Report will be of use as an essential source for knowledge and information for competitiveness and innovation, and that it can spur concrete action to the benefit for the development of the Baltic Sea Region.

Copenhagen/Helsinki
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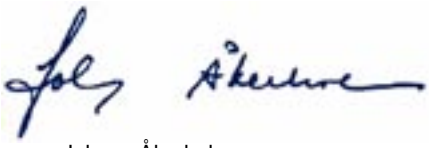

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Executive Summary

Co-operation within the Baltic Sea Region continues to attract strong interest. Within the Baltic Sea Region, the focus has shifted more and more from security and political integration to practical collaboration on economic issues and on other areas of direct common interest, like the environment and energy supply. Outside the Baltic Sea Region, other regions have noticed the strong economic performance of this part of Europe, and want to learn more about the factors that drive the Baltic Sea Region's economic development. The State of the Region Report 2006, the third in this series, aims to continue to meet this demand for objective information from people both inside and outside the Baltic Sea Region.

The context for competition among locations

The prosperity of the Baltic Sea Region depends not only on the choices it makes on economic development issues but also on the global competitive environment, the geographic profile of the Region, and the macroeconomic climate in which companies located here operate.

The global environment for the competition among locations has changed significantly over the last few years. Globalization and the changes associated with it, have increased the level of competition that regional economies are facing, exposing them more directly to the comparison with business environment conditions elsewhere. But globalization has also increased the opportunities for regional economies in serving much larger markets in foreign countries and benefiting from more efficient production of goods and services elsewhere. To take advantage of this combination of challenges and opportunities, it is increasingly critical for regions to develop their own unique profile of clusters and business environment conditions; just keeping up with the average is no longer enough.

The Baltic Sea Region enters global competition from a challenging geographic position. It is located at the periphery of an economic zone that has not developed very dynamically relative to other parts of the global economy, it is relatively small, and it has a low population density with few if any truly global metropolitan centers. In the last few years these disadvantages have been overshadowed by the ability of the Baltic Sea Region to leverage its stable institutions, well-developed infrastructure, highly skilled labor force, and high number of multinational companies to become a true beneficiary of globalization. But with other world regions reducing the advantages on these dimensions, the Baltic Sea Region needs to work hard to reduce the disadvantages of its locational profile.

One of the reasons that the Baltic Sea Region has been able to participate so successfully in the opportunities created by globalization are the sound macroeconomic policies that have been pursued in most parts of the Region for the last few years. These policies have reduced volatility and encouraged companies to make the longterm investments that are particularly important for innovationbased competitive advantages. In addition, the Region has recently benefited from the positive developments in the global economy that has been very resilient even in the face of high oil prices. It is quite likely that the global macroeconomic environment will not remain in such a supportive position; this is a contingency that the Baltic Sea Region needs to prepare for.

Competitiveness in the Baltic Sea Region

As in previous years, the State of the Region Report presents data on the competitiveness of the Baltic Sea Region and its different countries on three levels: the economic performance achieved, the foundations that sustain this performance over time, and the position on the wider set of indicators captured by the Lisbon Agenda.

In terms of economic performance the Baltic Sea Region continues to register strong prosperity growth, outpacing all other regions of advanced countries despite a slowdown in 2005. The prosperity in the Baltic Sea Region countries is more

dramatically driven by either productivity or employment while most other countries, especially those outside of Europe, have a more balanced position across these two performance drivers. The NAFTA and Oceania regions are the only ones outperforming the Baltic Sea Region on both dimensions. While the Baltic Sea Region continues to defend its world export market position and its position among global patentors, it continues to suffer from deteriorating inward foreign direct investment flows and low domestic investment. Integration in the Baltic Sea Region is not balanced. The highest level of interaction is in the western part of the Region, with the linkages between the Nordic and Baltic Countries acting as an additional anchor of integration.

In terms of the underlying drivers of sustained economic performance, the foundations of competitiveness, the Baltic Sea Region continues to rank high overall. It has been able to regain some ground in the last year but the lack of longterm dynamism still gives grounds for concern. The profile of competitive strengths for the Region is consistent with a focus on science-driven innovation led by strong, globally active companies. The Region needs to ensure that emerging weaknesses in education and physical infrastructure do not undermine its competitiveness in high-end science. A second challenge is the need to review the optimal role of the government in the economy, combining open and competitive markets with a public sector capable of investing in upgrading competitiveness.

In terms of the Lisbon Agenda, a broader measure of economic outcomes and inputs as well as social outcome, the Baltic Sea Region continues to lead the European rankings on the criteria of the Lisbon Agenda; it has even increased its lead relative to the European average. Relative to the EU average, the Baltic Sea Region remains particularly strong on innovation and on employment; high domestic prices remain a key challenge. The heterogeneity among countries in the Baltic Sea Region remains high but also largely a reflection of the different levels of economic development the individual countries are in.

Competitiveness upgrading in the Baltic Sea Region

As a new focus, the State of the Region Report this year discusses examples of policy initiatives relevant to competitiveness currently under way in the Baltic Sea Region. The ambition is to give a sense of the direction the Region is taking, and to enable a more informed discussion about whether or not current policy priorities meet the needs of the Region. In line with the discussion of competitiveness priorities identified in last year's Report, five areas are analyzed: general business environment upgrading, cluster development, innovation, Russia, and marketing of the Region.

General business environment upgrading continues to be critical for countries around the Baltic Sea, not only for the emerging economies at the eastern shores. Better access to finance, especially risk capital, has become a new focus of public policy; this is a critical but complex field with much private activity as well. Integration is particularly affected by bottlenecks in infrastructure as much as by rules and regulations; aggressive follow-up on the existing action plans remains crucial. The need to create new platforms for effective dialogue between the public and private sectors to design and implement competitiveness programs is one of the central challenges ahead. The new process of National Lisbon Strategies is useful, but now needs to move to a more country-specific structure that should, in the Baltic Sea Region, also start to include coordinated cross-border elements.

Clusters have gained in importance in the global economy due to changes in the nature of competition between locations and of company practices. This has also improved the interest in cluster development as a tool to strengthen clusters, to increase the impact of existing economic policies, and to provide a platform for more effective cooperation between the public and private sectors on competitiveness issues. The Baltic Sea Region is home to many active clusters and cluster initiatives, increasingly also of cross-border efforts to link such efforts. The practice of cluster development shows the ambition of becoming increasingly professional; this process needs to continue but the first steps in this direction are evident. It is important to integrate these efforts in broader strategies for regional and national competitiveness upgrading. Clusters develop in strong business environments; active cluster development can increase the odds of cluster emergence and speed up their evolution but they can do little to substitute for deficiencies in the quality of the underlying business environment.

Innovation remains one of the key competitive advantages of the Baltic Sea Region that will need to be further developed to keep pace with demands. Innovation and innovation policy is still one of the

areas in which the different parts of the Baltic Sea Region differ the most. The Nordic countries and Germany have developed sophisticated systems of institutions, regulations, and policies to support innovation; they continue to develop these systems according to national needs. The Baltic Countries and Poland have so far focused on increasing the efficiency of their economy and leveraging the solid skill levels of their labor forces but now aim to use structural funds to also increase innovation policy activities.

Russia continues to be a huge opportunity but also a policy challenge for the Baltic Sea Region. The strong growth of the Russian economy in recent years provides a benevolent environment for further economic integration with other parts of the Baltic Sea Region. Russia's economic policy is currently in a critical phase; different groups in the government try to interpret what a stronger government role in economic development should mean in practice. Regions in Northwestern Russia are engaged in many efforts to improve competitiveness; the success of these efforts differs hugely from region to region. Despite many attempts the actual level of participation of Russians in Baltic Sea Region efforts is often relatively low, although a recent focus on projects with tangible returns has been effective in increasing the participation of Russia.

The branding of locations becomes increasingly important as the competition between regions heats up. The Baltic Sea Region is facing significant challenges in creating a brand but cannot afford to be passive. A number of efforts by national and cross-national institutions are under way to increase the visibility of the Baltic Sea Region or its parts.

Introduction

Co-operation within the Baltic Sea Region continues to attract strong interest. Within the Baltic Sea Region, the focus has shifted more and more from security and political integration to practical collaboration on economic issues and on other areas of direct common interest, like the environment and energy supply. Outside the Baltic Sea Region, other regions have noticed the strong economic performance of this part of Europe, and want to learn more about the factors that drive the Baltic Sea Region's economic development. The State of the Region Report 2006 aims to meet this demand for objective information both inside and outside the Baltic Sea Region.

The Baltic Sea Region in 2006

For the Baltic Sea Region, the last twelve months have been a period of stable positive development along the path set in recent years. Prosperity growth rates have been high, although slightly below the rates of the previous year. Regional co-operation has continued to be intense on many levels, following the strategic directions set in the last few years.

In the Baltic Countries, economic growth continued to be high. Firmly in the European Union, Estonia, Latvia, and Lithuania increasingly felt the impact of EU policies. Structural funds provided a significant inflow of money and the common agricultural policy provided economic benefits to parts of the countries that had previously not benefited as much from economic reforms. Relations to Russia have reached a level of "normal complexity"; the economic growth in Russia has increased export potential and Russian investment in the Baltic Countries is increasing. But political interference by the Russian government in economic decisions remains a concern affecting relations among the neighbors.

In the Nordic countries, economic growth continued to be solid as well. Despite the increasing business cycle pressure, however, too little progress has been made on labor market problems in Sweden and Finland. Norway has benefited from burgeoning oil revenues and the new government focused on managing this inflow of capital to avoid putting macroeconomic stability at risk. Finland has seen the strongest reduction of economic growth, while the Danish economy remained almost on the 2004 growth level.

New governments in Germany and Poland had an impact on economic policy. In Germany, the new grand coalition initially benefited from public good will, also driven by the positive mood of the World Cup. But the grand coalition had resulted from large differences in opinion among the German public about the direction economic policy reforms should take, making it very hard to take decisive action. The increasing disappointment of German business leaders with the perceived lack of reforms is an unsurprising result of this political situation with an open future. In Poland, the political developments after the election focused on organizing political majorities and setting a new direction. Economic policy decisions on foreign investments and support for domestic industries have met resistance from European institutions and the future policy path remains hard for outsiders to predict.

In the far west, Iceland experienced significant economic turbulences in the last twelve months. Economic growth continued to be strong – since the early 1990s the country has made enormous improvements from being one of the poorest nations in Europe to one of the most prosperous – and Icelandic private sector investments in the UK and the Nordic countries have been significant. But macroeconomic volatility has been high with the exchange rate taking a beating as a result of concerns about high current account deficits and a change in interest rates that drove much shortterm money out of Iceland.

In the east, Russia has benefited from the high prices for oil and other natural resources. The economic reforms of previous years and the more stable macroeconomic management have been other factors that have driven the strong economic growth that has made Russia a very attractive market for companies serving Russian consumer demand, including many companies from the Baltic Sea Region. But there are

also serious concerns about the increasing government role in sectors of the Russian economy, and of the use of political power in economic transactions, also those involving other Baltic Sea Region countries.

The State of the Region Report and beyond

The State of the Region Report was first introduced at the 2004 Baltic Development Forum (BDF) Summit in Hamburg, with the second Report presented last year in Stockholm. The Report grew out of discussions at on how these debates between policy makers in the Region could be supported with a factdriven, recurring assessment of competitiveness. There are many good assessments of the macroeconomic developments in the Region, both from government institutions and banks, and detailed analyses of specific policy areas for a specialist audience. But there is no publication that enabled an overall discussion of microeconomic competitiveness accessible to a broader audience of private and public sector decision makers in the Baltic Sea Region.

The 2006 State of the Region Report will be launched at the 2006 Baltic Development Forum Annual Summit in Helsinki on 29-31 October 2006. The Report will build on the structure developed over the last two years but also add a few new aspects:

- In its first part, the Report provides a new discussion of the context in which the Baltic Sea Region is competing with other locations in the world economy. While the last few years have in general been characterized by a global economic environment that was beneficial to the Baltic Sea Region, there are signs that conditions might become more challenging in the future. We want to provide a framework to understand these challenges and identify action implications.
- In its second part, the Report continues to track the competitiveness of the Baltic Sea Region and the countries and regions within it. Competitiveness will be evaluated at three levels. First, at the outcome level, we look at prosperity and its main drivers and at other intermediate performance indicators to assess how the Baltic Sea Region is doing overall relative to its peers, and to get an initial sense of its revealed strengths and weaknesses. Second, at the microeconomic foundation level, we look at the quality of the microeconomic business environment and the innovative capacity of the Region. In research and innovation we limit the assessment to key indicators; more detailed analyses were already provided in previous years' Reports. Finally, we look at the position of the Baltic Sea Region on the EU's Lisbon Strategy-objectives, taking a broader look at economic, social, and environmental outcomes to provide a wider context to the economic competitiveness of the Baltic Sea Region.
- In its third part, the Report provides a new discussion of economic policy initiatives that are currently under way in the Baltic Sea Region. A realistic assessment of how business environment conditions might develop over time needs to take into account the steps already taken by policy makers at the crossnational, national, and subnational level. And advice to policy makers also needs to compare upgrading needs with current activities to be effective and actionable for policy makers. While it is impossible to cover all programs and initiatives, we aim to provide an impression of the most important and interesting efforts that symbolize the overall direction competitiveness policy is currently taking in the Baltic Sea Region.

SECTION A:
The context for competition among locations

Location matters, even more in an economic environment characterized by globalization. While globalization has significantly changed the nature of competition among locations in recent years, it has not made geography obsolete as a factor in economic decisions. For companies, locational choice has been elevated to a critical strategic decision, where it previously was a matter of large but ultimately operational importance. The intense access and exposure to a unique set of companies, institutions, and other business environment conditions at a given place are among the few sources of competitive advantage for companies that cannot easily be copied from rivals located elsewhere. Companies need to decide where to locate which specific activities in order to tap into the most valuable locational assets given the strategic position the company is targeting in its industry.

We look at three dimensions that shape the position of the Baltic Sea Region in this new environment of competition among locations. First, we look at changes in the global competitive environment the Baltic Sea Region is facing. As locations are increasingly in direct rivalry with other locations, the relative quality of business environment becomes an important consideration, not only its absolute quality. Second, we look at the geographic profile of the Baltic Sea Region. The geographic position of the Baltic Sea Region relative to other world regions and the size and geographic distribution of its population define specific challenges and opportunities. Third, we look at the macroeconomic climate in the Baltic Sea Region. While short-term macroeconomic trends are only loosely connected with prosperity, a beneficial macroeconomic environment makes it much easier to pursue microeconomic reforms.

The global competitive environment

In the last few years, the nature of competition between locations has significantly changed. Technological innovation and policy changes have reduced transportation, communication, and trade costs. In addition, many locations have started to systematically improve the conditions they provide for doing business, through better macroeconomic policies, investments in infrastructure and skills, and greater openness of markets.

These changes in the overall environment have dramatically increased the level of rivalry between locations. Larger segments of their economies and the quality of the business environments they provide have become exposed to international competition. Sound basic policies that were sufficient in the past to stick out among locations are now only the entry ticket to even be considered as a place to do business. Locations now need to decide what specific business environment qualities they should aim to provide and how they can deliver on those promises. The attractiveness of locations involves aspects of factor costs and quality, local demand sophistication, existence of clusters and the quality of local firm strategies. The changes in the global environment do not only increase pressure, they also create opportunities. Locations that are ahead in terms of business environment qualities can now serve many more markets far beyond their geographic borders. While the economic costs of inaction or unclear policy choices increase for locations, the benefits of clearly distinguishable strategies have also grown tremendously.

For the Baltic Sea Region, these changes in the global competitive environment have a number of implications. First, the Baltic Sea Region provides factors that are relatively scarce in the world economy. Previous years' Reports, confirmed by data included this year, show that the Region is particularly strong in skills and advanced knowledge-driven services. With the countries entering the global economy relatively more endowed with labor, and capital increasingly mobile, this has given the Baltic Sea Region a clear economic asset.

Second, the Baltic Sea Region is well placed to participate in an increasingly global economy because it has a business sector with a legacy of strong global linkages, a solid physical infrastructure, and a well-developed logistical sector. Together, these factors have enabled the Baltic Sea Region to very quickly bring its advantages to bear and exploit the opportunities that globalization has provided.

Third, the Baltic Sea Region has had a head start on sound context conditions and a solid general business environment. Even after policy changes are made, it takes years for other countries to reach sound government balances, a well developed physical infrastructure, and a highly-skilled workforce. This early advantage can even have permanent effects, if it has an impact on locational decisions by companies that in turn attract other companies to follow suit.

In sum, the Baltic Sea Region has in recent years been in a position that has enabled it to be a prime beneficiary of globalization. The Baltic Sea Region's early advantage in the global competition among locations will not disappear over night, but it is likely to be increasingly eroded over time. Other countries are investing heavily in skills and knowledge. Linkages to the global economy are aggressively built by competitors from other advanced economies but increasingly also from emerging economies like China and India. And the policy reforms of the recent past increasingly change the environment that companies face in other countries. The Baltic Sea Region needs to have a strategy for further upgrading, if it wants to keep its position among the most prosperous regions of the world.

Figure 1: A changing global competitive environment

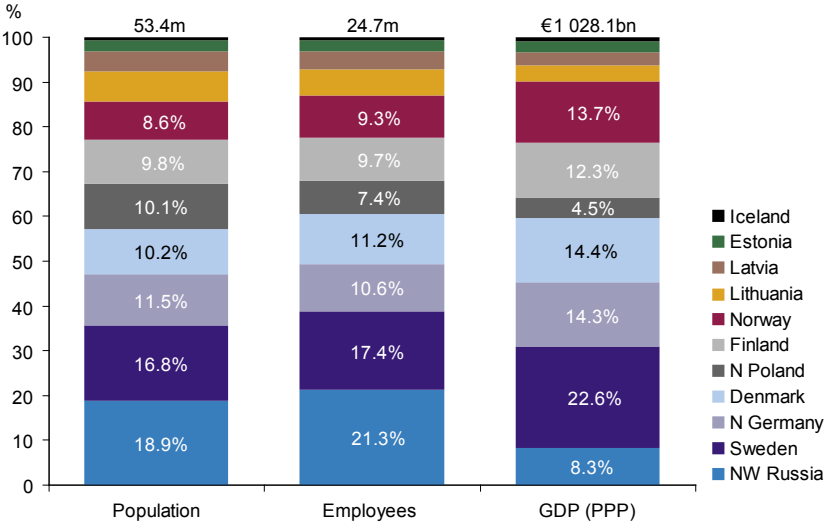
The geographic profile of the Baltic Sea Region

For the purpose of this assessment, we have defined the Baltic Sea Region to include the Baltic Countries (Estonia, Latvia, and Lithuania), the Nordic countries (Denmark, Finland, Iceland, Norway, and Sweden), northern Germany (Hansestadt Hamburg, Mecklenburg-Vorpommern, and Schleswig-Holstein), northern Poland (Pomorskie, Warminsko-Mazurskie, and Zachodnio-Pomorskie), and parts of Russia's Northwestern region (excluding the four regions least connected to the Baltic Sea Region: the Republic of Komi, Arkhangelskaya oblast, Nenetsky AO, and Vologodskaya oblast). Compared to the 2005 State of the Region Report, the regions now excluded account for about 25% of the total Northwestern Russia employment and 32% of output, so Russia's overall weight in the Baltic Sea Region aggregate has been reduced compared to previous years' reports.

The Baltic Sea Region is home to about 50 million people, less than 1% of the world population. Its share of the 2005 world GDP is about three times as high, at 2.7%. Russia's northwestern region accounts for about 20% of the Region's population, followed by Sweden (17%), and northern Germany (11.5%). The population continues to drop in the eastern and southern parts of the Region while increasing in the northern parts; the overall population growth is flat. Measured by real GDP, Sweden accounts for 22.6% of the Region, followed by Demark, northern Germany, Norway, and Finland with between 14.4% and 12.3%. The geographic position of the Baltic Sea Region creates a number of challenges that it needs to overcome in order to reach a high level of prosperity. First of all, the region is located at the northern periphery of Europe. The low level of economic dynamism in other parts of Europe had a direct negative effect on the Baltic Sea Region through the low level of demand in this key market for Baltic Sea Region-based companies. Within Europe, the Baltic Sea Region is located at some distance from the centers of population and economy in the area sometimes called the "European banana", stretching from South-West England through Belgium, the Netherlands, Western Germany, Northeastern France, and Switzerland to Northern Italy. The geographic distance to that area does not make the Baltic Sea Region the obvious choice as a location to serve those markets. It also does not create any advantages in terms of becoming a transit region between Europe and other markets, for example Asia.

Second, the Baltic Sea Region has limited economic size overall, and its subregions are relatively small. While there is no simple relationship between economic size and economic performance or competitiveness, small absolute size does have implications on the environment in which the region operates. Its markets have relatively low attractiveness for foreign investors, even more so if they look at individual

Figure 2: Relative size of sub-regions in the Baltic Sea Region



Source: Groningen Growth and Development Centre and The Conference Board (2005), authors' calculations

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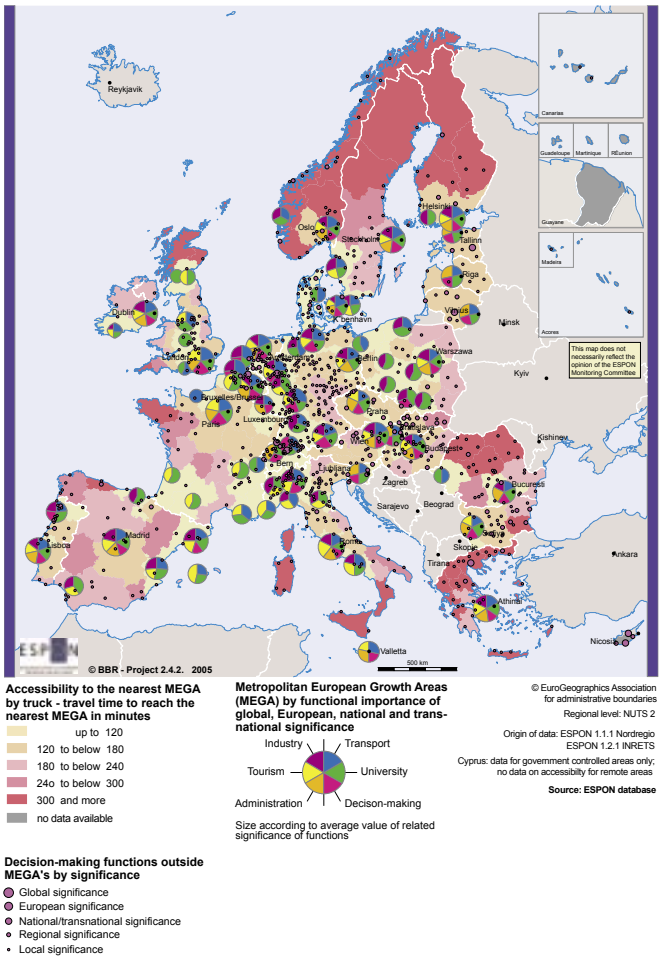
countries rather than the region as a whole. Fewer foreign investors are a direct loss to the region, but they also have an indirect negative effect. Less exposure to foreign competition from companies with a local presence reduces the pressure on domestic companies. And in such an environment domestic companies are less likely to improve their competitiveness. Smaller economies are also more likely to be subject to higher economic volatility. To reach high levels of competitiveness, they need to specialize on specific clusters which can then reach a significant size relative to the overall economy. This allows very high growth rates if the industries that these clusters serve are in an upturn, but also risks low growth when they are in a depression. For larger economies like the U.S. the combination of regions with different cluster specialization patterns evens out this effect. A final advantage for small economies, however, is their tendency to find it easier to organize collective action for competitiveness upgrading.

Third, the Baltic Sea Region is characterized by a relatively low density of population. Its geographic size is large relative to the population. Low density is an issue, because clusters, a key driver of innovation and productivity, emerge more easily in areas with dense economic activity. The region has few truly large metropolitan centers and the two largest ones, Hamburg and St. Petersburg, are located at the region's periphery and are as much oriented towards other regions as to the Baltic Sea Region. Metropolitan areas are important, because they generate positive effects from the interaction of clusters and their attractiveness for people with scarce innovative (or "creative") capabilities. The corollary is the existence of large rural regions that pose challenges in terms of the efficient provision of government services.

The challenging geographic position and profile does not relegate the Baltic Sea Region to lower competitiveness and prosperity. But it creates challenges that the Baltic Sea Region needs to work on specifically with a proactive strategy.

Figure 3: Profile and accessibility of European regions



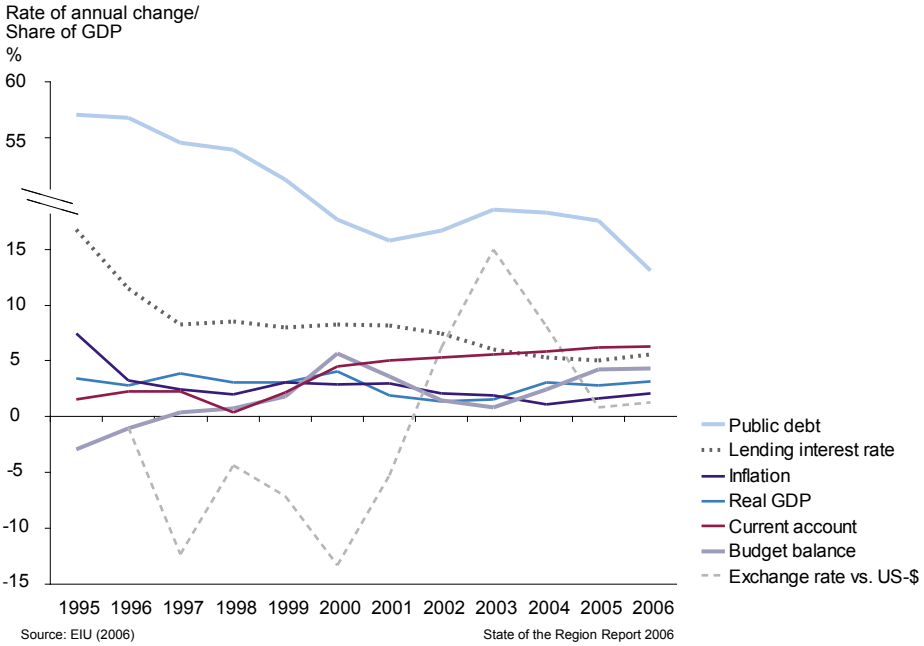
The macroeconomic climate in the Baltic Sea Region

The State of the Region Report is primarily focused on the medium to long-term foundations of the Baltic Sea Region's prosperity, not on short-term macroeconomic fluctuations of the economy. Excellent reviews of macroeconomic trends are available from international financial institutions, the European Union, national Central Banks, and many of the leading financial institutions in the Region. While our Report does not attempt to provide an exhaustive summary of the analysis provided in these reviews, it is useful to sketch those aspects that have the strongest impact on microeconomic competitiveness.

Macroeconomic conditions and microeconomic foundations are affected by clearly separate policy instruments. But it is important to understand that there are also significant linkages between them. Better and more stable macroeconomic conditions provide an environment in which companies are more likely to make long-term investments in machinery, knowledge creation, and employee skills. High volatility and frequent macroeconomic crises instead lead to an environment in which companies focus on short-term arbitrage and "asset sweating". Conversely, sound microeconomic foundations make it much easier to sustain macroeconomic stability. An environment in which companies can be more productive will be characterized by more exports, more job creation, and higher tax revenues. This will ease pressure on the current account and on government fiscal balances. And in an environment where competition is widespread, there will be less room for inflationary price hikes.

The Report discusses a number of key macroeconomic indicators. First, the growth rate of real GDP gives an indication of whether companies are faced with increasing or decreasing overall demand. Second, the inflation rate, the unemployment rate, the current account balance, the budget balance of the public sector, and the debt level of the public sector are different metrics that indicate whether the current rate of growth is sustainable, or whether monetary or fiscal policy are likely to slow down demand in the future.

Figure 4: Macroeconomic indicators over time, Baltic Sea Region



The Baltic Sea Region benefits from solid growth in most of its economies, with domestic demand increasingly overtaking export demand as the prime growth driver. It has weathered the increase in oil prices surprisingly well, even taking into account that the two oil exporters in the Region even benefited from the prices hikes. Real GDP growth has been around 3% since 2004, when the Region was getting out of lower growth rates from previous years. Growth is expected to pick up in 2006 and most forecasts are also solid for 2007. However, most observers, especially the international financial institutions, point at a significant risk that growth will slow down after that. The main concerns are the effect of a sluggish demand from the U.S. economy, the appreciation of the exchange rates against the US dollar, and the (desired) effects of monetary policy tightening throughout the Region.

Public finances are strong; the Baltic Sea Region has been running a public sector surplus since 1997, and public debt as a share of GDP has dropped by 14%-points over the last decade. The economic slowdown in the immediate aftermath of the bursting internet/technology-bubble in 2001 has temporarily slowed down this process, but has not stopped fiscal consolidation.

Monetary indicators have also developed positively in the Baltic Sea Region. Inflation has dropped, also pushing down lending interest rates. With the fall in nominal interest rates, real interest rates have also dropped by almost 60%. Over time, the exchange rates have experienced significant fluctuations against the US dollar, depreciating by almost 40% between 1995 and 2001 and appreciating by 35% since then. Volatility against the euro, the currency more relevant for within-region trade, has been much lower.

Table 1: Macroeconomic indicators, 2006 projections, Baltic Sea Region countries

	in % of GDP			*annual change in %*			
	Current account	Public sector debt	Public sector balance	Inflation	Exchange Rate versus US-Dollar	Real GDP	Lending interest rate
Denmark	2,00	33,60	2,60	2,00	1,00	2,70	5,00
Estonia	-11,40	2,80	1,40	3,90	0,93	9,10	5,50
Finland	2,10	37,90	2,20	1,70	1,03	3,20	4,20
Germany	3,90	67,90	-2,50	1,90	1,03	1,90	9,30
Iceland	-17,60	29,60	2,80	7,30	-15,36	4,00	23,30
Latvia	-11,80	10,30	-1,50	6,30	0,85	9,70	7,00
Lithuania	-8,50	17,70	-1,20	3,30	1,03	7,20	5,30
Norway	18,50	40,90	17,20	2,30	2,50	2,40	4,50
Poland	-1,40	49,30	-2,80	1,30	3,83	5,00	6,10
Russia	10,80	8,30	6,60	9,80	2,77	6,30	10,00
Sweden	7,50	45,20	2,50	1,40	1,18	3,70	4,00

Source: EIU (2006) State of the Region Report 2006

The situation in Denmark, Finland, and Sweden generally tracks the overall developments in the Region. Denmark registered the highest growth of the three countries in 2005, but for 2006 the ranking is expected to be reversed with Sweden on top. The public sectors in these countries have a solid position, and the current accounts are in surplus, especially in Sweden. The exchange rates have been increasing against the US dollar while, for Denmark and Sweden, holding steady against the euro. Inflation is low but expected to pick up, and interest rates are also on the way up after years of falling rates.

Norway and Iceland are the outliers from the Nordic countries. Norwegian policy is largely shaped by the efforts to manage the inflow of oil revenues. These large inflows have enabled Norway to reach a very enviable fiscal position, with government budget surpluses, a low government debt, and a strong current account surplus. The operation of the Oil Fund, which keeps most of the revenues outside of the mainland Norwegian economy, has sheltered the economy to a significant degree from the problems that affect many other oil-rich economies. Inflationary pressure is relatively modest without overly restrictive monetary policies, and the exchange rate has not appreciated too much.

Iceland, a small economy with an export portfolio largely specialized on fishing products, traditionally has had to deal with high macroeconomic volatility. The liberalization of the financial sector has made local financial institutions more aggressive in their foreign operations, leveraging the increasing depth

of their domestic financial market (Iceland has the highest ratio of stock market capitalization to GDP of all countries in the Baltic Sea Region). In addition, Iceland has become the object of speculation on international financial markets. Currency traders have used the Icelandic krona for so-called "carry-over trade", taking advantage of the higher interest rates in Iceland relative to other markets while there seemed to be little danger of the Icelandic currency devaluing. Changes in relative interest rates and expectations as well as (largely unfounded) concerns about Iceland's current account deficit triggered a significant devaluation of the Icelandic currency. With the fiscal position of the government stable and most of the foreign lending by Icelandic institutions matched by foreign assets, the danger of a financial meltdown seems to have receded quickly. The Central Bank of Iceland has in the meantime increased lending rates to avoid an overheating of the economy and reduce the current account deficit.

The German economy is finally showing signs of growth picking up even though the level of growth is still low; domestic demand is starting to contribute to growth alongside export demand. The northern parts of Germany are currently outperforming Germany as a whole regarding employment and GDP. The region is facing a relatively good year economically and will continue to gain from the increasing world trade due to its strategic position as a trade hub. Fiscal policy at the national level is tightening to reduce the budget deficit, but both overall government debt and deficit remain high. Expectations in the business community are starting to become more negative and there are concerns about the effect of the VAT increase in 2007 on domestic demand. Lending interest rates are relatively high, ahead of all other countries in the western part of the Baltic Sea Region. A tightening monetary policy of the European Central Bank despite a low level of inflation in the German economy is likely to keep pressure on interest rates up. The euro has remained relatively stable against the US dollar recently after strongly appreciating before; most observers expect further appreciation to come soon.

The Polish economy is driven by solid growth in domestic demand, which has pushed up GDP growth rates after weaker dynamism in 2005. The fiscal position of the government is improving with the budget balance dropping slightly, but the progress so far is not sufficient to stop the government debt rate from increasing. Lending interest rates have come down tremendously in recent years, likely to be driven both by lower inflation and by the development and deepening of the financial system. Recent discussions about the independence of the Central Bank and the acquisition of a major Polish bank by a foreign competitor have raised concerns about the future developments in this sector. The zloty has been stable with some recent upward movement against the US dollar. Poland has no official target date for the adoption of the euro. A document entitled "Poland's Integration into the Euro Area: Prerequisites for membership and the process management strategy" was produced in August 2005 but no further policy steps have been taken. Public opinion has become more positive about membership in the Euro-zone, with 55% of the population expecting a positive impact on the Polish economy.

In the Baltic Countries, GDP growth rates continue to be very high, with 2006 growth rates only slightly below the 2005 level. Capital inflows continue to be high, reflecting the build-up of foreign direct investment in these economies. All three Baltic Countries aim to enter the Euro-zone. The Estonian kroon and the Lithuanian litas joined ERM II on 28 June 2004, formally committing their Central Banks to keep a stable exchange rate (with bands) of their currencies against the euro; the Latvian lat followed on 2 May 2005. While all three countries easily meet the requirements of the Euro-Zone in terms of public debt, government deficit, and exchange rate stability, concerns about their inflation rates in 2006 have delayed their intended entry. In Estonia, the government decided on 27 April 2006 to postpone the target date for the introduction of the euro from 1 January 2007 to 1 January 2008. The original target date for the introduction of the euro in Latvia was 1 January 2008, but the Latvian authorities have recently announced that they will need to postpone their target date. For Lithuania, the official target date for the introduction of the euro was 1 January 2007, but the European Commission's convergence report adopted on 16 May 2006 concluded that the country does not fulfill the necessary conditions. Economists debate whether the inflation rates, especially in Latvia, are indeed off course or are just a reflection of the structural changes in the midst of a high growth period for these countries.

Russia has seen a tremendous reversal of its macroeconomic situation following the 1998 crisis. Growth has been solid, driven by a combination of high oil prices, the devaluation of the ruble which led to significant import substitution, and space capacity

in the economy that allowed production to soar without pressure on costs building up. Public finances have significantly improved, with government debt levels falling quickly. Symbolically, the Russian Federation paid back a loan ahead of time in mid-2006, from the Paris Club of foreign lenders. The current account has turned solidly positive, and the Russian Central Bank is trying to neutralize the inflows to avoid a rapid appreciation against the US dollar. Monetary policy has thus been very expansionary in recent years, fuelling inflation and driving the real interest rate towards zero. With the still low level of development of the Russian financial system, the low real interest rates have so far had limited impact on the real economy. There are significantly different views about the medium-term growth outlook for the Russian economy. Some see no reasons why the country should not be able to deliver strong growth in the next few years as well; oil prices are unlikely to drop dramatically, domestic capacity build-up has started to pick up, and foreign companies increasingly invest in Russia as well. Others argue that oil revenues are close to their peak, providing no future growth, while the domestic economy will increasingly be faced with capacity constraints and structural barriers reducing the incentives to invest. They also see the potential for real interest rates increasing, slowing the willingness to invest. The Russian government forecasts a slight cooling-off of the growth rates of the economy.

A key question for all countries in the Baltic Sea Region is whether the world economy is going to continue to provide a beneficial environment for economic growth. Most forecasters expect the U.S. economy to slow down and the US dollar to devalue against major foreign currencies. The continental European economies are likely to provide higher growth rates, driving increasing interest rates in the region to bring demand in line with capacity growth. Differences in opinion exist on the effect these developments will have on the Baltic Sea Region. Some see large negative fall-outs for the export orientated companies in the Region due to the weakness of the important U.S. market. Others argue that the slow-down in the U.S. will mainly affect its domestic economy and that other markets in Asia and Europe will be able to provide demand stability for exporters to avoid a large negative impact.

The Baltic Sea Region is well advised to prepare itself for a less beneficial global macro-economic environment, even if the extent of the slow-down is under debate. The solid fiscal and monetary policies of the past have laid a good foundation to avoid policies that would exacerbate the challenges of lower growth in the global economy.

SECTION B:
Competitiveness in the Baltic Sea Region

Competitiveness remains a concept that suffers from confusion about what the term actually means. The concept of competitiveness we apply here, building on the work by Professor Michael E. Porter since 1990, defines competitiveness as the level of productivity that companies can achieve in a given location. The focus on productivity reflects the observation, that productivity is the single most important factor explaining the level of prosperity that a region can sustain over time.

Other approaches view competitiveness as the ability to sell goods and services at the world market, as a position in specific "strategic" or "high-tech" industries, or as the ability to create employment. These approaches suffer from their focus on intermediate objectives that will be achieved if productivity increases, but that can also be targeted directly in ways that do not improve productivity or prosperity, for example by lowering wages, sheltering specific industries or companies from competition, or giving subsidies or other incentives to specific investments or activities.

We assess competitiveness at three levels: First, we look at performance in terms of prosperity and key prosperity drivers, particularly productivity. We also look at performance in terms of intermediate objectives like world export market shares that give an additional perspective on the relative strengths and weaknesses of an economy. Second, we review the factors that drive the level of productivity companies can reach. We focus on microeconomic foundations of the economy, but also discuss the overall macroeconomic, legal, political, and social context as well as innovative capacity. Third, we discuss performance on the wider range of indicators included in the Lisbon Agenda.

We track competitiveness on two geographic levels: For cross-national regions, we compare the Baltic Sea Region to up to nine other regions in the world, depending on data availability. In Europe, we create comparative aggregates for Central Europe (Austria, Czech Republic, Hungary, Slovak Republic, Slovenia, southeastern Germany (Bavaria, Saxony, and Thuringia), and southern Poland (Dolnoslaskie, Malopolskie, Opolskie, Podkarpackie, and Slaskie)), the British Isles (UK and Ireland), the Iberian Peninsula (Spain and Portugal); we also report data for the EU-15 and the EU-10 where available. Outside of Europe, we create aggregates for BRIC (Brazil, Russia, India, and China), ASEAN (Thailand, Singapore, Indonesia, Malaysia), NAFTA (USA, Canada, Mexico), and Oceania (Australia, New Zealand). These regions all differ significantly in economic size, profile, and level of integration. Central Europe is the region that is most comparable to the Baltic Sea Region on these dimensions. For countries, we compare all countries and subnational regions within the Baltic Sea Region to a selection of other countries from Europe and other regions of the world. Again, the objective is not so much a direct comparison among like countries, but a wider perspective to enable the interpretation of the Baltic Sea Region performance data.

The economic performance of the Baltic Sea Region

- The Baltic Sea Region continues to register strong prosperity growth, outpacing all other regions of advanced countries despite a slow-down in 2005.
- Prosperity in the Baltic Sea Region countries is more dramatically driven by either productivity or employment than in most others, especially non-European countries; the NAFTA and Oceania regions are the only ones outperforming the Baltic Sea Region on both dimensions.
- While the Baltic Sea Region continues to defend its world export market position and its position among global patentors, it has continued to suffer from deteriorating inward foreign direct investment flows and low domestic investment.
- Integration in the Baltic Sea Region is not balanced. The highest level of interaction is in the western part of the Region, with the Nordic-Baltic bridge an additional anchor of integration.

Many cross-national regions in the world economy have delivered solid economic growth rates over the last few years. The BRIC countries, the EU-10 accession countries, and ASEAN have been growing faster than most advanced economies and also faster than the Baltic Sea Region. Among regions of more advanced economies, Oceania reached the highest overall growth, followed by the Iberian Peninsula, and the NAFTA countries. The Baltic Sea Region registered slightly lower overall growth than those regions, outperforming the British Isles, Central Europe, and the EU-15 old member countries.

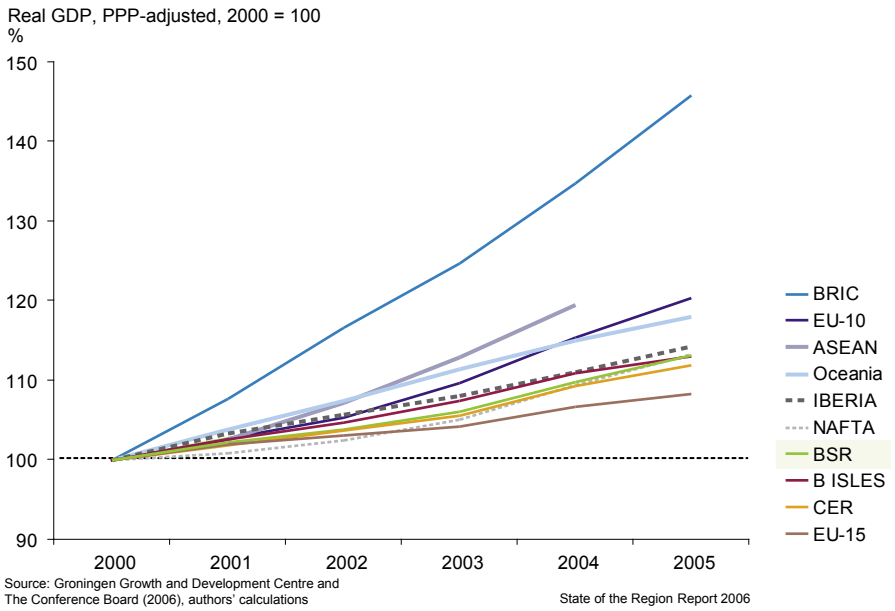
Current prosperity and its drivers

GDP growth is one important dimension of performance but it has to be put into the context of population growth in order to understand its impact on the standard of living. A high and sustainable level of prosperity, measured by GDP per capita adjusted by domestic purchasing power, is the ultimate measure of economic performance.

The Baltic Sea Region continues to report solid prosperity growth. Of all European regions, only the EU-10 region generated stronger prosperity growth than the Baltic Sea Region in 2005, much as in the last five years. The growth gap to the somewhat more prosperous Iberian Peninsula has, however, decreased relative to last year. After higher prosperity growth last year, all regions in our sample have experienced slower growth in 2005, reaching a level that for most of them was close to their 2000 to 2005 average.

In an accounting sense, prosperity can be

Figure 5: Growth of real gross domestic product (GDP), cross-national regions



Source: Groningen Growth and Development Centre and The Conference Board (2006), authors' calculations

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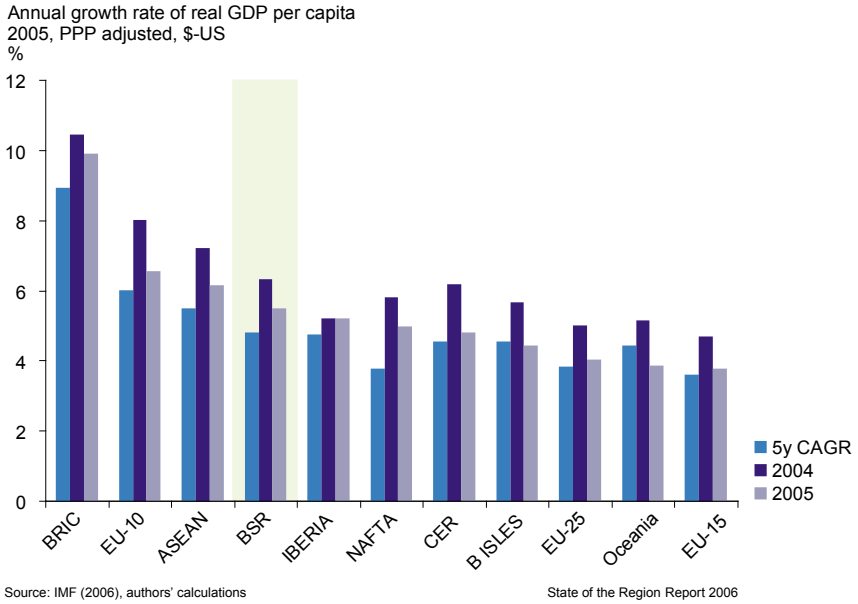
Figure 6: Prosperity growth, selected cross-national regions



Source: IMF (2006), authors' calculations

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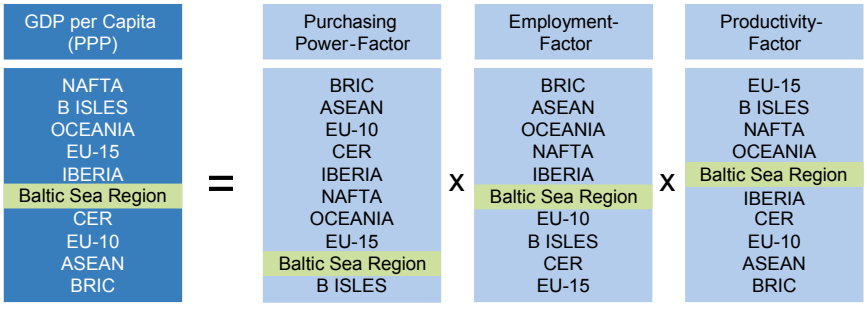
decomposed into three factors: labor productivity (real GDP per hour worked), labor utilization (hours worked per capita), and domestic purchasing power of income (PPP adjustment factor). We undertake this decomposition for the ten cross-national regions in our sample. More prosperous regions tend to have higher productivity, but also tend to have higher local price levels and lower employment (as part of the higher prosperity is consumed in more leisure time); these relationships are particularly obvious for the EU-old member countries that have the most extreme rank differences across the regions in our sample.

The Baltic Sea Region registers a relatively strong productivity ranking and an only slightly lower employment ranking than other regions. The Region's clear relative weakness is the high level of domestic prices; citizens need to earn more than citizens in all other regions except the British Isles to reach the same standard of living. NAFTA and Oceania are the only other regions that outperform the Baltic Sea Region on all dimensions, i.e. reach higher productivity, higher employment, and lower price levels. The Baltic Sea Region has both higher productivity and higher employment than the Central European Region and the EU-10, but loses some of this advantage due to the higher prices on its local markets. Over time, Central Europe and the EU-10 are catching up on productivity but are falling further behind the Baltic Sea Region on employment.

The overall performance of the Baltic Sea Region continues to mask significant differences among individual countries. Most of the Region's less prosperous countries, in particular the three Baltic Countries,

Figure 7: Prosperity decomposition, selected cross-national regions



Source: Groningen Growth and Development Centre and
The Conference Board (2006), IMF (2006), authors' calculations

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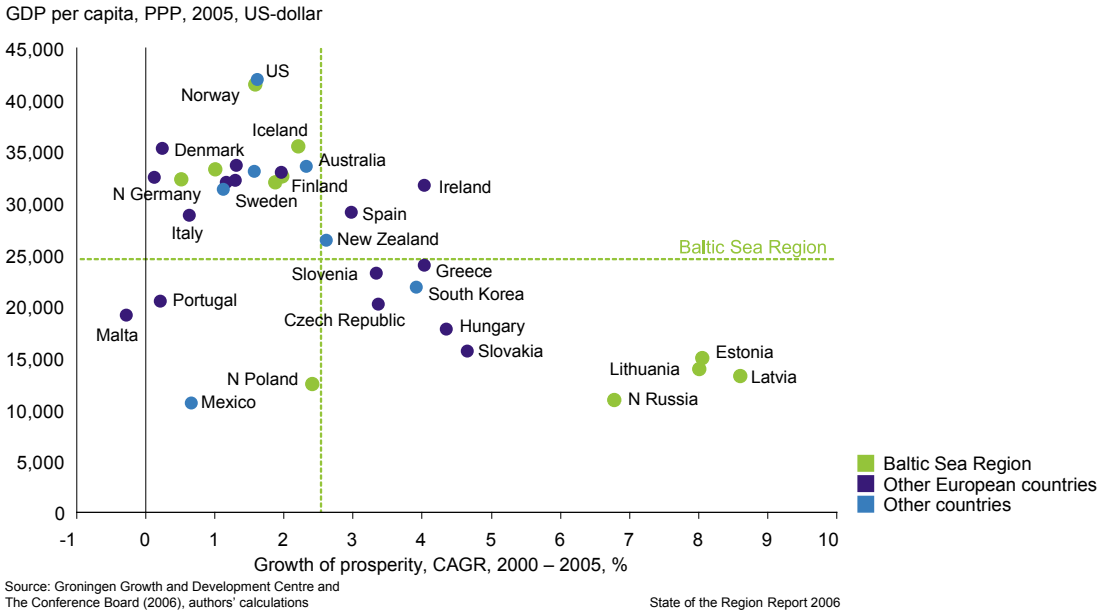
Figure 8: Productivity level and growth, selected countries



Source: Groningen Growth and Development Centre and The Conference Board (2006), authors' calculations

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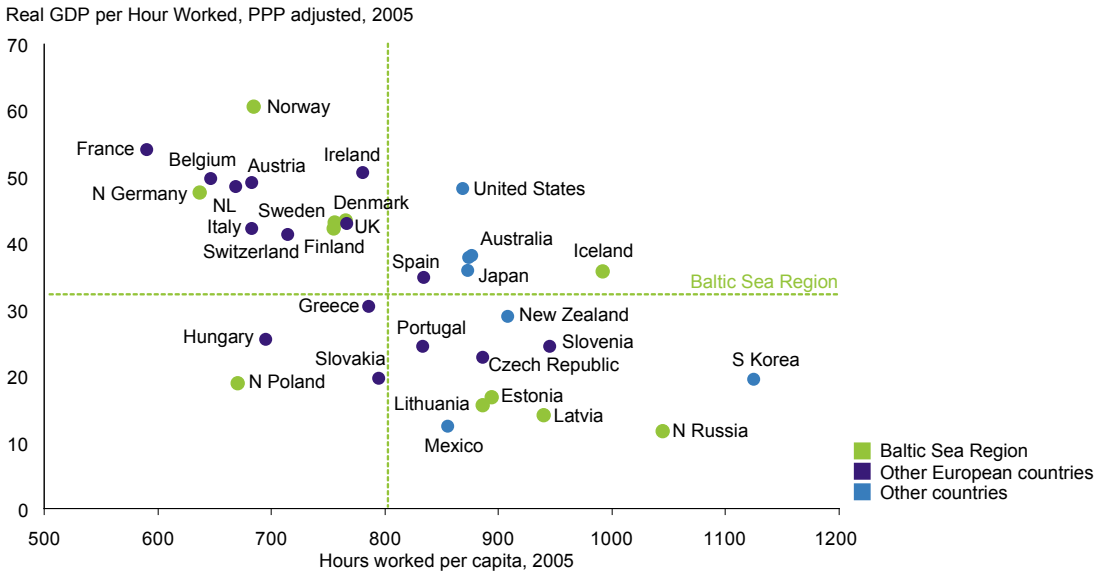
register strong growth rates. If they continue to achieve growth rates about 6% higher than in the Nordic countries, catching up to their prosperity level would take about 15 years. Northwestern Russia registered very high growth last year, but has now fallen back to the five-year average growth rate. Northern Poland, too, had strong growth last year but is now back at its disappointing medium-term growth level.

The region's more prosperous countries reach much lower prosperity growth rates but keep pace with most of their advanced economy peers. Iceland, followed with some margin by Denmark, has

Figure 9: Prosperity drivers, selected countries and regions



Source: Groningen Growth and Development Centre and The Conference Board (2006), authors' calculations

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registered the highest prosperity growth rate among these countries last year, while Finland and Northern Germany had the lowest improvement.

As discussed in previous years' Reports, countries across the Baltic Sea Region differ significantly in the elements most important for their prosperity. Norway, Iceland, and Denmark register a combination of high productivity and high employment. Finland, Germany, and Sweden reach similar levels of productivity but fall behind on their ability to mobilize employment, a problem that is most severe in Germany. Estonia, Lithuania, Latvia, and Russia register low productivity but high employment. Poland's productivity is somewhat higher but the country suffers from low employment.

Compared to other countries in Europe and globally, Iceland and Norway are on an outer band in the combination of productivity and employment. The Nordic countries, the Baltic Countries, and Northern Russia follow in the next band. Germany and, with a further gap, northern Poland, lag behind. Overall the Baltic Sea Region is not exceptional in the combination of productivity and employment. What is notable, however, is that the countries from the region seem to be on the two extremes with either high employment and low productivity or the opposite combination, while many other advanced economies, especially those outside of Europe, exhibit a more balanced combination of these two factors.

In 2005, Latvia reached the highest productivity growth at 8.1%, followed by Estonia and Russia. Among the more prosperous economies in the Baltic Sea Region, Iceland topped the list at 2.55%, followed by Denmark and Norway. Finland registered the most sluggish growth at 0.1%. In terms of employment, Iceland followed by the Baltic Countries had the most dynamic development last year. In Iceland, 29 more hours were worked annually per capita in 2005 than in 2004. Norway was the only country registering a fall in the number of hours worked per capita, while Germany, Denmark and Sweden each registered a small increase.

Trade and investment

A country's position on world markets for goods and services, its attractiveness as an investment location for foreign and domestic capital, and its ability to generate innovations and knowledge are other useful indicators of competitiveness. Performance in some of these dimensions can, however, also result from policies unrelated or even opposed to competitiveness. Examples for such policies are devaluations or an explicit low-wage policy. In other dimensions, it can result from policies that focus on useful inputs for future prosperity without addressing barriers to competitiveness later in the value generation process. Examples for such policies are efforts that focus on patenting or university research output. The indicators in this section should thus be viewed in the context of the overall competitiveness assessment in this report.

Figure 10: World export market shares, selected European regions

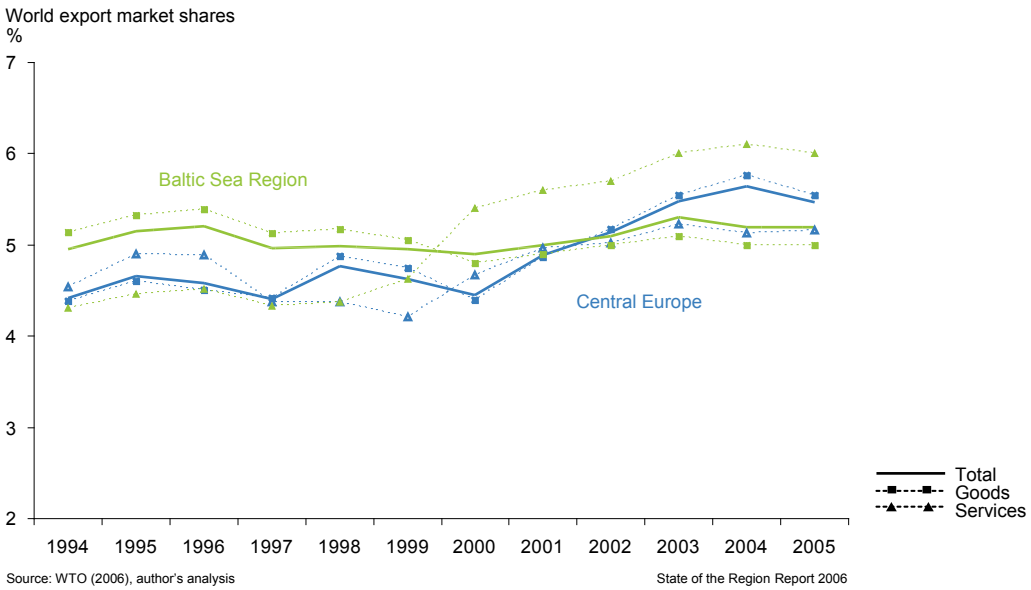
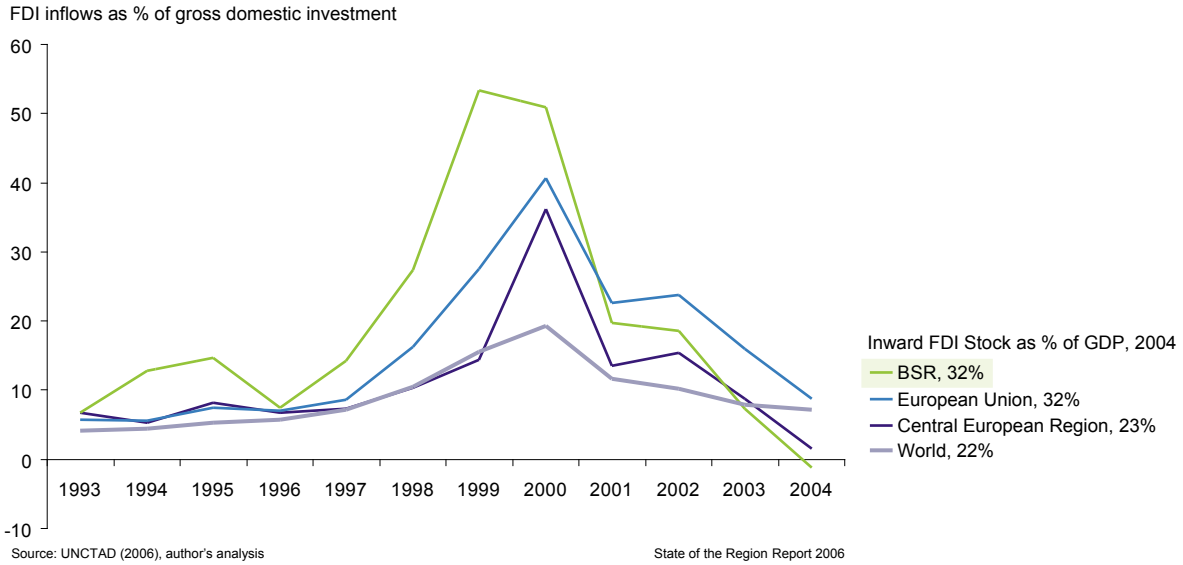


Figure 11: Foreign direct investment (FDI) inflows, selected world regions



In terms of exports, the Baltic Sea Region has kept its position largely stable over the last few years. The Baltic Sea Region has increased export volumes in line with world trade, not more. As a region with a high exports orientation – the Baltic Sea Region's share of world exports is more than 50% higher than its share of world GDP – it has benefited more than many others in absolute terms. In services, world market shares have grown while they have slightly decreased in goods. Relative to the Central European Region, the Baltic Sea Region remains behind in world export market share, a gap that has opened up in 2002 but narrowed somewhat in 2005. The differences over time were driven by goods exports, which have increased significantly for the Central European Region since 2000, while having been stagnant for the Baltic Sea Region.

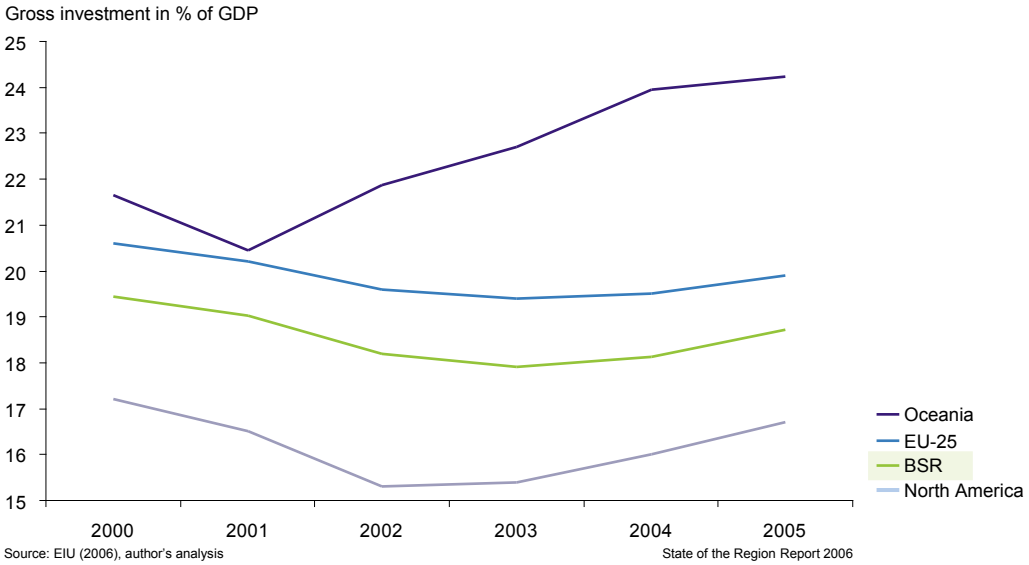
Among the countries of the Baltic Sea Region there has been little change in the relative position of exporters. Denmark and Germany lost some relative ground in service markets, although export volumes continued to increase. In goods, Germany and Sweden lost some market share, while Russia and Norway gained based on higher oil exports.

In terms of foreign direct investment (FDI), the Baltic Sea Region continues to register a stock of inward FDI relative to GDP that is relatively high; the reduction of Russia's economic share in the Region relative to last year, due to the exclusion of some eastern parts of Russia's Northwestern region from the assessment, has accentuated this even more. In 2004 FDI inflows have continued to drop relative to gross domestic investment, significantly driven by disinvestments from Denmark, Germany, and Sweden.

Among countries in the Baltic Sea Region, Estonia has extended its lead in terms of FDI presence in its economy; its FDI stock now reaches 85% of GDP. Sweden (47%) and Denmark (41%) follow in terms of relative FDI share, but both countries have dropped in 2004. Latvia, Finland, and Lithuania follow as the next group at around 30% FDI stock relative to GDP. Norway, Russia, Iceland, and Germany trail behind, with FDI stocks between 10% and 20% of GDP. Iceland is the only country in this group with an increasing relative FDI stock, driven by the ramping up of ALCOA's investment in a large aluminum smelter in the country. Russia has seen absolute FDI inflows picking up significantly recently, but overall GDP growth has been even more brisk. Norway and Germany have seen FDI inflows drop, for Germany even into net outflows.

In terms of overall investment rates, an indicator of the attractiveness of the region for both domestic and foreign companies as a location for capacity expansion, the Baltic Sea Region registers comparatively low activity. Since 2003, average investment rates have increased somewhat as more and more companies in the region have reached capacity constraints. But relative to the EU-25, the Baltic Sea Region continues to lag behind. In international comparison, Oceania shows significantly more investment activity. North America, however, even lags behind the Baltic

Figure 12: Investment intensity, selected world regions



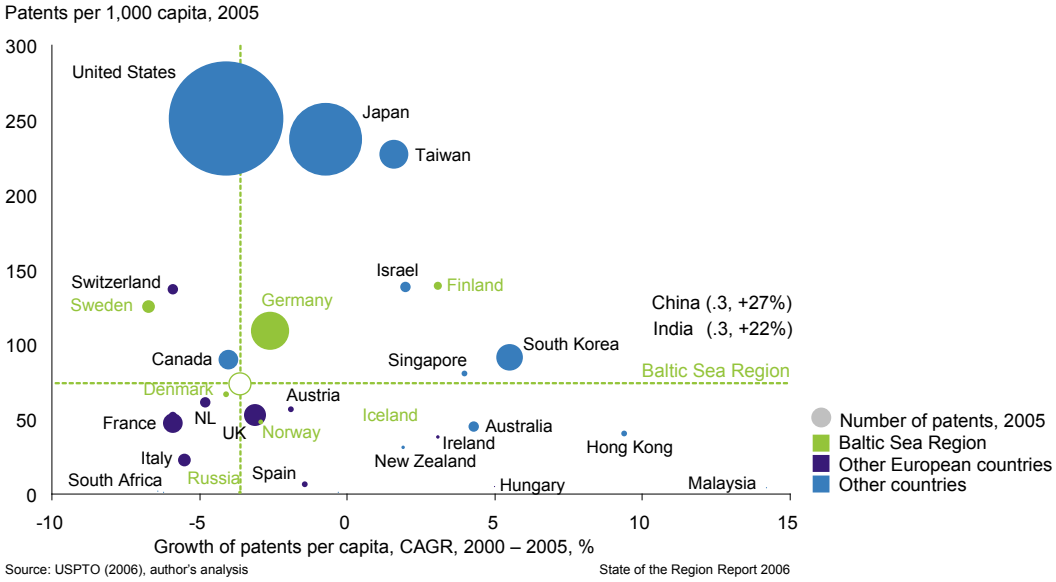
Sea Region, largely due to the United States.

Among countries in the Baltic Sea Region, Estonia, Iceland, and Latvia register the highest investment rates at between 28% and 29% of GDP. For Estonia and Latvia, the high investment rates are consistent with the quick catch-up path in terms of capital intensity that these countries are on. For Iceland, the ramp up of one large investment project in line with a positive general investment climate explain the strong results. Lithuania and Russia have registered strong growth in real investment volume, but still lag behind the leading group in terms of gross investment as share of GDP. Poland has seen investment recede, and now has an below-average investment share in GDP.

Knowledge creation

Prosperity in an advanced economy can only be sustained and increased if there is a constant process of innovation and productivity growth. This is particularly relevant for the Baltic Sea Region, home

Figure 13: Patenting intensity, leading countries



to many companies that compete with products and services that constitute new ways of addressing customer needs. Innovation is notoriously hard to measure; previous years' Reports have presented many of the indicators that are usually used in this context. Because many of these indicators are not updated as frequently as the economic performance data, we have decided for this year's Report to limit coverage to some key indicators of knowledge creation in this chapter and to a previously unpublished assessment of aggregate innovative capacity in the next chapter.

Patenting in the United States is a key indicator of economically valuable knowledge creation of individuals or institutions. U.S. patenting is a useful benchmark, because it is critical to be able to make economic use of new knowledge in the most attractive global market. Patenting only captures a narrow aspect of all economic innovation but it tends to be correlated with those other aspects of innovation as well.

The Baltic Sea Region is among the leading global regions in terms of U.S. patenting. The NAFTA region is the only one that reaches a higher level of per capita patenting in the U.S. NAFTA registers three times the patenting intensity of the Baltic Sea Region; however, the gap is likely to be overstated because of the U.S. home country effect. And even the NAFTA region registers a lower dynamism of patenting per capita growth than the Baltic Sea Region. The EU-15 falls behind the Baltic Sea Region on both dimensions, as do the British Isles and the Iberian Peninsula. Oceania and the ASEAN region register significantly stronger growth in patenting than the Baltic Sea Region. But even Oceania reaches only two-thirds of the level of per capita patenting, and ASEAN is much further behind. All top patenting countries registered falling patenting intensity in 2005, with only South Korea and Iceland holding their level. Total U.S. patenting has dropped since 2003, with patents granted to both domestic and foreign holders lower than in previous years.

Among countries in the Baltic Sea Region, Finland registers the strongest overall performance, with higher patenting intensity and growth than all other countries in the region. Sweden and Germany follow, both with patenting intensity rates in the global top 10. Sweden, however, has registered the highest fall in patenting intensity of all significant patenting locations since 2000. Denmark, Iceland, and Norway follow at somewhat lower patenting intensities, still in the global top 25. Russia is the only other country with a significant patenting intensity and absolute number of patents in the region, but it has been losing position recently. Estonia reaches a slightly higher patenting intensity but given its size this reflects only five U.S. patents in 2005. Poland's count of annual U.S. patents has moved from 10 to 23 in the last few years.

Another indicator of knowledge creation is the quality of the universities in the Baltic Sea Region on a global scale. The Institute of Higher Education

Table 2: Leading universities from the Baltic Sea Region

Institution	Country	World Rank	BSR Rank
Karolinska Inst Stockholm	Sweden	45	1
Univ Copenhagen	Denmark	57	2
Uppsala Univ	Sweden	60	3
Univ Oslo	Norway	69	4
Univ Helsinki	Finland	76	5
Stockholm Univ	Sweden	93	6
Lund Univ	Sweden	99	7
Aarhus Univ	Denmark	101-152	8
Univ Hamburg	Germany	101-152	8
Gothenburg Univ	Sweden	153-202	10
Tech Univ Denmark	Denmark	153-202	10
Univ Kiel	Germany	153-202	10
Chalmers Univ Tech	Sweden	203-300	13
Norwegian Univ Sci & Tech	Norway	203-300	13
Royal Inst Tech	Sweden	203-300	13
Swedish Univ Agr Sci	Sweden	203-300	13
Umea Univ	Sweden	203-300	13
Univ Southern Denmark	Denmark	203-300	13
Univ Turku	Finland	203-300	13

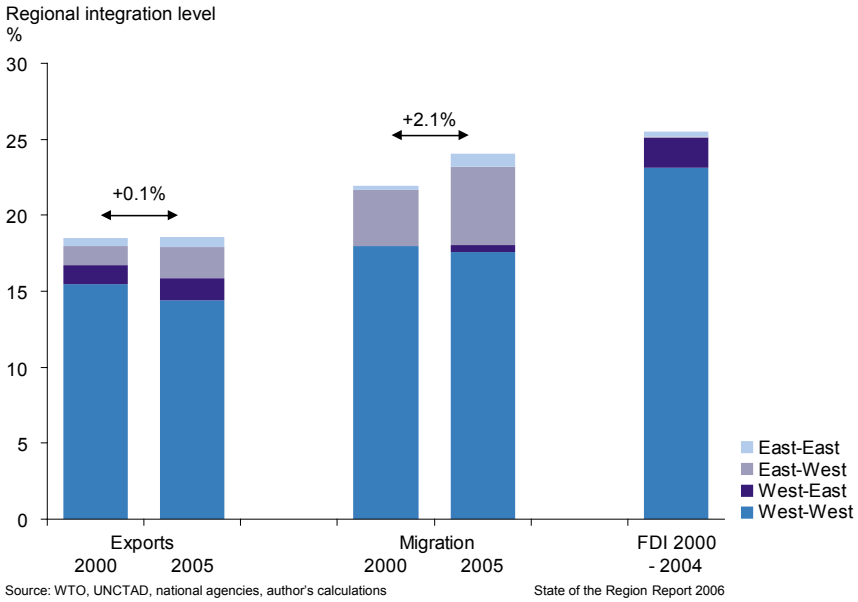
at Shanghai Jiao Tong University has for a few years now provided a global ranking of universities that provides probably the widest ranking assessment of universities currently available. It has its limitations – the weight given to publications might, for example, bias the ranking in favor of institutions with a strong focus on sciences and the methodology might also bias in favor of larger institutions – but is a useful approximation. The Baltic Sea Region registers nineteen institutions of higher learning and research among the top 125 in Europe/the top 300 globally. Relative to the Baltic Sea Region's share in GDP (about 3.5%) and world exports (5%), the Region seems to be positioned even stronger on knowledge creation. Swedish institutions dominate the listing, but Denmark, Finland, Norway, and northern Germany also have each at least two entries on the list. While the total number of entries among the top 300 universities globally is encouraging, it is also important to note that only one Baltic Sea Region university is among the global top 50. Many institutions in the Region seemed to be able to provide solid research and education, not surprising the high level of investments made in research and the generally high skill level of the Region. But the instances of truly leading knowledge creation on a global scale are too few to reach critical mass; this is a concern if the Baltic Sea Region wants to sustain a position among the world's leading innovation hubs.

Regional integration

For the Baltic Sea Region overall, it is finally revealing to look at the level of integration between its constituent economies. High or increasing levels of economic interaction within the region indicate the absence of barriers. From the many different types of interactions that could be interesting to capture the flows of goods, services, capital, ideas, and people, we look at three for which data is available for most countries and years at the required level: trade (exports to other Baltic Sea Region countries), foreign direct investment (inward FDI flows originating in other Baltic Sea Region countries), and migration (immigration originating in other Baltic Sea Region countries). Note that for Germany, Poland, and Russia we only consider the shares of flows that originate/are received in the relevant subnational regions, not the national totals.

Integration has slightly increased over the last five years, mainly because of more east-west interaction within the Baltic Sea Region (west includes Denmark, Finland, Iceland, Norway, northern Germany, and Sweden; east the remainder of the Region). Exports have the lowest rate of regional integration, almost flat since 2000 despite the EU accession of the four eastern countries in the region. Migration has increased in all directions except between western parts of the region; in 2005, 24% of all people who

Figure 14: Level of regional integration in the Baltic Sea Region

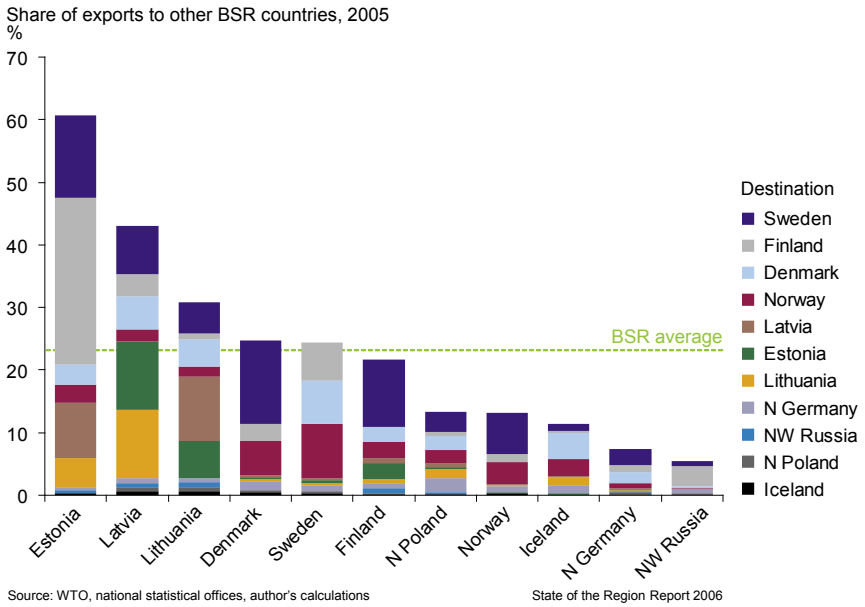


migrated to a country in the Baltic Sea Region (excluding Estonia, Germany, and Poland for which we did not have immigration data) were from another part of the region. For foreign direct investment, 25.5% of all inward FDI flows between 2000 and 2004 (we use averages to smooth out the impact of large transactions in individual years) were received from other parts of the region.

For migration, Iceland leads the statistics with almost 50% of its immigration between 2000 and 2005 from other parts of the region, led by Denmark, Norway, and Sweden. Norway (35%) records inflows from Sweden and Denmark, Sweden (24.4%) from Norway, Denmark, and Finland. Interestingly, for Denmark (19.7%), Lithuanians are the second largest group of immigrant from the region. For Finland (14.5%), Estonians account for two-thirds of all immigration from the region.

For exports, the patterns of regional trading partners differ quite significantly across countries. Estonia, the country with the highest share of 2005 exports to other parts of the region at 60.6%, registers Finland and Sweden as the top two export markets within the BSR. Latvia (43.1%) and Lithuania

Figure 15: Export flows in the Baltic Sea Region by destination

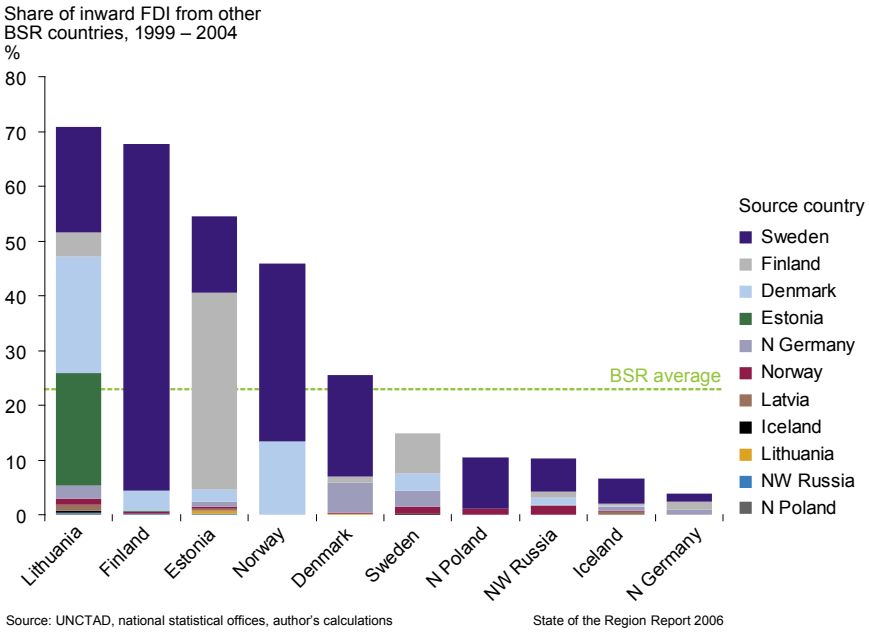


(31%) each have the two other Baltic Countries as their top markets in the region. For Denmark (24.7%), Sweden and Finland are the most important regional markets, for Sweden (24.4%), Norway, Denmark, and Finland.

For inward foreign direct investment, Swedish companies have strongly dominated the scene, accounting for 60.3% of all inward FDI that countries in the Baltic Sea Region have received from other parts of the region. Only in Lithuania, where Estonian and Finnish companies have a strong position, and in Estonia, where Finland dominates, is Sweden not the top foreign investor from the region.

Previous studies measuring the level of regional integration in the Baltic Sea Region based on export data have concluded that the current levels of integration are broadly in line with what should be expected given the geographic proximity and state of economic development of countries in the region. The exception is traditionally Russia, where trade should be higher than actually observed, an indication of the future potential that exists. Our analysis indicates that the level of integration in trade is broadly comparable to integration in other dimensions. The data suggests that EU accession had some impact on migration while the integration in terms of trade flows had already happened earlier. The analysis of bilateral relations indicates that the integration patterns are far from being homogenous. Tighter integration exists between subgroups of countries, with some, like

Figure 16: Inward foreign direct investment (FDI) in the Baltic Sea Region by source country



Estonia, functioning as a link between such groups. The dominance of Swedish investment in the region is impressive and positions the country well to take advantage of potential benefits that cross-regional company strategies and operational networks might bring.

Overall assessment

The position of the Baltic Sea Region as home to a strong and prosperous economy with a high degree of science-driven innovation has been confirmed in 2005. The analysis of this year's Report adds further details to the understanding of the drivers of this success.

First, while we have observed the heterogeneity of the Baltic Sea Region already in the past, this year's comparison with a wider sample of countries points out another feature: The countries in this region – with Iceland and Poland the exceptions – fall on one of the two extremes of the productivity/employment balance, differentiating them significantly from especially non-European countries that do no exhibit such an apparent trade-off between these two drivers of prosperity.

Second, while we have observed productivity as the relative strength of the Baltic Sea Region in international comparison already before, we now notice that Oceania and the NAFTA countries are two regions that outperform the Baltic Sea Region on this measure as well as on employment and the affordability of local prices, a traditional weakness of the Baltic Sea Region.

Third, last year's reported emerging weaknesses in export ability and investment attraction have been largely confirmed by this year's data. Export market shares have remained flat (although the gap to the Central European Region has closed somewhat), foreign direct investment inflows have continued to fall and reached negative values, and domestic investment activity is relatively weak. The Region has no reason to be complacent about its economic position.

Fourth, this year's Report provides further detail on the nature of integration in the Region. It points out the many linkages that exist, but it also indicates how integration is much stronger within subgroups of countries. And it shows how Swedish companies have taken the lead to use foreign direct investment to position themselves across the entire region rather than use one other country as a target market or production location.

The foundations of competitiveness in the Baltic Sea Region

- The Baltic Sea Region continues to rank high on overall competitiveness. It has been able to regain some ground in the last year but the lack of long-term dynamism still gives grounds for concern.
- The profile of competitive strengths for the Region is consistent with a focus on science-driven innovation led by strong, globally active companies.
- The Region needs to ensure that emerging weaknesses in education and physical infrastructure do not undermine its competitiveness in high-end science.
- A second challenge is the need to review the optimal role of government in the economy, combining open and competitive markets with a public sector capable of investing in upgrading competitiveness.

The level of productivity, and thus the level of sustainable prosperity, that companies can reach at a given location is driven by conditions both at the macro- and microeconomic level. While this Report focuses on the Region's microeconomic foundations that ultimately determine competitiveness and prosperity, it also provides a brief discussion of the context conditions that companies face.

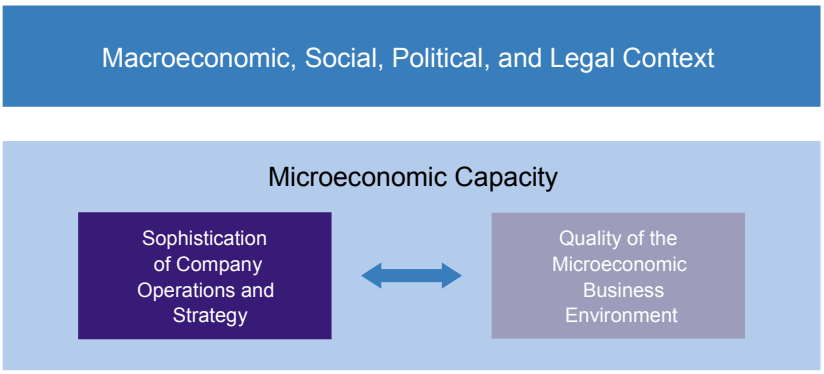
Context factors

The macroeconomic, political, legal, and social context creates the potential for competitiveness, and can create conditions in which upgrading microeconomic foundations is more likely. If companies perceive macroeconomic conditions to be competently managed, property rights to be secure, and the political system to be able to guarantee due process in the passing and implementation of laws and regulations over time, they will be more willing to make long-term investments in upgrading their competitiveness through acquiring technology or machinery and improving the skill base of their employees. And the same conditions will also increase the odds of sustained rather than erratic improvements in the microeconomic business environment and of the evolution of clusters.

The Baltic Sea Region benefits from strong context conditions. The Nordic countries and Germany in particular provide a context, in which microeconomic upgrading is not inhibited and can reach its full potential. The Baltic Countries and Poland are making solid progress towards reaching a similar position; EU membership has proved to be a strong accelerator for this process. Russia still is the country that faces the most challenging context.

A clear strength of the Baltic Sea Region is the sound macroeconomic management. Part A of the Report has already discussed the positive results in terms of government balances, inflation, and external balances. In the Nordic countries governments have for some time now put an emphasis on budget consolidation, a significant break from the pre-EU past. Norway has so far largely resisted the temptation of higher public sector spending given the burgeoning oil revenues. Germany is slowly addressing its

Figure 17: Determinants of competitiveness



Source: Michael E. Porter

fiscal imbalances, although the speed of adjustment is relatively low and the adjustment is mainly achieved through higher government revenues. The Baltic Countries remain on a course of prudent fiscal policy. Russia, too, has been able to use oil revenues to significantly improve its fiscal position. Russian monetary policy has been competent in a complicated environment of a financial system that is rapidly changing the transmission of monetary signals into the real economy, a history of high macroeconomic volatility, and upward pressure on the real exchange rate.

A particular strength of the Nordic countries and Germany is the high level of stability created by their political systems, also reflected in their strong legal systems. While business leaders might not be happy with specific laws and regulations in place, they can rely on their neutral implementations and on a transparent political process to discuss possible changes. In the Baltic Countries and Poland the political system is still less settled, but EU membership has further rooted the positive trend under way. Also, the direct applicability of EU rules and regulations has limited spill-overs from political changes to the legal sys-tem. In Russia the difference between a stable and powerful government and a stable political system are particularly apparent. While the administration of President Putin is firmly in control, there is a significant level of longer-term instability due to the weakness of political institutions. This has clear negative spill-over effects on a legal system that has traditionally been an instrument of the political leadership, not an independent institution. Companies in Russia will tend to put a higher discount factor on future revenues, as policy changes or surprise tax obligations can significantly change cash flows.

A third issue is the state of social conditions in the Baltic Sea Region. Compared to many other parts of the world, the Baltic Sea Region is clearly in an enviable position. Serious social problems are largely absent and even in the less prosperous parts of the Region, high growth has increased the living conditions and opportunities available to many inhabitants. In the Nordic countries and Germany, the challenges relate mainly to the foreign-born population that tends to perform much worse in the educational system and suffers from problems entering the labor market. While large social transfer systems provide economic security, it has proven harder to integrate people with a foreign background in the labor market. In the Baltic Countries and Poland, social challenges are primarily related to increasing differences between segments of the population that have been able to take advantage of the new economic opportunities and those that have not. The inflow of money through the EU Common Agricultural Policy has most recently provided income for rural regions that had previously fallen behind the urban centers. In Russia, the social situation has improved in line with overall economic growth. But outside of urban centers and among the elderly, poverty remains a problem, and the transition from social services provided in kind through companies to social transfer provided by the government in 2005 has met with resistance.

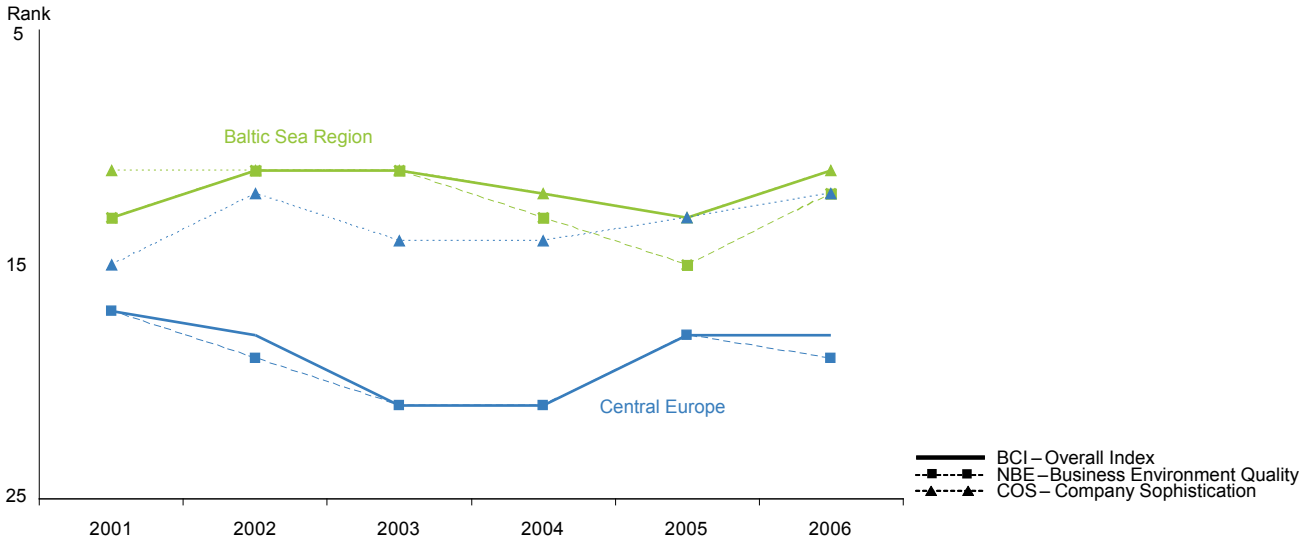
A further dimension of context is the quality of relations to geographic neighbors that countries in the Baltic Sea Region have. Higher prosperity is easier to achieve in a neighborhood of prosperous neighbors that provide additional economic opportunities and can contribute more forcefully to joint efforts for upgrading competitiveness. Germany and the Nordic countries benefit from such a beneficial environment. The Baltic Countries and Poland have through their decisive opening towards their western neighbors also been able to benefit. Russia has so far been in a less favorable situation. The increasing role of the oil sector has tied the country more to the global economy than to neighbors, and economic policy has not focused on developing regional integration.

Finally, the access to natural resources has an important impact on competitiveness. Natural resource wealth has a positive direct effect on prosperity, as oil revenues are available to fund public or private spending. But the experience of many resource-rich countries also shows that natural resource wealth often has a negative indirect effect: economic policy becomes focused on distribution rather than wealth creation, the government takes a dominating role in the economy, and "Dutch Disease" and high macroeconomic volatility hurt non-resource export industries. Norway and Russia have both experienced a strong surge in oil revenues due to the rising global oil prices. Norway has found it easier to manage the negative effects of the oil wealth, having access to well-functioning institutions and existing positions in other clusters like the maritime industry. Russia so far has found it harder to deal with this challenge, and shows a number of the usual distortions of oil-rich economies.

Microeconomic foundations

The Baltic Sea Region continues to score quite well on the aggregate measure of business competitiveness that is used to rank countries in the Global

Figure 18: GCR business competitiveness ranking, selected European regions



Source: Global Competitiveness Report (2006), author's analysis

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Competitiveness Report (GCR) (see Appendix 1 for a discussion of the Global Competitiveness Report and its methodology). Compared to last year, the lower weight of the Russian economy in the total GDP of the region due to our redefinition of its geographic borders has lifted up the level of average competitiveness. Changes in the methodology in this year's Global Competitiveness Report that were introduced to increase the stability of the measures against random changes in the sample composition of the underlying survey have also benefited the relative position of the Baltic Sea Region. The loss in relative position reported last year has been less severe and a more positive development in 2005 has helped the Region to regain the position it has held in the past.

Among the countries in the Baltic Sea Region, Germany, Finland, Denmark and Sweden register the highest business competitiveness (BCI) ranking. Germany remains surprisingly strong despite the overall sluggishness of its economy. German companies have been active in improving their competitive positions, and many medium-sized German companies continue to be world or European market leaders in their specific niches. Finland has now dropped behind both the United States and Germany, after having been in a top position of the GCR ranking for some years. Denmark fell by one rank, while Sweden reversed most of the losses it had experienced last year. Iceland remains on an upward trend, and Norway, too, is gaining ground. Among the Baltic Countries, Estonia remains the clear leader, with slight improvements in overall rank this year. Lithuania follows but is slowly losing position, while Latvia is getting increasingly closer. Poland lost some of the position gained last year. Russia has slowed down its decline, but still registers a low ranking that contrasts markedly with its current strong economic results.

Competitiveness is a dynamic concept; sustainable prosperity depends on the ability to keep on upgrading those dimensions of the business environment that are most important given a country's stage of economic development. In a new analysis introduced this year, the Global Competitiveness Report identifies the key dimensions of the business environment for each group of countries by income and then ranks countries based on their advances in competitiveness in the dimensions most relevant for them.

The Baltic Sea Region on aggregate has lost some ground in this dimension relative to the average of all countries. Finland and Sweden registered the weakest dynamism in strengthening their competitiveness, despite their high current competitiveness level. Russia and Denmark lost relative to other countries as well, although to a smaller extent. Norway is the leader in dynamism, having achieved the highest improvement in competitiveness over the last five years, followed by Estonia and Lithuania. The other countries of the region have kept, or only very slightly improved, their position relative to other countries.

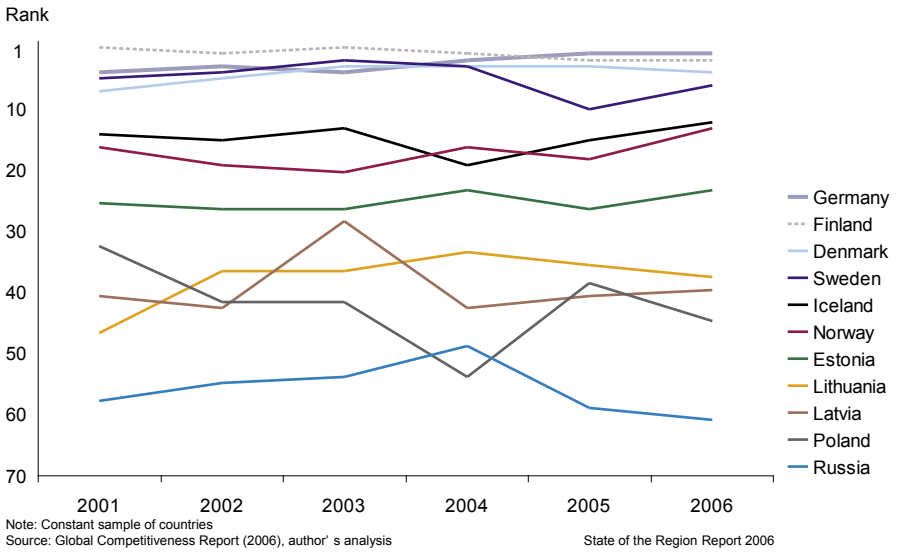
The debate on competitiveness has long suffered from a misunderstanding about the role played by costs. Cost levels are the result of the conditions in an

economy, not an indicator or a driver of competitiveness. Low wages are often a sign of low competitiveness, not their foundation. High wages are, if they result from open market interaction, an indication of high productivity. But high wages sustained in the face of high unemployment are the reflection of an inflexible labor market.

This year's Global Competitiveness Report provides for the first time an analysis of the relationship between competitiveness and wages. First, it finds a clear positive relationship between them across the sample of 42 countries for which data is available. This observation is consistent with our hypothesis that higher competitiveness enables companies to reach higher levels of productivity and thus ultimately sustains higher wages. Second, however, it also reports deviations from the expected wage levels for individual countries. Wages above the level of competitiveness are a cause for concern; companies can only afford to pay such high wages to their most productive employees, while workers with lower levels of productivity will face unemployment. Wages below the level of competitiveness signal that an economy is an attractive location for new investments; companies can benefit from productivity levels above the wage payments the have to make. Such situations are, however, only temporary; the increase in investment will put pressure on the labor market and thus drive wage increases until competitiveness, i.e. productivity, and wages are again aligned.

Countries in the Baltic Sea Region differ widely in the relationship between actual wage levels and competitiveness. Norway and Iceland register much higher wages than their competitiveness levels suggest, but both generate natural resourcerents that employees participate in through wages. Germany

Figure 19: GCR business competitiveness rankings over time, Baltic Sea Region countries



Note: Constant sample of countries
Source: Global Competitiveness Report (2006), author' s analysis
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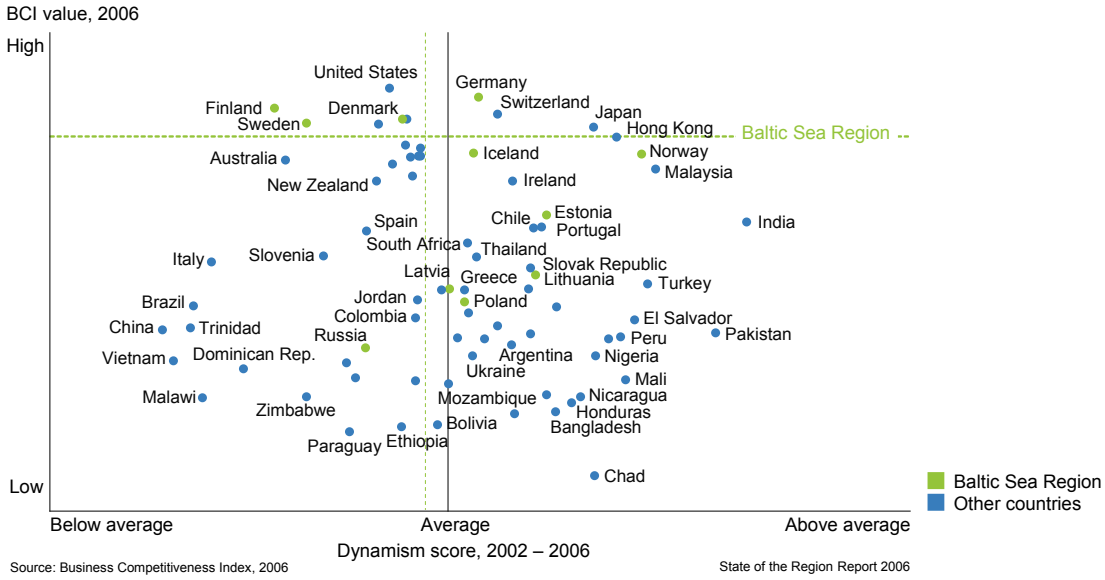
and Denmark are in a more precarious situation, with wages above the expected level given their (high) competitiveness. The high additional costs through social security contributions might play a role. Both countries have in recent years registered lower wage growth than competitiveness improvements, so the gap has started to fall. Finland, Sweden, and Poland are in a more balanced position. The Baltic Countries all register wage levels that are not only low in absolute terms but also relative to the competitiveness of their business environments. Lithuania and Latvia have reached this position based on stronger recent competitiveness improvements than wage growth.

Another fundamental question that the Global Competitiveness Report addresses is the economic sustainability of the current level of prosperity that a country enjoys. Competitiveness indicates the level of prosperity that a country can sustain given the productivity of companies located there. Access to natural resources, inflows of foreign investment capital, or other transfers like foreign aid or remittances from nationals working abroad can drive actual prosperity

Figure 20: GCR business competitiveness dynamism



to higher levels than expected given the productivity of companies alone. Many of these factors, however, will be temporary and countries need to prepare themselves for the adjustment of prosperity levels once these supporting influences are gone. Other external factors, like solid political systems, a beneficial location with access to global trading routes and prosperous neighbors, and the efficient organization of important factor markets, like the labor market, are more stable and can provide countries with a prosperity bonus relative to their peers. A positive position on these factors allows microeconomic foundations to exert a more positive influence; a negative position reduces the ability of microeconomic foundations to be translated into prosperity.

The Baltic Sea Region registers an overall prosperity level that is slightly above the quality of microeconomic foundations. However, this is almost entirely driven by the natural-resource exporters Norway and Russia and fish-exports from Iceland. Other parts of

Figure 21: Actual wage levels versus predicted wage levels given countries' competitiveness

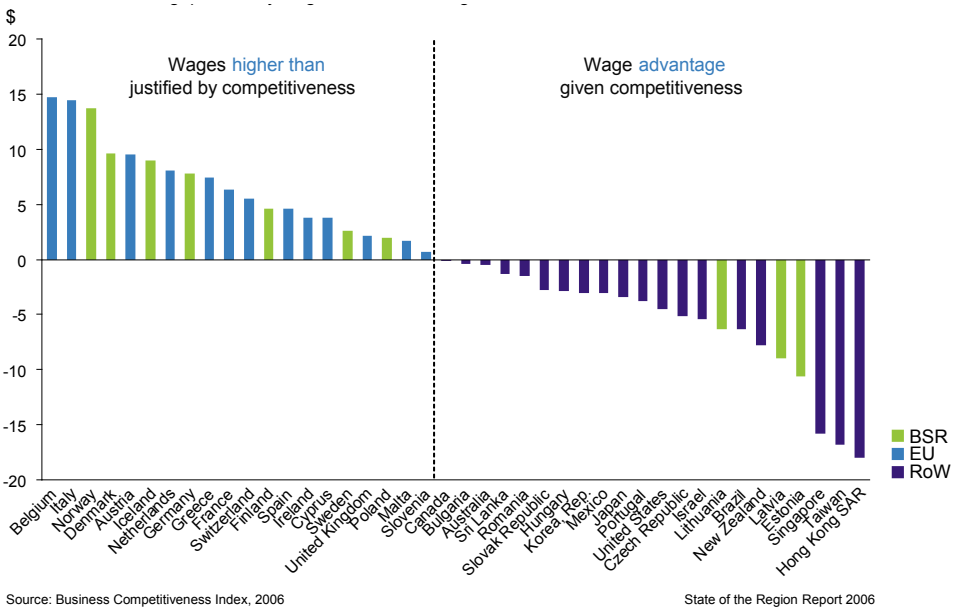
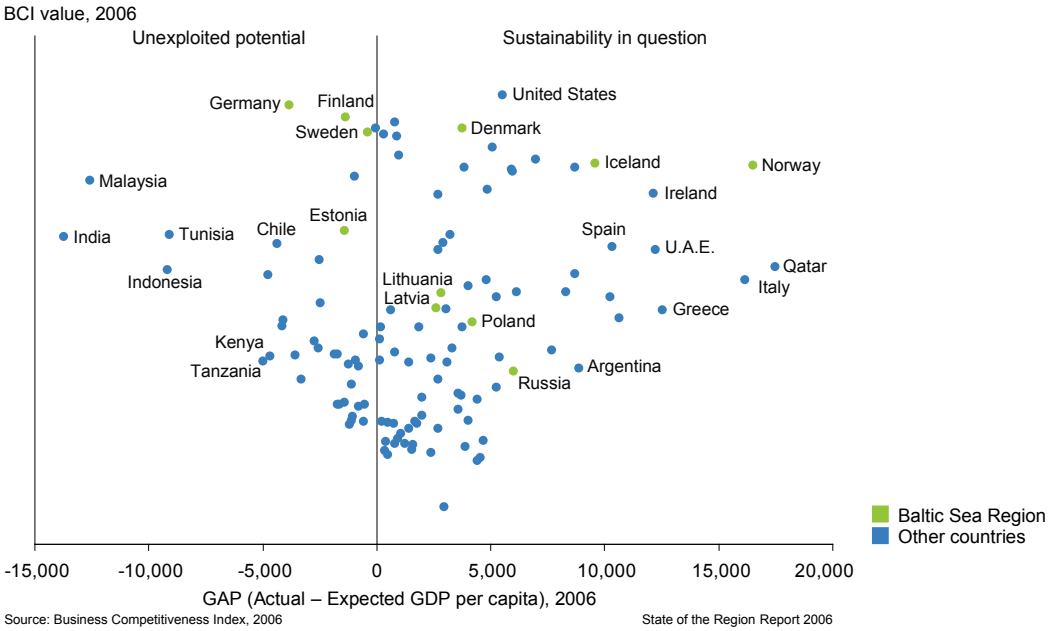


Figure 22: Economic sustainability and potential of current prosperity



the Region are close to the level of prosperity that they should be able to enjoy. Germany registers the largest unexploited potential for higher prosperity, likely driven by labor market issues. For Finland and Sweden a higher positive prosperity gap would have been expected given their strong context in terms of political stability and neighborhood effects, so they might also have some potential currently missed. For Estonia the strong competitiveness foundations have still not fully filtered through to all parts of the economy.

Company sophistication

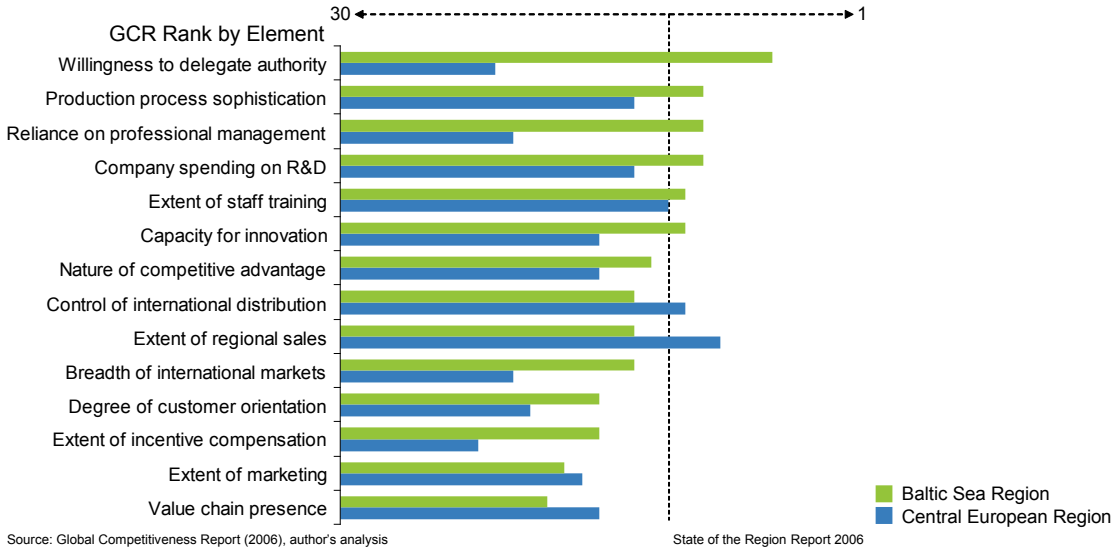
The Baltic Sea Region continues to rank slightly higher on company sophistication than on business environment quality, a gap that reduced somewhat this year after widening previously. Compared to the Central European Region this gap, which comes at a cost in terms of foregone prosperity, is, however, relatively small.

Companies in the Baltic Sea Region score high on many dimensions of company sophistication, ranking between rank 5 and 18. Particular strengths are modern management structures and the capacity for innovation, especially technological innovation. The Region's strengths and weaknesses set it clearly apart from the Central Europe Region which has a profile that quite clearly reflects its position as a manufacturing platform for the European market. Compared to last year, the Baltic Sea Region registered modest gains in most dimensions, strongest in those related to management practices and exports.

Among the countries in the Baltic Sea Region, Germany (rank 2 globally) and Sweden (3, up four ranks) register the highest company sophistication. Germany continues to be particularly strong on the breadth of international markets and the nature of competitive advantages but shares also the Region's strengths in innovation. The country registers relative weaknesses in customer orientation and the willingness to delegate, although it ranks 6th globally even in these areas. Sweden is particularly strong in modern management, innovation, and global market presence. It has further strengthened its position in these areas, but also in regional sales, while it has lost ground on presence across the value chain, possibly a reflection of outsourcing of some activities to other locations. Reports in previous years have documented the leading role of Swedish multinationals in the Region.

Denmark (rank 6) and Finland (8) follow, with more significant differences between relative strengths and weaknesses. Danish companies compete with clearly differentiated strategies, and use modern management, investments in staff training, and wider control of the value chain to implement them. Improvements in 2005 were concentrated on innovative capacity and strengthening competitive advantages, while position was lost in areas related to marketing,

Figure 23: GCR company sophistication ranking, selected European regions



sales, and distribution Finnish companies also use modern management, but otherwise focus on R&D spending and process sophistication. Finnish companies were in 2005 perceived to lose ground in their willingness to delegate authority while they registered higher scores on export-related activities.

Iceland (rank 19, down four) and Norway (20) are the next group. Iceland registers even more dramatic differences between areas of strength, in particular the control of international distribution, and of weakness, in particular the breadth of international markets. This is likely a reflection of the strong specialization of the economy on a few sectors, especially fishing. Norway ranks 5 on the use of modern management techniques, around 15 on innovation-related measures, and between 20 and 30 on export-related and other measures. This is at least consistent with some version of "Dutch Disease" affecting the economy, where companies get drawn into focusing on serving domestic demand rather than entering foreign markets.

Estonia, Latvia, Lithuania, and Poland rank between 35 and 47 on company sophistication. In Estonia and Latvia companies still compete largely on low cost, while somewhat surprisingly Lithuanian companies are perceived to have made more progress in establishing unique market positions. Estonian companies have come further in innovation, an area where their peers, especially in Latvia, still lag behind. The three Baltic Countries registered in 2005 improvements in almost all categories of company sophistication. Poland has dropped nine ranks but gained position on competitive advantages and innovative capacity, its areas of relative strength.

Russia (78) follows at some distance. Russian companies have their relative strength in innovative capacity and R&D spending, possibly a legacy of the past. They lag far behind on the nature of their competitive advantages and on skill development. Management quality seems to have improved in 2005, but on measures related to exports the assessment was more negative than in the previous year.

Business environment quality

The business environment is shaped by the numerous microeconomic factors that shape the ability of companies to operate with high levels of productivity and innovation. In 1990, Michael Porter introduced the "diamond" as a tool to organize this complexity and represent those factors most critical for a specific location.

Strengths

The Baltic Sea Region's relative strengths are in the areas of science, financial markets, the reliability of public administration, and, to some degree, the sophistication of demand. In science, the Baltic Sea Region outperforms the Central European Region on

Table 3: GCR Science ranking, Baltic Sea Region countries

Science	University/industry research collaboration		Intellectual property protection		Patenting intensity	Quality of scientific research institutions		Local availability of spec research & training services		Availability of scientists and engineers	
	Rank	Change	Rank	Change	Rank	Rank	Change	Rank	Change	Rank	Change
Germany	5	-2	1	1	12	5	0	4	-1	11	9
Finland	4	-2	3	2	8	8	-2	8	-1	4	-1
Denmark	16	-6	7	2	4	15	0	11	-6	14	-1
Sweden	3	1	8	3	13	9	2	9	8	10	4
Iceland	19	0	9	-1	7	31	-4	20	11	15	1
Norway	18	3	12	4	18	18	8	14	1	27	7
Estonia	31	4	33	1	29	29	0	28	-5	56	-8
Lithuania	54	-4	69	2	39	42	-2	47	-14	51	-15
Latvia	59	-2	71	-13	40	61	8	52	-5	97	3
Poland	40	2	56	-3	46	57	5	40	-8	61	-31
Russian Federation	58	-12	113	-10	37	35	-3	72	-22	50	-6
BSR overall	10		10		11	13		14		16	

Source: Global Competitiveness Report 2006, author's calcuations

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all dimensions, and has been able to extend this lead relative to last year. Among the 125 countries in the Global Competitiveness Report database, the Region ranks almost equally on all dimensions, with the best positions in university/industry research collaboration and IP protection.

Among the countries in the Baltic Sea Region, Finland continues to get consistently high marks for skill-related qualities, leading the Region in the availability of scientists and engineers. Germany follows closely after and has reduced the gap towards Finland. Sweden follows third in the Region, with improvements in all dimensions relative to last year. Denmark is not far behind but registers relative weak university/industry collaboration. Iceland and Norway complete the group of Nordic countries, with Norway registering improvements this year across the board. Estonia tops the eastern countries of the Region; bottlenecks in the supply of scientists are showing up in the results. Poland and Lithuania rank similarly overall but have different strengths and weaknesses. Russia is strong in its science institutions but suffers from a weak legal environment for innovation. It has lost ground on all dimensions since last year. Latvia ranks lowest overall in the Baltic Sea Region on science indicators.

Financial markets, the second clear strength of the Baltic Sea Region, continue to be solid, with significant advantages relative to the Central European Region. Venture capital availability is especially high but the rankings on other dimensions are relatively strong as well. Sweden provides on average the

Table 4: GCR financial market ranking, Baltic Sea Region countries

Financial markets	Venture Capital availability		Ease of access to loans		Financial market sophistication		Local equity market access	
	Rank	Change	Rank	Change	Rank	Change	Rank	Change
Germany	7	11	21	4	9	-4	10	14
Finland	2	1	6	-5	12	-5	24	-10
Denmark	14	-4	3	1	17	1	26	15
Sweden	9	7	5	8	10	0	3	15
Iceland	10	11	8	-6	14	3	15	-14
Norway	5	8	4	3	19	2	7	3
Estonia	31	2	24	9	30	2	25	5
Lithuania	49	-23	45	-37	61	-4	65	-10
Latvia	42	10	53	-7	63	1	71	3
Poland	36	1	58	-21	58	-8	72	-25
Russian Federation	65	-3	81	11	84	1	73	-3
BSR overall	10		12		16		17	

Source: Global Competitiveness Report 2006, author's calcuations

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Table 5: GCR reliability of public administration, Baltic Sea Region countries

Reliability of public administration	Favoritism in decisions of government officials		Reliability of police servicies		Judicial independence		Efficiency of legal framework		Business costs of corruption		Size of grey economy	
	Level	Change	Level	Change	Level	Change	Level	Change	Level	Change	Level	Change
Germany	5	3	2	3	1	0	3	-1	11	-1	19	-1
Finland	2	2	1	1	9	0	11	-3	3	0	12	0
Denmark	3	-2	5	-1	5	0	1	0	5	2	12	0
Sweden	11	-2	26	-4	15	20	6	11	9	3	12	0
Iceland	10	6	8	-5	14	-4	2	1	1	0	12	0
Norway	6	1	9	4	4	3	5	8	6	-4	12	0
Estonia	37	-2	39	3	28	8	27	5	22	3	37	-2
Lithuania	87	-32	73	12	71	7	68	9	49	17	50	1
Latvia	68	-6	53	-2	63	-6	66	-6	45	6	71	2
Poland	51	35	70	-12	68	-8	74	-8	40	18	71	2
Russian Federation	114	-7	105	-9	111	-8	106	-14	112	0	108	-6
BSR overall	7		12		12		12		13		13	

Source: Global Competitiveness Report 2006, author's calcuations

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strongest financial market conditions and has on most dimensions significantly improved its position over the last year. Norwegian financial markets provide a lot of capital but are rated lower on their sophistication; the profile for Germany is the opposite. Finland is strong on venture capital financing but ranks much lower on its equity market, a concern for venture capitalists that want to realize the gains of their investments. Denmark with is many local banks ranks high on access to loans but low on other dimensions of its financial system. Lithuania and Poland have dropped relative to last year, while Estonia has extended its position as the eastern country with the strongest financial market environment. Russia ranks lowest on all dimensions, a serious barrier to the much needed restructuring of the Russian economy.

The reliability of public administration continues to be high in the Baltic Sea Region, with significant advantages relative to the Central European Region. This is an area, however, where the differences between the Nordic countries and Germany on the one hand and the Baltic Countries, Poland, and Russia on the other hand are still huge, with Estonia the only country occupying a position in the middle. Russia in particular faces huge challenges in this area, and has lost even more position on almost all dimensions.

Finally, the quality of demand in the Baltic Sea Region is a further area often cited as an advantage. Environmental and consumer protection laws are, indeed, seen as strong. The regional average on buyer sophistication, however, ranks below the Region's

Table 6: GCR Education, Baltic Sea Region countries

Education local equity	Quality of public schools		Quality of management schools		Quality of math and science education	
	Rank	Change	Rank	Change	Rank	Change
Germany	24	-4	27	-9	34	8
Finland	1	0	9	7	3	1
Denmark	13	-1	10	7	17	13
Sweden	25	-1	25	4	35	9
Iceland	5	-2	11	13	32	-1
Norway	18	3	23	-3	49	21
Estonia	22	-6	32	-4	16	-1
Lithuania	40	-2	50	-1	27	-8
Latvia	31	8	40	8	36	10
Poland	34	6	55	-9	41	-17
Russian Federation	51	-4	88	-13	50	-25
BSR overall	18		24		29	

Source: Global Competitiveness Report 2006, author's calcuations

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overall competitiveness position. Government procurement of advanced technology ranks even lower, an unexploited opportunity for the Region. Compared to Central Europe, the Baltic Sea Region is ahead in buyer sophistication and environmental regulation but lags behind on government procurement and demanding regulatory standards. Within the Region, GermanY is clearly ahead on all four dimensions of demand sophistication. Finland follows, with a clear margin ahead of Denmark, Sweden, and Norway. Sweden only comes close to the top countries on the stringency of regulation. Iceland, overall behind the other Nordic countries, also registers demanding regulatory standards but does surprisingly not rank quite as high on environmental regulation, maybe a reflection of the discussions around the environmental impact of an aluminum plant currently being build in the country.

Challenges

Areas for improvement for the Baltic Sea Region are in education, infrastructure, and rules and regulations affecting the extent of market rivalry. Education might appear as a surprising entry on the "to do-list" of the Baltic Sea Region. Finland in particular is hailed the world over as a role model for its education system. But it turns out that most other countries get less than stellar grades by the executives located there; this is even true for Germany, Sweden, and Norway among the western countries of the Baltic Sea Region. For the Nordic countries and Germany, the problems in education are mainly related to the ability to achieve high educational outcomes. Spending on education is high but the organizational structures and approaches do not seem able to generate the appropriate levels of educational attainment. In Poland, Russia, and the Baltic Countries, the situation is clearly different, with performance levels still respectable given the shortage of funds in this area.

On physical infrastructure the Baltic Sea Region registers less than overwhelming rankings. The view on overall infrastructure quality has deteriorated somewhat relative to last year, while the rankings on individual aspects of the infrastructure stayed mostly constant. Especially the transportation infrastructure is rated high; the lower rating on airport infrastructure is, however, of concern given the geographic position of the Baltic Sea Region. The telecommunication infrastructure is in line with the overall quality of the Region's business environment, with large differences across the Region. In many parts of the Baltic Sea Region there are currently intensive debates about energy and electricity prices in particular. Prices on the Nordic electricity exchange increased dramatically in the summer of 2006, driven by weather conditions and the temporary shut-down of Swedish nuclear plants. Finland has decided to invest in additional nuclear power capacity and the Baltic Countries discuss to build a new one to replace their old installations. Germany and Sweden have policies in place that will shut-down their existing nuclear power plants.

The context for rivalry and strategy is another important area of the business environment, influencing how factor input conditions will be used. We look at data from the Global Competitiveness Report, the

Table 7: GCR context for competition, Baltic Sea Region countries

Context for Competition	Effectiveness of antitrust policy		Intensity of local competition		Prevalence of trade barriers	
	Level	Change	Level	Change	Level	Change
Germany	5	-4	2	0	10	10
Finland	2	2	15	-2	2	0
Denmark	7	5	16	1	13	1
Sweden	14	3	11	13	4	5
Iceland	13	6	18	25	54	-21
Norway	11	2	21	19	87	0
Estonia	29	0	29	-9	24	-17
Lithuania	46	7	37	5	49	0
Latvia	60	-8	53	13	44	11
Poland	51	-11	87	-46	73	-29
Russian Federation	106	-10	72	1	93	-1
BSR overall	12		16		22	

Source: Global Competitiveness Report 2006, author's calcuations

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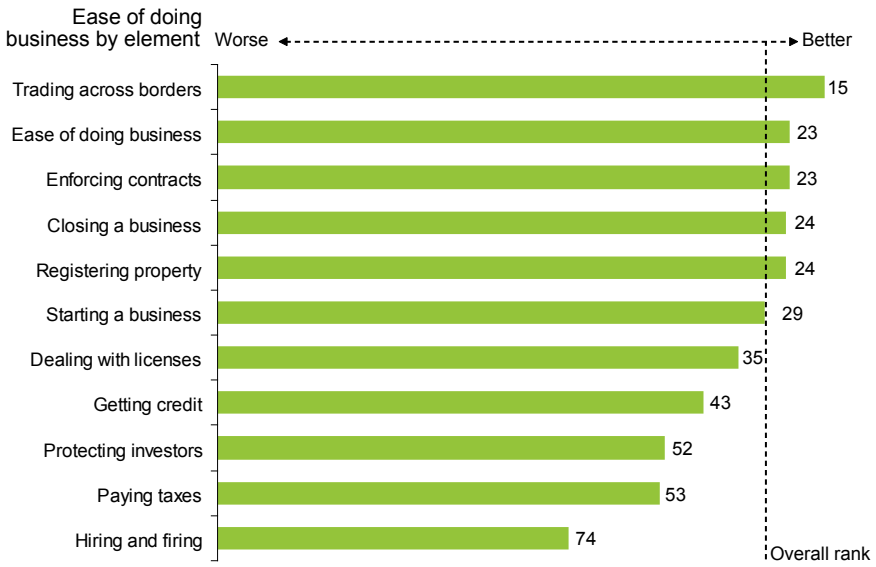
Figure 24: Doing business across categories, Baltic Sea Region



Source: World Bank – Doing Business (2006), author's analysis

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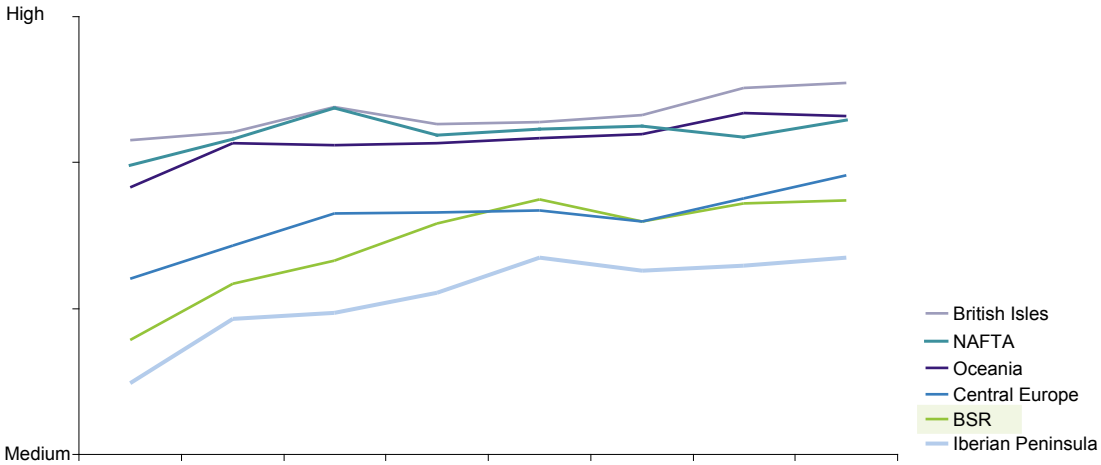
World Bank, and the Cato Institute to capture different aspects of the competitive context. In the Global Competitiveness Report, the Baltic Sea Region gets good marks for its antitrust (competition) policy – note that for the EU countries this is to a large degree the responsibility of the European Commission – but ranks lower on the actual level of competition and on openness to trade. Looking at individual countries, the low ranking of Poland on local competition after a significant drop in 2005 is a clear concern. In Iceland, Norway, Sweden, and Latvia local competition improved, presumably as growth attracted new

Table 8: Doing Business across Categories, selected countries

2006 Rankings	Ease of Doing Business	Trading Across Borders	Enforcing Contracts	Closing a Business	Regis-tering Property	Starting a Business	Dealing with Licenses	Getting Credit	Protect-ing Inves-tors	Paying Taxes	Hiring and Firing
Norway	5	7	1	3	7	19	11	39	16	40	46
Denmark	8	1	2	25	31	15	6	22	18	61	17
Iceland	12	23	5	12	11	14	27	17	69	56	31
Finland	13	4	23	6	16	18	19	23	39	68	84
Sweden	14	2	14	18	8	20	13	30	95	38	86
Lithuania	15	31	7	29	2	37	16	36	61	31	93
Estonia	16	14	19	42	29	43	9	48	27	18	111
Germany	19	3	25	30	33	47	20	5	57	54	131
Latvia	26	62	15	11	89	26	47	26	40	83	103
Poland	54	34	104	23	75	92	120	88	22	106	64
Russian Federation	79	67	62	71	35	31	143	148	73	52	57
Singapore	2	6	11	2	14	5	7	8	2	9	7
United States	3	17	10	17	12	3	17	15	7	30	6
Canada	4	13	34	4	27	1	21	10	3	12	24
Australia	6	22	12	15	34	2	12	3	26	14	14
United Kingdom	9	21	30	10	23	9	29	1	9	81	15
Japan	10	12	3	1	36	81	5	18	14	50	20
Ireland	11	18	32	7	69	11	14	11	10	21	59
Chile	25	42	41	82	30	23	35	32	36	63	37
Korea	27	16	18	13	64	97	25	25	87	44	105
South Africa	28	55	38	53	77	51	37	40	8	84	66
Taiwan	35	54	27	5	26	79	126	58	65	32	108
Mexico	73	39	100	22	74	84	49	68	125	95	125
China	91	48	47	59	24	126	136	113	100	119	87
India	116	130	138	118	101	90	124	84	29	103	116
Brazil	119	107	70	141	105	98	115	80	53	140	144

Figure 25: Economic freedom over time, Baltic Sea Region



Source: Index of Economic Freedom (2006), author's analysis

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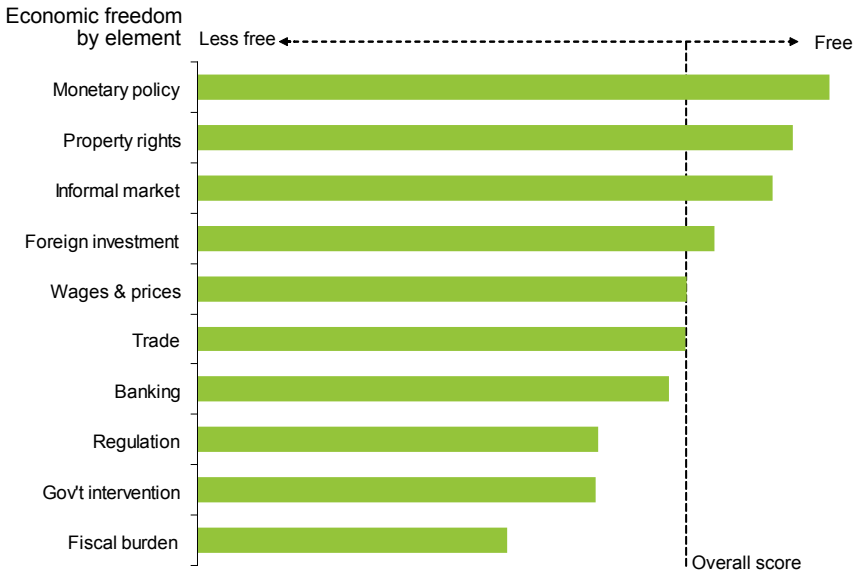
competitors into the markets. Norway still registers very high barriers to trade, only Russia ranks lower in the Region. While the country's position outside of the EU provides some explanation, the same is true for Iceland and EEA membership should largely remove trade barriers.

The Doing Business-database assembled by the World Bank since 2004 provides an additional perspectives on the context for strategy and rivalry. While the Global Competitiveness Report surveys business executives on their perceptions on the overall quality of rules and regulations in specific areas, the World Bank asks experts in each country to rate legal requirements as they apply for specific situations predefined for the comparative study. The World Bank covers issues related to labor markets, financial markets, and different business regulations. Based on the rankings countries register in these individual

Figure 26: Economic freedom by category, Baltic Sea Region



Source: Index of Economic Freedom (2006), author's analysis

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categories, the World Bank also provides an overall ranking on the "ease of doing business".

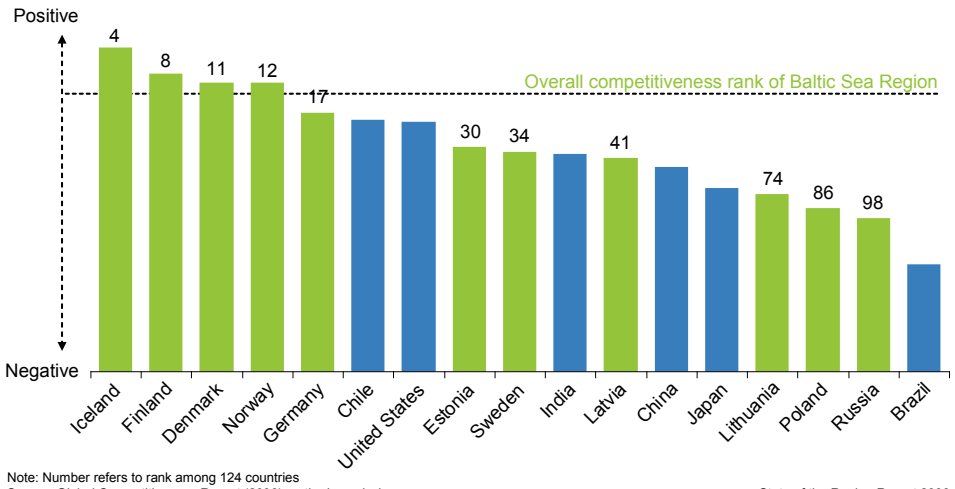
At rank 23 the Baltic Sea Region ranks somewhat lower on ease of doing business than on microeconomic competitiveness overall. The rules (note that this does not cover tariffs or physical infrastructure) for cross-border trade are rated as especially positive, a clear plus for such an export-oriented Region. The biggest weaknesses are related to labor market regulations, to tax payments, and to some of the regulations relevant for the financial markets. While the first two might not be a big surprise, the third one is. As discussed previously, the Region is perceived by executives as having a generally strong financial sector. Either these strengths are not supported by the appropriate rules and regulations, or business executives do not view the laws captured by the World Bank as that relevant for their own situation.

Individual countries across the Baltic Sea Region show quite different profiles across the dimensions covered by the World Bank analysis. In the table below we also provide additional countries from other parts of the World for comparison. Norway ranks highest overall in the Region, significantly better than on business competitiveness overall. Its pattern of strengths and weaknesses largely reflects the Baltic Sea Region overall. Denmark comes second in the region, with the most serious problems in the tax payment procedures where it ranks worst of all Nordic countries. The other countries with the exception of Poland and Russia follow quite closely together, which might also reflect the adoption of EU rules and regulations by the new EU members. Germany, and surprisingly also Estonia, suffers from particularly weak rankings on labor market flexibility, even worse than Finland, Sweden, and Lithuania. The Baltic Countries in general score higher on ease of business than on competitiveness overall – rules and regulations can be improved much more quickly than infrastructure, clusters, and skills. Russia and Poland have largely opened their labor markets, but both countries suffer from overly complex licensing procedures that are also breeding grounds for corruption. Poland also faces problems in terms of contract enforcement.

Reviewing the position of other countries outside the Baltic Sea Region, two observations are interesting. First, it is striking how much of an extra burden less advanced economies put on their businesses through rigid regulations. These are legal requirements that can – as was noted above for the Baltic Countries – be changed quickly and without the need to invest large resources. Still, the political process in many countries has not delivered such changes. Second, many countries have very uneven positions across the different dimensions of business regulations. Those that have achieved across-the-board reforms like Chile reach an overall ranking that is close to their best ranking in an individual category.

The Economic Freedom ranking of the Cato-Institute provides their assessment of the freedom countries give to the individual in making economic choices across ten dimensions. The Baltic Sea Region has significantly improved on overall economic

Figure 27: Effectiveness of government spending, Baltic Sea Region countries



Note: Number refers to rank among 124 countries
Source: Global Competitiveness Report (2006), author's analysis

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freedom between 1996 and 2003. Since 2004, the year of EU extension, this process has petered out and the Region has again fallen behind Central Europe. The British Isles, Oceania, and NAFTA remain in the lead on economic freedom, while the Iberian Peninsula trails behind despite improvements up to 2003.

Iceland and Estonia currently rank highest on economic freedom in the Baltic Sea Region, followed by Denmark. Finland, Germany, and Sweden making up the next group, still all classified as free economies. Lithuania, followed by Norway and with some distance Latvia and Poland, follows in the category of mostly free economies. Russia lags behind, still classified as a largely unfree economy.

In terms of specific dimensions of economic freedom, the Baltic Sea Region gets the highest marks on monetary policy, the quality of property rights, the low size of the grey economy, and the openness to foreign investment. The most significant weaknesses are related to a high fiscal burden through taxes and government intervention via government-owned companies or strong industry-specific regulation.

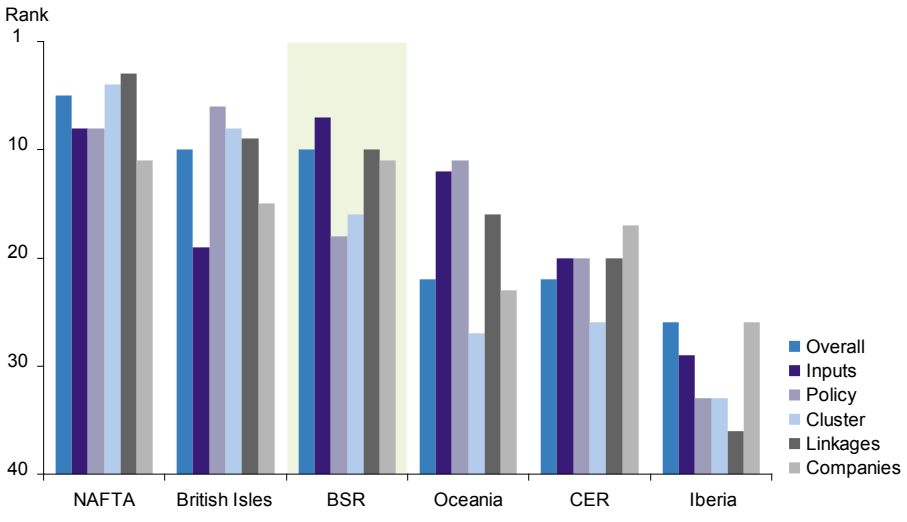
The high fiscal burden and the negative incentive effects of taxation in many parts of the Baltic Sea Region have long been noted. But many observers, including the World Economic Forum in some of its publications in the past, have pointed to the high efficiency with which especially the Nordic countries made use of the funds generated from taxes. The survey data collected for the Global Competitiveness Report gives overall guarded support for this view. The Baltic Sea Region ranks about as high on the effectiveness of government spending as on competitiveness overall. But there are exceptions. Executives in Sweden seem much more concerned about the efficient use of tax revenues by the government than their peers in other Nordic countries. The low ranking for Russia is of particular concern at a time when high oil revenues are fuelling a significant increase in government spending, driven by strong popular demand.

Innovative capacity

In advanced economies companies compete on unique products and services, and the impact of different dimensions of the business environment on innovative capacity is particularly important. But innovation in terms of the ability to adapt and use new knowledge in the provision of goods and services is also important for transition and developing economies. Michael Porter, Scott Stern, and Mercedes Delgado have developed a model to estimate the innovative output of an economy based on its profile in terms of five dimensions:

- *Proportion of Scientists and Engineers* as an indicator of inputs available for innovation; it is measured by the share of scientists and engineers in the active work force.

Figure 28: Innovative capacity ranking, selected regions



Source: Porter, Stern, Delgado (2006), author's analysis

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- *Innovation Policy* as an indicator of government policies supportive of innovation; it is measured by the level of administrative burdens for start-ups, the level of government R&D tax credits, and the extent of tariff liberalization.

- *Cluster Innovation Environment* as an indicator of cluster effects supporting innovation; it is measured by the sophistication of buyers, the presence of locally based competitors, and the overall state of cluster development.

- *Innovation Linkages* as an indicator of the connections between research, development, and market activities; it is measured by the ease of new technology absorption, the extent of university-industry R&D collaboration, and the availability of Venture Capital.

- *Company Operations and Strategy* as an indicator of demand for innovation by companies; it is measured by the nature of companies' competitive advantages, their production process sophistication, and the extent of staff training.

The Baltic Sea Region ranks only behind NAFTA and, by a very small margin, the British Isles, on overall innovative capacity. Its ranking is slightly ahead of its overall ranking on competitiveness, confirming the innovation intensity of this region. The profile of strengths and weakness for the Baltic Sea Region is revealing. The region is strong on inputs to innovation – in this area the region even tops the NAFTA region – but also on linkages between companies and research institutions and the demand from companies for innovations to support their market positions. Weaknesses are in the areas of policy and clusters. Note that the policies considered do not only include government incentives for R&D, but also general policies that enable entry by innovative companies and that open the market for new products and services. The profile for the British Isles is almost the complete opposite; only in linkages do both have similar positions after both the UK and Irish government have taken initiatives to bring universities closer to the business community.

Within the Baltic Sea Region, Finland registers the highest innovative capacity and also leads in the global ranking. Finland is particularly strong on inputs and linkages but also on policy. Sweden and

Table 9: Innovative capacity ranking, selected countries

	Country Innovative Capacity Index 2004		Proportion of Scientists and Engineers Index				Innovation Policy Index				Cluster Innovation Environment Index				Innovation Linkages Index				Operations and Strategy Index			
	Rank	Index	Rankings				Rankings				Rankings				Rankings				Rankings			
			2004	2003	2002	2001	2004	2003	2002	2001	2004	2003	2002	2001	2004	2003	2002	2001	2004	2003	2002	2001
Finland	1	34,24	1	3	8	6	3	3	6	6	4	1	5	1	2	1	2	1	5	1	4	1
United States	2	33,65	5	4	4	5	6	5	4	5	2	5	1	2	1	2	1	4	7	7	1	4
Japan	3	33,53	3	2	2	1	12	24	22	20	1	4	8	9	8	14	20	21	2	2	3	5
Singapore	4	32,81	7	6	17	15	1	1	2	1	6	6	9	12	6	4	9	5	14	12	14	12
Taiwan	5	32,48	17	16	16	14	2	2	5	4	3	3	4	3	4	6	5	11	12	15	17	17
Sweden	6	32,13	4	5	3	2	25	18	31	18	12	16	11	11	3	3	4	2	4	4	6	9
Germany	7	31,76	12	12	10	9	16	15	11	13	14	11	6	6	9	9	8	9	1	3	2	2
United Kingdom	8	31,74	18	17	15	16	5	9	10	10	7	10	3	4	7	7	7	16	13	10	8	13
Denmark	9	31,74	10	10	6	9	17	25	19	27	8	8	20	21	11	11	14	12	3	5	7	7
Switzerland	10	31,31	8	8	11	11	26	23	28	22	11	13	14	7	10	12	11	8	6	6	5	3
Norway	11	30,71	6	7	5	4	15	19	21	25	16	29	19	20	18	17	19	19	16	18	18	18
Canada	12	30,62	13	13	12	12	4	4	3	3	10	12	12	10	14	8	12	7	21	20	21	21
Netherlands	13	30,58	19	18	18	20	14	11	12	7	21	19	13	19	13	18	15	6	8	11	9	6
Israel	14	30,49	31	31	29	16	10	6	1	2	23	24	30	22	5	5	3	3	9	13	10	14
Austria	15	30,08	20	19	19	26	13	12	16	14	19	17	17	15	17	27	18	18	15	14	11	10
Iceland	16	30,06	2	1	1	4	18	13	20	26	29	28	21	18	16	10	13	13	17	16	15	15
France	17	29,91	16	15	14	8	19	21	18	15	18	15	18	13	24	20	23	14	11	8	13	8
Belgium	18	29,88	14	14	13	13	20	14	15	11	22	27	22	16	22	16	10	10	10	9	12	11
Ireland	19	29,8	24	22	24	10	9	10	8	9	20	14	16	14	19	13	6	15	18	17	19	19
Australia	20	29,74	11	11	9	7	8	8	7	8	26	22	15	31	15	19	17	17	22	22	22	23
Estonia	28	25,71	28	24	21	22	27	26	30	24	42	41	48	48	30	30	30	29	36	35	32	36
Lithuania	29	25,35	21	26	26	21	39	41	46	53	43	47	42	59	28	32	39	46	38	43	36	58
Russia	35	24,66	9	9	7	3	46	56	59	54	36	54	38	43	39	54	48	55	53	60	59	63
Poland	46	22,85	32	33	33	28	51	45	42	35	58	43	43	30	56	42	40	35	44	42	47	43
Latvia	48	22,72	38	39	39	33	49	30	43	43	53	32	58	55	52	25	41	41	49	27	46	39

Germany follow on global ranks 6 and 7; both have lost some position in 2001 but have kept their position since then. Sweden ranks relatively low on policy on clusters, but strong on the other dimensions. Germany shares the Swedish weaknesses and also suffers from lower input, but ranks 1st globally on company innovation demand. Denmark (9) and Norway (11) follow closely behind. Denmark benefits from companies demanding innovation, Norway from high innovation inputs. Both countries have improved over time, Norway only in the last year. Iceland (16) ranks 2nd globally on innovation inputs but weaker on all other dimensions. Estonia (28) and Lithuania (29) rank closely together, Estonia with relative strengths in inputs and policy, Lithuania even more pronounced in inputs. Lithuania has improved its position constantly over time. Russia ranks 35th, an improvement from last year after three years of falling rankings. The country registers a huge gap between strong inputs and weak rankings on all other dimensions. Poland (46) and Latvia (48) come at the bottom, both with relative strength in inputs. Poland has lost position since 2001. Germany, Denmark, Iceland rank higher on overall competitiveness than on innovative capacity, for all other countries in the Baltic Sea Region the relationship goes in the other direction.

Overall assessment

The Baltic Sea Region continues to provide strong overall microeconomic foundations for companies to reach high levels of productivity. Especially on dimensions related to science-based competition (or "knowledge economy") the Region has impressive strengths. However, the data shown in this section also indicates that there is no room for complacency.

First, the trajectory of competitiveness improvements seems to flatten over time, not-withstanding the more positive changes relative to last year. Sweden and Finland, two of the core economies in the Region, score low on competitiveness improvements in the dimensions most relevant for advanced economies in the medium term. Their current position owes much to reforms further in the past. Second, the Region cannot afford to ignore basic areas of competitiveness such as education and physical infrastructure. While the advanced economies in our Region seem to have moved far beyond the stage where they should worry about such fundamental requirements, it turns out that the demands on both areas increase with economic growth and sophistication. If the Region's fundamentals erode, it will be very hard to keep the position on science and company sophistication. Third, the Region is still struggling with how to develop the role government should play in the economy. Some activities of governments still reduce the level of rivalry on domestic markets, a key driver of competitiveness. The ability the change these policies without undermining the important roles of government or the political support for market competition, will be crucial for the Region's future competitiveness.

The Baltic Sea Region and the Lisbon Agenda

- The Baltic Sea Region continues to lead the European rankings on the criteria of the Lisbon Agenda; it has even increased its lead relative to the European average.
- Relative to the EU average, the Baltic Sea Region remains particularly strong on innovation and employment; high domestic prices remain a key challenge.
- The heterogeneity among countries in the Baltic Sea Region remains high but is also largely a reflection of the different levels of economic development of the individual countries.

On 24 March 2000 the European Council committed itself to what has become known as the Lisbon Agenda, an effort to make the European Union "the most competitive and knowledge-based economy in the world economy by 2010". Only a few weeks later the IT/Technology-boom collapsed worldwide and the European ambitions met a much more challenging environment than had been previously assumed. The mid-term assessments prepared in 2005 indicate that the European Union has made little progress on the goals set out in Lisbon and has on many dimensions fallen behind key global competitors. Others were much better at dealing with the global economic environment.

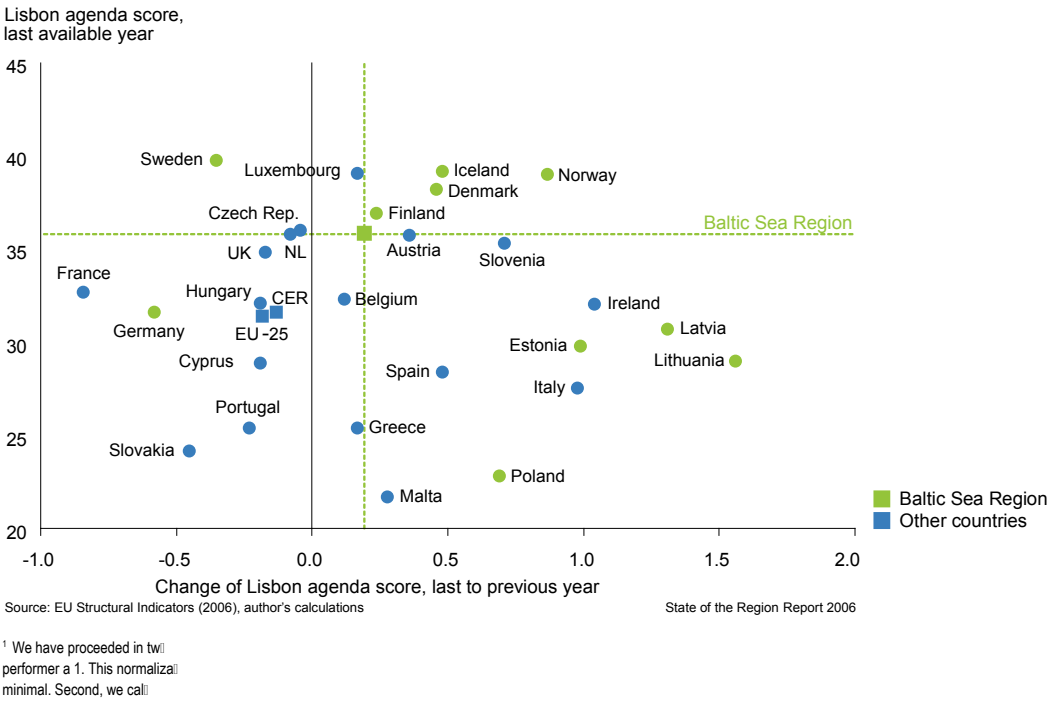
The broad ambition of the Lisbon Agenda can be broken down into three areas: increase productivity, increase the level of economic activity, and do both consistently with social cohesion and environmental sustainability. The European Commission has developed a system of indicators organized into six groups to track progress in these areas. In terms of this Report's methodology, one of these groups measures economic outcomes, three measure business environment conditions, and two the broad context. Table 10 below presents the groups and the respective indicators used in the analysis. The EU publishes data on more indicators, but complete data is most readily available in the ones we use here; they are also generally considered to be most central in their area.

The European Commission has reacted in a number of ways to the apparent lack of progress in achieving the objects set out in the Lisbon Agenda. First of all, Commission President Barroso relaunched the Lisbon Agenda with a clearer focus on its core economic objectives. The hope was that this concentration on fewer issues would alleviate some of the trade-offs and distractions that had previously existed. Second, the European Commission presented a plan to streamline the political process to achieve

Table 10: Lisbon Agenda indicators

	Group	Indicator
Outcomes	General economic background	• GDP per capita • Labor productivity per employee
Business environment quality	Economic reform	• Domestic price levels • Business investment rate
	Employment	• Total employment rate • Employment rate of older workers
	Innovation and research	• Youth education attainment level • R&D expenditure as % of GDP
Context	Environment	• Change of greenhouse gas emissions • Energy intensity of the economy • Transport intensity of the economy
	Social cohesion	• At risk of poverty after transfers • Long-term unemployment rate

Figure 29: Lisbon Agenda performance of European countries



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change. Member countries were obliged to present National Lisbon Strategies that would then be reviewed and critiqued by the European Commission based on a single set of standards.

Overall performance

EU member countries from the Baltic Sea Region, especially the Nordic countries, have been consistently singled out as the best Lisbon Agenda-performers. To better understand the relative strengths and weaknesses of the Region across the different dimensions of the Lisbon Agenda, and see how the picture has changed over time, we have created summary indicators of performance. We also include Norway and Iceland, two non-EU members still included in the relevant statistics.

The Baltic Sea Region is ahead of the EU-25 in terms of overall achievement on the Lisbon Agenda objectives. It is also ahead of the Central European Region, which trails slightly behind the EU average. The advantage of the Baltic Sea Region over the European average has decreased slightly since 1999; the Central European Region slipped down as well, although the absolute changes are small.

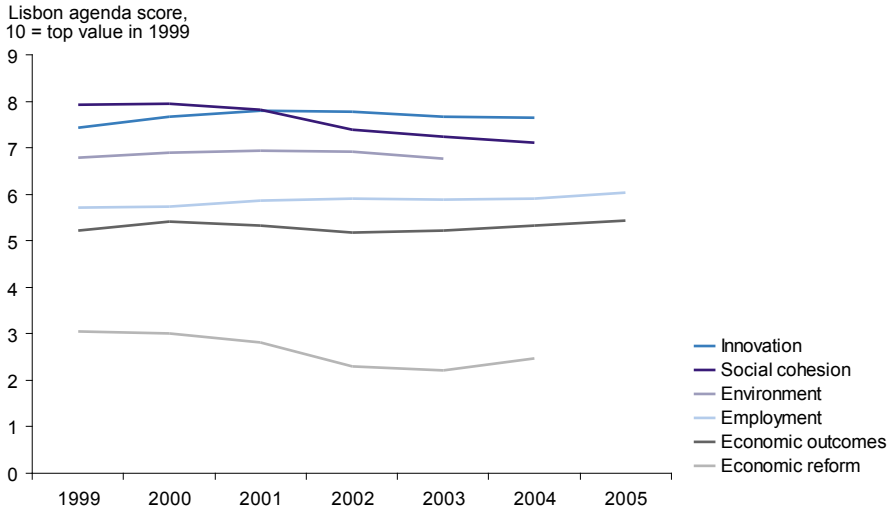
Individual countries across the Baltic Sea Region differ quite widely in their Lisbon Agenda-performance. Sweden, Norway, Denmark, and Finland lead overall, with Iceland following closely after. Sweden has dropped somewhat relative to last year based on a smaller advantage in innovation, while all other four countries have increased their lead versus the EU-25 average. Germany follows, still ahead of the EU-25 average, despite falling behind on a weakening overall economic background and lower performance on economic reform. The three Baltic Countries are somewhat below the EU-25 average but have gained ground recently, especially Estonia and Latvia. Poland has dropped significantly, and is now only ahead of Malta.

Performance in specific areas

The Baltic Sea Region is particularly strong in innovation, social cohesion, and environment. Its main weakness is the high level of domestic prices reflected in the economic reform indicator. The relative position of the Region has not changed much over time.

On innovation and research, the Baltic Sea Region is the leading region ranked 3rd among all EU countries (including countries from the region). It registers high R&D spending while its ranking is lower on the share of 20 to 24 year-olds who have completed upper secondary education. Its absolute score has started to drop slightly, but both the EU-15 and EU-25 benchmarks have dropped by even more, based on lower R&D spending. Sweden and Finland

Figure 30: Lisbon Agenda performance of the Baltic Sea Region by category



Source: EU Structural Indicators (2006), author's calculations

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lead the EU rankings on innovation and research, followed by Austria that has overtaken Norway. Denmark ranks 5th and has moved ahead of France and Slovenia. Most rankings have stayed stable.

On employment, the Baltic Sea Region ranks 6th; only the UK breaks into the leading group of countries from the Region on this measure. The relatively low absolute level of the score for employment is driven by our methodology. We normalize the best country in 1999 to get a score of 10; in this case, this is Iceland which is so far ahead on both the overall employment rate and the employment rate of older workers, that all other countries are pushed down to relatively low scores. There were no significant changes relative to 2005.

On social cohesion, the Baltic Sea Region (overall rank 13) continues to rank better on the dispersion of regional unemployment rates – it has fewer local pockets of very high unemployment – than on the share of people at risk-of-poverty (disposable income after transfers below 60% of the median level) and on the share of long-term (>12 months) unemployed. The absolute score for the region has been dropping slightly for some years. Iceland and Norway are ahead of Luxembourg followed by Sweden and Denmark. Denmark, Finland, and Lithuania have all gained more than one rank; otherwise positions have remained largely stable.

On the general economic background, the Baltic Sea Region ranks 13, with a slightly better ranking on prosperity (GRP per capita) than on productivity (GDP per employee), a consequence of its solid employment position. The Region has moved past the EU-15 relative to last year. Overall, Luxembourg remains ahead of Norway, Ireland, and Belgium. Most countries in the Baltic Sea Region have balanced positions on the two indicators measured. The exceptions are Denmark with relatively low labor productivity and Finland with relatively low prosperity.

On the *environment*, the Baltic Sea Region ranks 16 overall. It records high energy intensity but ranks better on the reduction of greenhouse gas emissions and after recent changes also on transport intensity. The United Kingdom (low transport intensity) remains ahead of Germany (low energy intensity and falling greenhouse gas emissions) overall, followed in the Baltic Sea Region by Poland, Denmark, and Sweden. The Nordic countries find it harder to reduce relatively low emission levels further. Iceland, Finland, and Sweden also get weighted down due to high energy intensity, Norway for high transport intensity.

On economic reform, finally, the Baltic Sea Region remains at rank 26. It suffers equally from low business investment rates and high domestic prices. Despite the Region's weak position on average, Estonia and Latvia lead the EU rankings on economic reform. While the rankings have not changed, the absolute score for investment rates have clearly picked up, as they did in many parts of Europe, especially among the old member countries.

Table 11: Lisbon Agenda performance of European countries

	Total	Innovation and Research	Employment	General Economic Environment	Social Cohesion	Environment	Economic Reform
Sweden	1	1	3	12	4	8	28
Norway	2	5	2	2	2	21	27
Luxemburg	3	13	22	1	3	9	20
Iceland	4	20	1	10	1	17	25
Denmark	5	6	4	7	4	6	24
Finland	6	2	8	9	6	16	26
Czech Republic	7	11	16	21	9	19	3
Netherlands	8	15	7	6	7	11	18
BALTIC SEA REGION	9	3	6	13	13	13	23
Austria	10	4	18	11	8	20	12
Slovenia	11	8	20	19	10	10	7
United Kingdom	12	12	5	8	15	1	22
France	13	7	19	5	16	7	21
Belgium	14	10	23	4	17	12	16
Hungary	15	21	24	23	11	4	8
Ireland	16	14	10	3	18	23	15
Germany	17	9	13	15	21	3	19
Latvia	18	24	14	28	19	15	1
Estonia	19	18	12	26	25	25	2
Lithuania	20	19	15	27	20	18	6
Cyprus	21	25	9	18	12	24	17
Spain	22	26	17	16	22	26	5
Italy	23	23	25	14	23	14	14
Greece	24	22	21	17	26	27	9
Portugal	25	27	11	22	24	22	11
Slovakia	26	16	26	24	28	2	4
Poland	27	17	28	25	27	5	10
Malta	28	28	27	20	14	28	13

Source: Eurostat, authors' calculations

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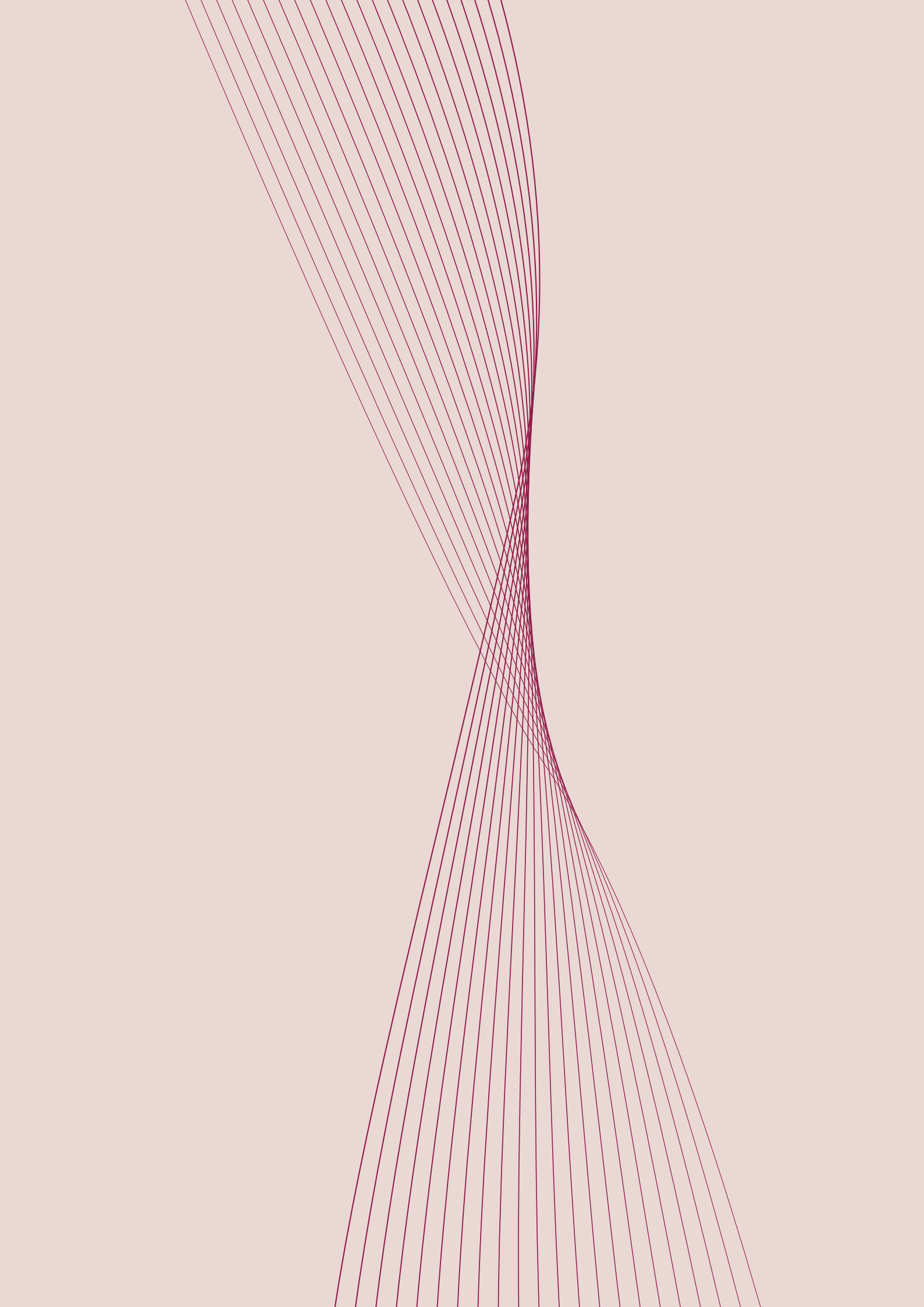
Overall assessment

The Baltic Sea Region continues to lead the European Union on the performance criteria of the Lisbon Agenda. Commission President Barroso argued at the 2005 Baltic Development Forum Summit in Stockholm that the Baltic Sea Region could "act as a beacon for the rest of Europe". This assessment still holds; in fact, while the European Union has on average lost some ground on the Lisbon Agenda criteria, the Baltic Sea Region has continued to improve its position. It is remarkable that two of the leading countries in our ranking are in fact those that are not members of the European Union, i.e. Iceland and Norway. Due to the multiple linkages and agreements they have with the EU, many of the EU rules and regulations do still apply for them. But they show that policy decisions taken on a national level play an important additional role to define the performance of a particular country.

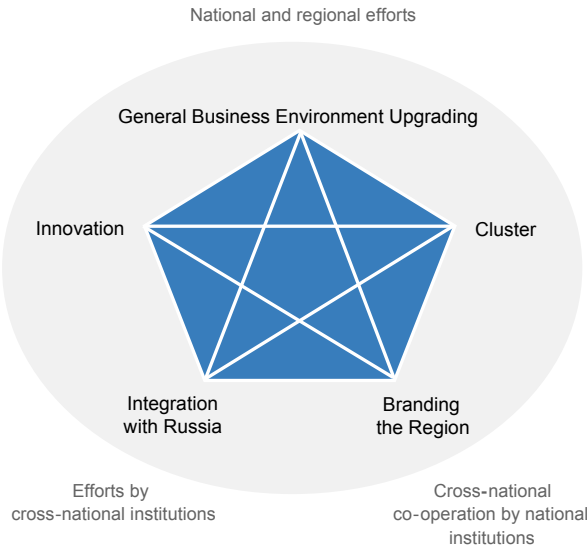


SECTION C: Competitiveness upgrading in the Baltic Sea Region

The identification of action priorities for competitiveness upgrading in the Baltic Sea Region needs to be based on two elements: an assessment of the issues the Region needs to address in order to achieve progress, and an assessment of what the Region is already doing in these areas.

Last year's State of the Region Report provided a discussion of five areas that in our view seemed particularly critical for the Baltic Sea Region. These areas still seem highly relevant for the Region given the competitiveness assessment in section B of this year's State of the Region Report; this is not a surprise given that many drivers of competitiveness do not change dramatically from year to year. These five areas clearly have a significant amount of overlap. Cluster development will have a strong impact on innovation, business environment upgrading will enable more innovation and spur cluster development, integration between Russia and other parts of the Baltic Sea Region can happen along all dimensions relevant for competitiveness, and efforts to brand the Region will be based on what the Region currently is and how it is striving to change.

Figure 31: Policy mapping structure



Efforts to upgrade competitiveness occur on different levels. First, many national and subnational institutions, both public and private, are engaged in efforts focused on their specific country or region. Second, the Baltic Sea Region is home to a significant number of cross-national institutions that have made competitiveness upgrading one of their key objectives. And third, across the Baltic Sea Region there are many efforts in which national or regional institutions work together across borders to address specific dimensions of the business environment.

The ambition of this section is to give a sense of the multitude of competitiveness-related efforts currently under way in the Baltic Sea Region and of the general direction they are taking. Such an overview should be valuable both for people in the Baltic Sea Region, whether they are policy makers trying to assess which areas to focus on, or business leaders trying to assess which direction economic policy is likely to take, and for outside observers aiming to learn from the experience of the Baltic Sea Region, or interested in setting up activities here. While many reports summarize economic outcomes, and other studies, like the State of the Region Report provide background on microeconomic conditions, there is little general documentation of policy efforts under way.

In a Report of this nature, we cannot provide a comprehensive mapping of all projects that are under way, but we can provide a starting point for readers who can then decide to take a closer look at programs in a specific area. We also cannot provide a detailed assessment of the quality of individual projects. Such project assessment is becoming increasingly important, but requires a dedicated project in order to be done well. What this Report aims to do, however, is to give a more general assessment of whether the sum of projects under way seem to be addressing the areas most critical for the Baltic Sea Region's future competitiveness.

General business environment upgrading

- General business environment upgrading continues to be critical for countries around the Baltic Sea, not only for the emerging economies at the eastern shores.
- Better access to finance, especially risk capital, has become a new focus of public policy; this is a critical but complex field with much private activity as well. Integration is particularly affected by bottlenecks in infrastructure as much as by rules and regulations; aggressive follow-up on the existing action plans remains crucial.
- The need to create new platforms for effective dialogue between the public and private sector to design and implement competitiveness programs is one of the central challenges ahead.
- The new process of National Lisbon Strategies is useful, but now needs to move to a more country-specific structure that should in the Baltic Sea Region also start to include coordinated cross-border elements.

The assessment presented in the previous section of the Report has indicated that the overall business environment in the Baltic Sea Region countries is strong relative to many of its international peers. But it has also indicated that continued strong economic performance will depend on the Region's ability to sustain its strengths and address the most critical emerging weaknesses. With competitiveness depending on sequential improvements of all areas of the business environment over time, it is particularly important to understand whether individual countries and institutions set the right priorities in their activities.

Our discussion of the ongoing efforts to upgrade the general business environment across the Baltic Sea Region will take three different perspectives. First, we will discuss a few business environment dimensions that have been the focus of a significant number of efforts on the national and the cross-national level. Second, we will make some more general comments on the policy direction taken by a few countries and cross-national institutions in the Region. Third, we will take a specific look at the National Lisbon Agenda strategies that have been put forward by the EU member countries in the Baltic Sea Region.

Activities: Access to finance

Access to finance has been identified by many countries and cross-national institutions in the Baltic Sea Region as a critical action area. One traditional concern is the availability of credit to small- and medium-sized companies. While the deepening of financial markets has made it much easier for large companies to access external financing, many observers argue that for smaller companies, credit rationing is still a serious problem. A new additional concern is that in the transition to a knowledge-driven economy, the number of small companies in need of risk capital has increased. While the risk capital market has increased significantly in recent years in the Baltic Sea Region, many observers argue that there are specific situations in the life cycle of many of these companies in which they lack access to risk capital.

On the national level, many countries in the Baltic Sea Region have recently taken steps to close perceived gaps in the financing available to small companies. In Sweden, Innovationsbron AB has been created to provide financial support for the commercialization of research. Through seven regional offices, Innovationsbron provides seed financing (either directly or through risk capital funds) and direct co-operation with incubators. In addition, ALMI, an existing government agency, has increased its offering of small loans to entrepreneurs and science-based start-ups. In Norway, new efforts with public risk capital funds have been launched as well. Argentum was launched in 2001 to invest in existing risk capital funds ("fund-of-funds") in order to strengthen the Norwegian risk capital market in addition to providing direct benefits through the additional capital available to start-up companies. Innovation Norway has launched both a regional and a national seed capital scheme. The schemes are set up in order to establish and cofinance ten privately owned and managed seed capital funds.After the launch of a number of regional and institutionlined funds there are now more than ten different public risk capital funds available. In Denmark, Vaekstfonden has provided risk capital (equity and mezzanine loans) on commer-

Figure 32: Examples of public risk and loan capital providers in the Baltic Sea Region

cial terms to start-up companies since 2000. More recently, Vaekstfonden has also started to operate as a fund-in-funds, providing equity capital to privately owned risk capital funds with an investment profile in line with Vaekstfonden's objectives. In Finland, SITRA provides among its different activities also risk capital investments in Finnish start-up companies. A new financing program for early stage companies was launched in 2004 by Finnish Industry Investment Ltd, a public venture investor. It acts mainly as a fund of funds, but offers also direct investments, for example through a special instrument for small and medium-sized companies as well as recently launched start-ups.

In Germany, a new high-tech start-up fund was announced in April 2005. The KfW Kreditanstalt für Wiederaufbau is the central institution on the federal level for such programs, but there are also additional programs available in the different states. Schleswig-Holstein, for example, has created a set of institutions that offer loans (Investitionsbank Schleswig-Holstein), guarantee loans (Bürgschaftsbank Schleswig-Holstein), and provide equity (Gesellschaft für Wagniskapital). In the Baltic Countries, there are also several at-tempts to provide more equity finance to start-up companies, using EU-financing available through structural funds as a key instrument. Estonia, for example, is launching an Estonian Development Fund, following the example of SITRA in Finland. It has also initiated new regulation for private venture capital to enable more growth in that sector. All the Baltic Countries also have established loan guarantee institutions but their real impact so far seems to be quite limited.

On the cross-national level, the Nordic Innovation Center presented an analysis of the risk capital markets in the Nordic region in December 2005. One of its key recommendations was to broaden the mandate of the Nordic Investment Bank (NIB) to also include equity investments. NIB had originally been set up in the mid-19070s, in an era of widespread capital controls and low integration among the financial markets of the region, to provide long-term financing at market rates to companies and public sector institutions that were not adequately served by private-sector financial institutions. Founded by the Nordic countries, it acquired three new members in the beginning of 2005 with the accession of Estonia, Latvia and Lithuania. In 2006, NIB has been working on a new strategy to align its activities with the radically changed nature of financial markets in the Baltic Sea Region. Competitiveness upgrading is one of the key strategic objectives adopted by NIB, and the bank intends to gradually shift its loan portfolio in this direction. While a decision has not yet been taken on whether to follow the suggestions of the Nordic Investment Center working group and launch equity market activities in addition to the traditional loan portfolio, this is an option that NIB is actively considering.

While all these activities are clearly useful, the complexity of financing should not be underestimated. Providing equity finance requires different skills and institutional structures than

providing grants or loans, at least if the full potential of this ownership relation is to be exploited. At the same time, the Baltic Sea Region has over the last few years made huge steps in developing an integrated financial market and also in providing significantly more private venture capital. In some cases, like in the life sciences, there are even observers that warn against the negative effects of flooding the sector with capital. Despite this growth in the private sector there is still evidence, also from even more developed financial markets like the United States, that especially start-up companies can face situations in which the lack of capital availability stops promising ideas. Government programs can help, but they need to take the challenges of doing the right things, and doing them right, seriously.

Activities: Integration

Economic integration across the Baltic Sea Region is a matter of rules and regulations, of attitudes and knowledge, and the physical infrastructure that enables exchange. All of these areas are prime opportunities for cross-national collaboration, as countries will only reach the full benefits of their efforts to address these issues if they tackle them in a coordinated fashion. The package of efforts pursued by the Baltic Chambers of Commerce Association (BCCA) in its "Triple Trade in Ten years"-agenda, outlines some of the key issues that hold back integration seen from the perspective of companies. Increasing trade requires a strong platform of trade routes, from "motorways of the sea" across the Baltic Sea to integrated air, train, and road connections. Quite often bottlenecks on these connections are a more serious hindrance to trade flows than tariffs or other trade rules.

Improvements in the physical infrastructure, especialy related to transportation, are also discussed in other institutions that are focused on policy coordination in the Baltic Sea Region. VASAB, an institution that was created already in 1992 to discuss "spatial development", has increasingly focused on the competitiveness implications of territorial planning in the Baltic Sea Region. The Gdansk Declaration of 2005 outlined the key priorities for coordination of spatial development in the next few years. The Council of Baltic Sea States (CBSS), through its Working Group on Economic Co-operation and the Business Advisory Council, is working on the removal of infrastructure, administrative, and other types of barriers to trade. The present Swedish Presidency of the CBSS has proposed the creation of a CBSS High Level Task Force for Removal of Barriers to Trade and Investment (CBSS TF-BTI). The Task Force is intended to work closely with the already in 2004 established ad hoc working group on border-crossing and customs issues. Baltic Sea-States Subregional Co-operation (BSSSC), the association of sub-national regions across the Baltic Sea Region, has launched a working group on transport and infrastructure in October 2004. This group has presented a survey on current planning in transportation infrastructure across the Region and will next launch a common transport vision as the foundation for future coordinated actions in this area. Finally, BaltMet, the network of the Baltic Sea metropolitan areas, has also recently organized a working group on infrastructure issues called BaltMet Infra. BSSSC, in co-operation with the Baltic Development Forum, is also currently setting up a "High-level Group on Intermodality and Interoperability in the Baltic Sea Region". The Group, linked to the Interreg project "InterBaltic", combines representatives of national ministries, large corporations and Baltic Sea Region organisations to facilitate the creation of a transport strategy for the Region. The European Union's Baltic Sea Region Interreg Program IIIB funds a large number of projects that aim to improve framework conditions for regional integration. The funding guidelines for the 2007 – 2013 budget cycle are currently under consultation.

Alongside these efforts related to transportation, the energy infrastructure has increasingly become a topic of discussion. A new link between the electricity grids of Estonia and Finland will be an important step towards a fully integrated electricity network across the entire Baltic Sea Region, not just across subregions such as the Nordic countries. Despite first discussions on the cross-national level, energy has so far been largely approached nationally. The differences in opinion have been particularliy obvious as regards the use of nuclear energy, where new reactors are planned in Finland and the Baltic Countries, while Sweden and Germany are still committed to shut-down their nuclear capacity over time, and the natural gas imports from Russia, with the conclusion

of a bilteral agreement between Germany and Russia to build a pipeline through the Baltic Sea.

A separate policy area important both as a symbol and as a real impediment to integration, are the barriers to the free movement of labor that still exist among "old" and "new" EU member countries. EFTA members Norway and Iceland, who are also bound by these agreements, and the old EU member countries in the Baltic Sea Region, have taken individually different approaches to labor mobility. Sweden has from the beginning not imposed restrictions, as its minority government at the time could not muster the parliamentary support for such measures. Iceland and Finland have initially imposed restrictions but have now informed the European Commission that they intend to lift them. Denmark has not gone quite so far, but it has announced an easing of procedures. Germany and Norway, finally, have notified the Commission that they will keep their restrictions in place.

Activities: Organizing for competitiveness

A key issue for many countries around the Baltic Sea is how to organize effective decision making on competitiveness issues, especially how to include the private sector in such a process. Unlike many traditional policy areas related to macroeconomics, competitiveness upgrading requires the co-operation of many different public sector agencies, research institutions, and private companies in policy design and execution. It requires an integrated strategy that cuts across the boundaries of traditional ministerial portfolios.

One set of activities relates to the policy design process in the government. Finland's Science and Technology Policy Council, a ministerial working group chaired by the Prime Minister, has for years received a lot of attention. Similar institutions have been created elsewhere, although often not with similar political power. In Estonia, a strategy unit was recently created in the Prime Minister's office to support integrated decision making.

Maybe the most interesting example is the Globalization Council that has been launched in Denmark. Chaired by the Prime Minister, this Council brings together key ministers and leaders from business and science to discuss the challenges Denmark has to meet in order to succeed in international competition. While the Council has no decision-making power, it is intended to serve as a platform for a wider public debate that addresses the globalization challenge in an integrated way, rather than having individual parts of government come up with responses in their respective fields. The Globalization Council has a counterpart in the Innovation Council, a group of public and private leaders created on the initiative of private sector-leaders already in October 2003. Denmark is now in the process of creating public-private fora similar to these Councils on the level of the five recently created administrative regions. On the initiative of the private sector, predecessors for these regional fora have already been launched.

Other countries in the Region have developed their own structures. In Iceland, regional growth agreements have been developed by partnerships between the public and the private sector. In Sweden, industry level discussions (branchsamtal) were launched and regional governments had to develop regional growth strategies in a dialogue with a wider group of partners; the success of these efforts has been mixed. The new government has announced its intention to launch a Globalization Council as in Denmark. In Poland, EU-sponsored regional innovation strategies have provided useful platforms to change the policy design process. In St. Petersburg, the regional government decided in August 2006 to establish an innovation council of Russian and international experts. The Baltic Countries in particular also face the challenge of providing efficient government institutions that can execute competitiveness efforts and deal with the significant inflow from EU structural funds. They have all decided to concentrate these activities in one organization in charge of investment attraction, export promotion, and economic development efforts.

On the level of cross-national cooperation, the Baltic Sea Initiative (BSI) was launched in 2004 as a network of networks. Driven by a core group of stakeholders, the ambition has been to share information and co-ordinate activities across institutions and networks in the Baltic Sea Region. The Secretary General of the Nordic Council of Ministers currently leads the BSI network. For 2006, the networks represented in the BSI decided to focus on cluster development, conditions for market driven innovation, research cooperation, financial market integration, and branding of the Baltic Sea Region as action

priorities. The Baltic Development Forum (BDF) is an established focal and neutral platform for governments, public agencies, and business organizations to discuss and cooperate on issues of relevance for the competitiveness of the Baltic Sea Region. Through its annual summit, a gathering of key regional decision makers from business, government, research and the media, and other activities, including the publication of the State of the Region Report and its work on branding, BDF makes an important contribution to upgrade the Region. Many peer regions lack such a platform that can increase regional interaction, inspire new initiatives and projects, and spread knowledge about the region both internally and externally.

Overall action strategies: Selected countries and institutions

The examples of one country, Norway, and one cross-national institution, the CBSS, provide an interesting perspective on some more structural changes that are taking place in the way competitiveness issues are being addressed in the Baltic Sea Region.

The change in government in Norway had initially led to high expectations that the country's approach towards competitiveness upgrading would shift markedly, reflecting discussions during the election campaign about the need for the government to take a more active role. In reality, there has been a very modest shift to strengthen government policies in this area but overall a strong focus on solid macroeconomic policies has dominated. There are Norway-specific reasons for this: the surge in oil revenue created the need to deal with the potentially disruptive effects on the non-oil economy, and the solid economic growth in the Norwegian economy created less demand for government action. In addition, the previous government had already taken quite a number of steps to upgrade competitiveness through active policies in innovation, cluster development, and other areas. Norway is in that sense an indication that the policy debate on competitiveness is getting less ideological and more driven towards policies that aim to avoid both the interventionist trap of old-style industrial policies and the neutrality trap of old-style liberal economic policies that supposedly left the market to itself.

The Council of Baltic Sea States (CBSS) is one of the central institutions for cross-national co-operation in the Baltic Sea Region. While there has not been a dramatic change in its operations in the past, it is increasingly clear today that its operational model is changing. While in the past the political symbolism of joint deliberations, declarations and statements was sufficient to achieve the goals of stability and slowly increasing integration, since 1 May 2004 this approach has been seen as increasingly insufficient to alone motivate the existence of CBSS. Instead, the focus has shifted to concrete, result-oriented projects and activities that stem from public and private demands, and which can result in meaningful contributions to the citizens, communities and companies in the Baltic Sea Region. Individually these efforts might be less impressive than the broad political statements of the past, but they are a sign of how CBSS and many other cross-national institutions in the Region are adjusting to a changing economic and political environment.

National Lisbon Agenda strategies

As a consequence of the relaunch of the Lisbon process all EU member countries must present an annual National Lisbon Agenda Strategy that outlines their priorities in reaching the Lisbon Agenda goals. The European Commission then reviews these strategy documents and gives its opinion. Member countries have no obligation to follow the advice given by the Commission.

A review of the eight national reform programs submitted to the European Commission from Baltic Sea Region countries provides an interesting overview of the economic policy priorities across the Region. Most of the reform strategies identify some broad economic challenges faced by the national economy and then provide objectives and action plans organized by main policy areas. Estonia, Finland, Latvia, Lithuania, Poland, and Sweden follow a very similar structure, organizing their reform programs according to macroeconomic, microeconomic, and labor market-related initiatives. Denmark and Germany choose a slightly different structure but cover largely similar points; the Danish program is the only one that does not explicitly address macroeconomic policy. All set targets related to the key quantitative goals mentioned in the Lisbon agenda, i.e. R&D spending as a share of GDP and the employment rate in the economy.

The European Commission has generally given high marks for the national reform strategies from the Baltic Sea Region. But it has also identified areas in which more could or needs to be done for the individual country to achieve the goals set out in the Lisbon Agenda, listed in figure 33.

The reformed Lisbon Agenda approach has led to some useful results. Countries have been forced to review their complete package of economic policy efforts in light of the Lisbon Agenda. In many countries this had led to a useful dialogue about the overall logic of the economic policy agenda, beyond individual policy initiatives that are often the focus of political debate. And it has prepared the ground for a more useful role for the European Commission in the policy dialogue, providing critique based on the cumulative view of Lisbon Agenda strategies from all EU member countries.

But despite these positive elements, the review of the national reform strategies from the Baltic Sea Region also indicates the considerable road that lies ahead for the reformed Lisbon Agenda process. There are three issues in particular that cast doubt on whether this process will be effective in driving competitiveness upgrading in the Baltic Sea Region, or for that matter, in other parts of Europe. First, there is a clear tendency to follow a bench-marking logic that would lead to identical policy recommendations for all countries. Given the huge heterogeneity among the economies and their competitiveness situations across the Baltic Sea Region, more differences in policy programs would have been expected. The current approach can be helpful to guide countries towards addressing generic policy challenges, but it does not provide an incentive to debate a national economic strategy that would define the specific positioning this economy is aiming for in the global economy. Second, there is a clear tendency to re-organize policies that national governments have anyway planned under the headings expected by the Commission. This avoids any productive engagement with the Lisbon Agenda and does not require any of the hard choices that might have to be made to achieve real progress. Over time this process can hopefully become more of a true strategy exercise, in which administrations can identify missing elements in their reform strategies. Third, from the perspective of Baltic Sea Region competitiveness,

Figure 33: Areas recommended for further action by the EU, Baltic Sea Region countries

Denmark	Estonia	Finland	Germany
• More detail on increasing labor supply • More detail on increasing competition	• Stronger focus on private R&D • Further measures on active labor market policy	• Efforts to increase competition in services • Initiatives to increase employment rate among old workers	• Efforts to improve competition in several areas • Approach to integrate low-skill workers • Concrete plan for childcare

Latvia	Lithuania	Poland	Sweden
• Stronger commitment to fiscal consolidation • Better research-company collaboration • Stronger workforce skill upgrading	• More ambitious goal for science base • More efforts to upgrade innovation • More active labor market policies	• More emphasis on competition • Comprehensive infrastructure strategy • More efforts to raise employment	• More efforts to enhance competition in services • More efforts to increase labor supply

Source: EU Commission (2006)

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it appears as a missed opportunity that the countries in the Region have not coordinated their national reform programs or, more ambitiously, included some common regional activities. The underlying assumption of regional cooperation in the Baltic Sea Region is that it provides effective additional tools for nations in the region to upgrade their competitiveness. If national governments truly support this notion, it should form at least an element of their Lisbon Strategy plans.

Overall assessment

The Baltic Sea Region is home to a lot of activity related to business environment upgrading. While there is always room for improvements in individual policies and programs, the overall willingness to improve conditions for companies is clearly evident. The efforts to improve access to capital, especially for start-up companies, are remarkable and it will be interesting to track their impact over time, also in relation to the growing private sector activities in this area. Cross-national institutions have taken clear steps to move from their traditional roles in the previous phase of Baltic Sea Region integration to a new role, in which they focus more on tangible results in projects that matter for individuals and companies than on broad policy statements. A central question will be whether countries in the Region will develop the new institutional structures required to debate and act upon the challenges and opportunities that globalization has created for national competitiveness. The revised Lisbon process has created the opportunity for countries to engage in a serious national economic strategy process. So far, however, this opportunity is not being fully exploited and the lack of a cross-national dimension in the plans of the Baltic Sea Region countries is striking.

Cluster Development

- Changes in the nature of competition between locations and of company practices have increased the role of clusters in the global economy.
- The Baltic Sea Region is home to many active clusters and cluster initiatives, increasingly also of cross-border efforts to link such efforts.
- The practice of cluster development shows the ambition of becoming increasingly professional; this process needs to continue along the direction taken.

Cluster development is a topic that is gaining importance in the economic policy debate. The phenomena of clusters, regional specializations of companies and institutions in economically related fields, are nothing new. But there are a number of factors that have led to an increasing interest in clusters.

One set of factors is related to the nature of competition among locations. Changes in economic policy and technology have reduced the barriers to trade and thus exposed local business environment conditions to the direct competition of business environment conditions elsewhere. Many regions have reacted to that challenge by upgrading their competitiveness. This has led to much more competition between locations. To succeed in this new competitive environment, regional economies need to specialize and concentrate on specific activities, i.e. clusters, in which they can deliver unique value. These clusters have a wider potential to penetrate global markets than ever before. While regions build connections to new markets, they also build new linkages to suppliers in areas in which they do not have critical mass. Clusters have thus gained importance for the success of regional economies; they have not become obsolete as some observers had expected.

Another set of factors is related to the nature of company operations and the innovation process. In the past, companies often controlled a significant share of their products' value-added in-house. With an increasing focus on core competences and outsourcing, companies now try to identify in which part of the value chain they can add unique value, while leaving other activities to an increasing network of suppliers, joint-venture partners, and other related companies. This has increased their reliance on other companies and in many cases it is economically advantageous if these companies are located in close proximity. In the past, innovation was often viewed as a sequential process, where ideas were generated at a university or research institution, centralized company research labs would then turn these ideas into marketable applications, and those would then be introduced to the market. Increasingly, however, new ideas are generated and developed in a much more complex system where knowledge flows back and forth between numerous companies and institutions and the division into basic and applied research is much less clear. In such a model of "open innovation" (Chesborough), companies are more reliant on an innovative cluster around them to be able to tap into the newest ideas needed to succeed in competition.

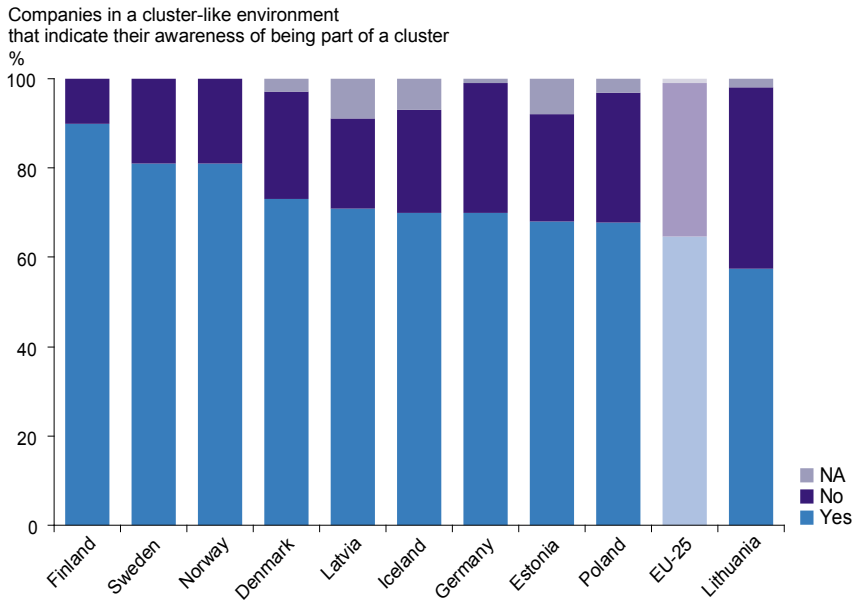
Research in the past has focused on testing whether clusters really exist and whether they actually provide economic benefits to companies and regions that are part of them. While there is increasing evidence that supports both these hypotheses, this evidence does provide much less insight into the related policy questions. What can be done to support the growth and maybe even the emergence of clusters? More evidence on these questions is now becoming available to policy makers that are under pressure to show how they can help their regions or countries develop strong clusters.

National cluster policies in the Baltic Sea Region

Cluster development efforts have a significant history in the Baltic Sea Region but there are clear differences between the countries. These differences are driven by unique industrial structures as well as by the general climate in the economic policy debate. For the new EU members in the east, they are also driven by the general economic strategy in the transition process. Interestingly, the debate about clusters in many parts of the Baltic Sea Region seems to have left clear marks in the consciousness of companies: more companies in the Baltic Sea Region that are part of a cluster environment report that they are aware of their participation in a cluster than in other parts of the European Union.

In the Nordic countries, Denmark was one of the first to experiment with cluster efforts. The experience of this first wave of cluster efforts was not always successful; these were the first attempts to understand

Figure 34: Degree of cluster awareness, Baltic Sea Region countries



how policy could facilitate cluster development. But due to the structure of the Danish economy, with many small- and medium-sized companies that have much to gain from collaboration when trying to serve the world market, the interest in cluster efforts never vanished. Denmark is especially known for its clusters in wind energy, food products, and also for the activities in life sciences. The country is also strong in parts of transportation and logistics.

Finland, too, has an interesting history of cluster development. In the 1990s, the Research Institute of the Finnish Economy (ETLA) and the Finnish National Fund for Research and Development (SITRA) used Michael Porter's cluster framework to analyze different parts of the Finnish economy and then identify nine specific clusters. The Cabinet Economic Policy Committee then decided to allocate a part of the increased R&D funding to develop these clusters. Responsibility was allocated to the different sectoral ministries, and both TEKES and the Academy of Finland were other important financing institutions. The cluster thinking was also instrumental in the restructuring of the Finnish innovation system, where focus, regional specialization, and collaboration between universities and private business were made key priorities. An assessment of the Finnish cluster program from 2000 pointed towards success in better coordination among public sector institutions, but was critical about the relatively low level of direct private sector involvement. Finland has clearly managed to develop strong clusters, especially in telecommunications and wood products, but also in areas related to metal manufacturing and food products. Clusters continue to be a relevant policy tool in Finland. In the context of the Finnish Centre of Expertise Program, coordinated by the Ministry of the Interior, 13 regional clusters/ centers of expertise are currently under evaluation for funding between 2007 and 2013.

Centre of Expertise Programme

An interesting case is Sweden, where the concept of clusters was introduced already in the early 1990s. However, with the exception of the investment attraction body, Invest in Sweden Agency (ISA), little attention was placed on clusters as environments for innovation. However, a new organization, VINNOVA (Swedish Governmental Agency for Innovation System), was formed in 2001. Vinnova's focus has been on needs-driven R&D and improving the overall Swedish innovation system. Particular attention has been paid to technology transfers and improved capacity of SMEs to engage in R&D ("Forska och Väx", similar to the American program SBIR). Vinnova introduced a cluster program

Figure 35: Top export clusters in the Baltic Sea Region (only countries fully part of the Region)

Cluster category	Sweden	Denmark	Finland	Norway	Iceland	Estonia	Lithuania	Latvia
Agricultural Products						High-Growth		High-Growth
Analytical Instruments							High-Growth	
Apparel		High-Growth				High-Growth		
Automotive	Low-Growth							
Biopharmaceuticals					Low-Growth			Low-Growth
Building Fixtures & Equipment								
Business Services	High-Growth			High-Growth	High-Growth	High-Growth		High-Growth
Chemical Products		High-Growth						
Coal & Briquettes								
Communications Equipment							High-Growth	
Communications Services								
Construction Materials								
Construction Services								
Financial Services								High-Growth
Fishing & Fishing Products								
Forest Products								
Furniture								
Heavy Machinery	High-Growth							
Hospitality & Tourism	High-Growth	Low-Growth			High-Growth	High-Growth	High-Growth	
Marine Equipment								
Medical Devices					High-Growth			
Metal Mining & Manufacturing			High-Growth			High-Growth		
Motor Driven Products		High-Growth						
Oil & Gas		Low-Growth						
Plastics	High-Growth					High-Growth	Low-Growth	
Power Generation & PG Equipment								
Prefabricated Enclosures								
Processed Food								
Textiles						High-Growth		
Transportation & Logistics								

= Established clusters High-Growth = Potential cluster, gaining global market share Low-Growth = Potential cluster, losing global market share

Note: Established if RCA ≥ 2; High-Growth if 2.0 ≥ RCA ≥ 0.7 and absolute export growth > 5% and market share growth > 0% and cluster is among 15 biggest industries in the country; Low-Growth if 2.0 ≥ RCA ≥ 0.7 and absolute export CAGR > 5% and market share growth < 0% and cluster is among 15 biggest industries in the country
REC = Country's share of world-market exports in cluster / share of total world market exports; abs. export growth = compounded annual growth rate in export volume 1997 to 2003; market share growth = growth in global market share 1997 - 2003

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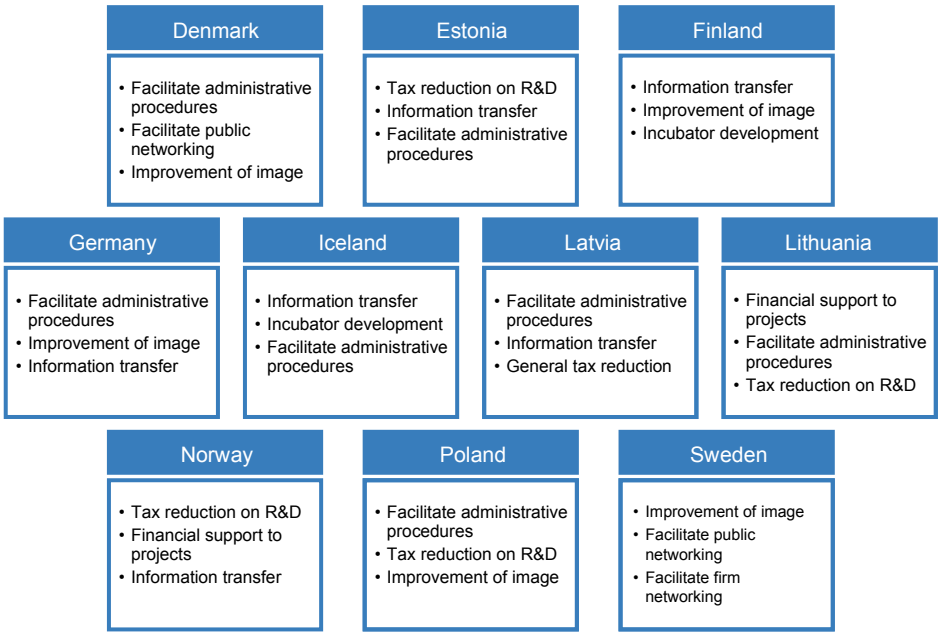
"Vinnväxt" in 2003. Vinnväxt is based on a bottom-up process where clusters compete for public support. These public-private partnerships always involve firms, universities and local authorities. Co-sponsoring from all parties is demanded. In the first round, 10-year grants were awarded to Uppsala Bio (central Sweden), Robotics Valley (central Sweden) and Food Innovation (south Sweden), a total of three out of 159 proposals. In the second round, five new winners were announced: Triple Steelix (central Sweden), Process IT Innovations (north Sweden), Fiber Optic Valley (central Sweden), Hälsans nya verktyg (Health and Sports Medicine, south Sweden) and Göteborg Bio (west Sweden). Through the program "VINN Excellence Centers", 15 applied research centers throughout Sweden have received funding in areas such as biotechnology, ICT, general product development and nano-materials. A special research program in steel and materials will start in 2007. Swedish cluster oriented policy has emphasized facilitation of networks between firms and networks with universities and public organizations, and also organization of public events such as fairs and trade missions. There is very little focus on tax incentive schemes. Sweden has always been a leading IT and telecommunications country. In many segments Sweden (and also other Nordic countries) has offered lead markets, such as in mobile telephony. Other lead markets include environmental safety (e.g. nuclear technologies, high voltage transmission), product safety (e.g. automotive safety) and ergonomics (e.g. truck cabs). Sophisticated logistics has stimulated everything from advanced trucks, modern storage equipment to sophisticated refrigerator/freezer chains.

Norway, too, had a long debate about whether or not cluster policies were appropriate. Liberal economists in particular were concerned about the potential for market interventions and sector-specific subsidies or tax breaks under the auspices of a cluster program. The hesitance to talk about clusters has lessened over the years, but it is still present in the debate. In 2000, a group of business representatives commissioned a study on five clusters in Norway, namely oil & gas, metal, IT, maritime, and fishing, and compared them to key peers globally. Especially in the maritime sector Norway continues to be among the global leaders. The overlaps to the offshore and oil&gas cluster have helped both clusters to be stronger than possible individually. In IT, Norway tended to be viewed as being somewhat behind the other Nordic countries. But the country has done well in some specific segments of the IT cluster: based on strong university research, a Norwegian company has become one of the world leaders in search technology, a key field in current IT development.

Iceland is an economy strongly specialized around

Figure 36: Top three tasks governments should focus more on in their cluster efforts; survey of European business leaders, 2006



Source: European Commission (2006)

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a number of key clusters, especially fishing, tourism, financial services, and life sciences, with the last two recent entrants on the list. In the regions of Iceland, regional growth agreements have been developed in the recent past that always include a strong focus on local clusters and cluster collaboration. Extensive training have been conducted for cluster facilitators with a number of foreign experts.

Germany is a country with many old clusters but for a long time there was no active cluster policy. This has changed somewhat in recent years, a development that received a lot of initial traction through the Bio-Region competition that the German Ministry of Science and Research launched in the mid-1990s. In that program, regional groups of companies, research institutions, and public agencies were invited to participate in a competition to allocate funding to the three regional life sciences clusters with the best plans for cluster development. While the winners were not in Northern Germany, the effort led to much better collaboration in many regions that did not win. It also inspired further programs on the cluster and regional level, like InnoRegio in the five eastern federal states. Schleswig-Holstein is an interesting example of how cluster policies have entered the agenda on the federal state level. The maritime cluster, where the state has a long tradition in ship building and maritime research and can take advantage of its location and the channel between the North Sea and the Baltic Sea, is one of the areas in which the cluster approach is used to bring the different actors closer together in order to create better economic outcomes. Renewable energy, too, is an area where the state has similarly advantageous wind conditions and an agricultural sector that can produce bio-energy. Life Sciences, with Draeger in Lübeck as the prime example of a company with global reach, is another emerging area. Here Schleswig-Holstein also works closely with Hamburg in the Norgenta initiative.

Poland, including the three regions on the Baltic Sea coast, has also taken a number of steps towards introducing cluster-based economic policies, often initially driven by the initiative of local and regional officials. Cluster programs are under preparation by two of the federal ministries and training in cluster development has been undertaken in many Polish regions. There have also been pilot programs under way, and even a cluster mapping effort has been launched. A recent assessment of clusters in the ten new EU member countries found Poland to have an average presence of clusters, with most of the strong clusters in the south of the country. On the potential for cluster development, however, the country ranked better. It remains to be seen, how the recent political turbulence will affect cluster development programs in the country.

Among the Baltic Countries, Latvia ranks high on measures of cluster presence related to size, reflecting the absolute size of its economy. It ranks lower on measures of specialization and dominance. The country ranks similarly below the EU-10 average on both the quality of its general business environment and on cluster-relevant business environment conditions. The country seems not to have leveraged clusters as a key element of economic policy. The Ministry of Economy used the PHARE program to launch an initial cluster program in 2000. After the initial EU funding ran out, however, only two (IT, forest products) of the four cluster initiatives started continued to be active in some form. Given the lack of resources available domestically, policy makers seem sceptical about whether cluster programs should be given priority.

Lithuania ranks high among the EU-10 countries on all measures of cluster presence and of cluster-relevant business environment conditions. It seems that the country has managed to translate the opportunities of its business environment into the natural emergence of regional clusters. The country has no overall cluster policy, although there are some individual efforts related to technology parks that aim to become cluster locations.

Estonia ranks relatively low among the EU-10 countries on measures of cluster presence, largely due to its small size. It ranks higher on measures of specialization and dominance. The country ranks much stronger on the quality of its general business environment than on cluster-relevant business environment conditions. It seems that the country focused largely on a cross-cluster based economic strategy. Some clusters have developed naturally, taking advantage of these overall improvements, but clusters have not been central to economic policy. Estonia's focus on IT, widely used to shape the international perception of the country, has affected many parts of the economy, from financial services to egovernment, not just the vibrant but relatively small IT cluster.

Cross-national cluster efforts in the Baltic Sea Region

Cluster Development in the Baltic Sea Region has taken an increasingly cross-border focus. One example is the initiative of the BSSSC on the maritime clusters in the region. Its next conference in Kiel, where as discussed above a strong maritime cluster is active, will focus on the Baltic Master, an overall policy document on maritime policy. The conference has also been classified as an official one even for the review and discussion of the EU's Greenbook on maritime policy. In other contexts as well it is becoming apparent that the participation in the European policy-making process is one of the ways that the collaboration of individual clusters across the Baltic Sea Region can create results that individual efforts find hard to achieve. Recently, the CBSS has announced the launch of joint activities with the BAC (Business Advisory Council), and the BCCA to facilitate the evolution of cross-border clusters.

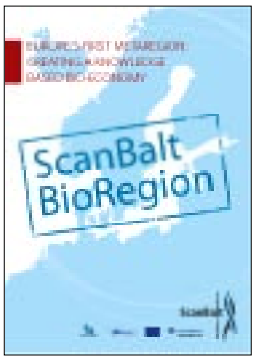
Another interesting effort is taking place within Baltic Metropoles (BaltMet), a joint effort of leading metropolitan regions around the Baltic Sea. One of the working packages of their project focuses on policy learning and the creation of linkages among clusters in the respective cities. In areas like life sciences and information and communication technology there is significant overlap, for example between the science parks in Kista outside of Stockholm and Adlershof close to Berlin.

A key new project on cluster development in the Baltic Sea Region is the EU-funded BSR InnoNet effort. It has grown out of the activities of the Northern Cluster Alliance, a network of practitioners from across the Baltic Sea Region that are working on cluster development. The key objective is to increase the operational performance of on-going efforts, creating best- and "next-"practices in working with clusters as a tool for innovation. The project aims to develop a conceptual framework for the design and evaluation of cluster policies over national borders in the Baltic Sea Region; to initiate cross-border innovation-programs; and to be a role model for other European countries on how to use cluster policies to support innovation. Three working groups drive the activities of this effort; a practitioners' working group of innovation agencies and other implementation agencies, a policymakers' working group with representatives from national ministries or delegated organizations, and an analysts' working group of nationally-designated research partners. The project is conduct in the context of the European Commission's PRO INNO program with parallel programs in other parts of Europe.

PRO INNO EUROPE INNO NETS BSR InnoNet

One of the best established examples of a cross-

regional network of clusters is ScanBalt. ScanBalt organizes life sciences clusters in the Baltic Sea Region as a "network-of-networks". The ambition is not to create one large cluster, but to enhance the cooperation between these clusters and provide services that are beyond the reach of any individual cluster. In terms of the networking goal, the work of ScanBalt members and of "members' members" in joint projects as well as the annual conference, is particularly important. The organization has just launched its "yellow pages", a tool to enable easier access to more than 3,000 relevant contacts in the Region. ScanBalt provides a platform through which applications for EU-wide funding opportunities in specific fields of life sciences can be used, and it facilitates collaboration with partners outside the EU. ScanBalt is also very active in education in training, with a number of ongoing initiatives like ScanBalt Campus. ScanBalt tries to give the life sciences clusters in the Baltic Sea Region a voice and a face; a voice to make its interest heard both within the Region and elsewhere, especially in Brussels, and a face to makes it visible for interested partners outside of the Baltic Sea Region, but also for the members of the regional clusters themselves. A project on competence mapping, for example, aims to identify the knowledge assets that can be drawn on in the Region. While the Nordic countries have initially been leading the effort, German and Polish participants are getting increasingly active. The Baltic Countries have also been strongly engaged in Scanbalt from the organization's beginning. Russian involvement is still low, even though there have been some activities in terms of student exchange.



Another example of cross-border cluster cooperation is tourism. Tourism is a strong, regional growth driver that can clearly benefit from co-operation across individual clusters, especially in attracting tourists from outside the Region. Tourism can also be an important instrument to shape an identity for the Region in the minds of foreign visitors. BDF has in close co-operation with national tourism boards, major tourism industry representatives and the Baltic Tourism Commission (BTC), launched a number of initiatives to ensure a more comprehensive approach to tourism as a network of regional clusters. The aim is to develop the tourism sector in the Baltic Sea region through an innovative, comprehensive and targeted strategy which needs to be developed jointly by the key actors in the coming years. Previously the cooperation within this sector had been fragmented and it is still to a certain degree divided between the private and public actors. The tourism industry needs to co-operate cross-sector, cross-border and cross-level to make each individual player stronger in a global perspective. This has been the clear message from the previous tourism sessions at Baltic Development Forum Summits and subsequent Round Table meetings on tourism cooperation in the region. Cruise Baltic, the cooperation of 19 destinations and 32 partners in 10 countries with the aim to integrate the Region's international cruise tourism industry through the exchange of knowledge and information, is a good example of what joint activities can be achieved in this area.

Overall assessment

Cluster development has become a central part of the policy tool kit in many Baltic Sea Region countries. This is a positive development, as clusters have the potential to support entrepreneurship and innovation, two areas of particular concern for the Region. Cluster development has also quite clearly moved beyond the stage where the debate focused on whether or not cluster policies are a modern version of the old "picking winners"-doctrine that failed in many countries. While such opinions still exist, the more active debate now centers around how cluster development should occur to be effective. There is still a lot of work to be done on that path, especially in terms of more established best practices in cluster initiative governance, of impact assessment, and of developing strategies rather than just metoo action plans for clusters. The overall impres-sion, however, is encouraging. But it is important not to forget that clusters emerge in business environments that are generally strong and open to competition, not just in regions that pursue cluster programs. The more cluster efforts can be integrated into broader regional and national competitiveness strategies, the more successful they can be.

Innovation, research, and skills

- A high capacity for innovation remains one of the key competitive advantages of the Baltic Sea Region that will need to be further developed to keep pace with demands.
- Innovation and innovation policy is still one of the areas in which the different parts of the Baltic Sea Region differ the most.
    - The Nordic countries and Germany have developed sophisticated systems of institutions, regulations, and policies to support innovation; they continue to develop these systems according to national needs.
    - The Baltic Countries and Poland have focused on increasing the efficiency of their economy and leveraging the solid skill levels of their labor forces but now aim to use structural funds to also increase innovation policy activities.
- In education, especially higher education, programs to enable exchange across the region have been the focus. Effective policy learning in the area of primary education systems from leaders in the Region is still more limited, despite the public focus on shortcomings in some countries in the Region.

There is broad consensus in the Baltic Sea Region that innovation is a critical strength that companies and locations in large parts of the Region compete on. The ability to maintain and, where possible, strengthen the innovative capacity of the Region is widely seen as a key determinant of whether the Region will continue to be among the most prosperous in the world. A strong skill base and high-quality research are two critical requirements for achieving high levels of innovation. The issues that the Region needs to address in order to achieve this goal can be organized around three dimensions:

- Address weaknesses limiting the effectiveness of the innovation structure.
- Identify and address systemic shortcomings of the existing structure.
- Review the impact of changes in the process of innovation on policy.

The first dimension relates to weaknesses that have been identified in the analysis of the Region's business environment in Part B of this Report. The lack of more truly world class research institutions that stick out of the current group of solid performers among European peers is one area that became apparent. This, of course, is also discussed on the European level in the context of the creation of a "European MIT". But there is little reason why Europe should not have more world-leading research institutions in specific fields, and the Baltic Sea Region is a natural location given its overall strength in the sciences. A second area is education where a number of countries in the Region register worrying results in terms of public school quality, particularly with regards to math and science education. The Baltic Sea Region is, however, also home to one of the top performers in this respect, Finland, so there is clearly room to move beyond the rhetoric and take real steps to address emerging weaknesses in parts of the Region. Finally, the use of government procurement as an instrument to spur demand has not been leveraged in the Baltic Sea Region. There is increasing recognition of the fact that early demand for new products and services is crucial for successful innovation, both because sophisticated demand provides crucial signals in terms of the economic viability of new ideas, and because the revenues from initial customers that are willing to test a new supplier are critical for start-up companies to survive and grow.

The second dimension relates to the structural weaknesses of the innovation system in the Region, especially in the Nordic countries. While inputs into the innovation system are very high and there are strong indications that knowledge creation, too, is strong, there is a long-standing frustration with the inability to reap the full economic benefits from the ideas being created. Start-up companies are being created but they either do not grow or move to other locations, particularly to the United States, once they are in a position to reach meaningful economic size. Another aspect of this situation is the strong focus on science-driven innovation in the Region. The broader concept of innovation in terms of new products, services, and ways to bring their value to consumers

is being alluded to in political rhetoric, but actual government programs very quickly reverts to science-driven innovation as a process to affect.

The third dimension stems from the changes in the innovation process, that were already touched upon in the previous section as a driver of clusters. Open innovation happens in networks of companies and institutions and thus requires very different incentives, rules and regulations, and institutional support than the old sequential model of universities and large company R&D centers. The emergence of significant science and research capacities in new locations like China and India also requires a rethinking of what should be done in the Baltic Sea Region and in what form. Innovation policy needs to review what changes need to happen in order to elevate the current, overall very successful, innovation system to the demands of a new open and global innovation landscape.

Innovation policy in Baltic Sea Region countries

Previous Reports have already provided a general description of the innovation systems and innovation policy approaches in the Baltic Sea Region. This Report will thus focus on more recent changes as well as some fundamental aspects of innovation policy across the Region.

Sweden launched a major innovation strategy report in 2004. "Innovative Sweden – a strategy for growth through renewal", called for improvements in the scientific base and selection of centers of excellence, innovation among SMEs, public investment (IT, infrastructure) and finally entrepreneurship and work organization. The report has not really become a catalyst for improving Sweden's innovative capacity but in some areas improvements are starting to emerge. A new research bill was later presented to the Parliament. The educational environment should be improved at all levels. University education has grown faster than resources have been added, leading to quality problems at some institutions. Sweden is close to the goal of 50% in higher education in each cohort. Preschools were allocated SEK 2 billion in 2006 in order to increase the number of qualified personnel and reduce the student-teacher ratio. Special efforts are also made to improve the educational environment in problem areas, e.g. by hiring more teachers. The Committee for Educational Science served as a source of expertise for the Swedish Research Council and allocated funds for research and postgraduate studies in teaching and learning. This was done in an effort to meet the needs in teacher training and education. The committee was a time-limited project which ended at the end of 2005. The focus on R&D is highlighted in the government bill "Research for a better life". The main focus is on long-term financing of "internationally competitive research environments" i.e. centers of excellence. In the recent election campaign, innovation was not a contentious issue; the opposition did not disagree with the government's focus on innovation, and parties from both blocks highlighted innovation as an important objective in their campaign material. Education, however, was a more critical topic, where the opposition argued for structural changes, in particular earlier use of grading and efforts to improve the learning environment in schools.

In Norway the government announced its intention to join the European Patent Organization (EPO). This should make it easier for Norwegian inventors to register European patents and give better access to the broad European knowledge pool. Steps were also taken to improve the capabilities and capacity of technology transfer offices in universities and research institutions; it is still too early to evaluate the impact of these measures. Following the Finnish example, Norway is also creating a number of centers of excellence to drive specialization and enable specific institutions in close collaboration with companies to create a critical mass of research in selected areas of expertise. In terms of efforts to enhance innovation by companies, the recently introduced R&D tax credit for small and medium-sized companies remains a key policy tool.

In Denmark, the government launched a new strategy in 2003 to redesign the Danish innovation system, with specific changes implemented in the university system, in research advisory services and in government research institutions. For universities, the governance structure was changed to introduce an external majority on the board of universities. In addition, knowledge exchange was added to the mission of universities. In 2002 the government had asked the OECD to evaluate the Danish university system. In the innovation advisory system, innovation policy advice was separated from the management of research grants. The Council for Strategic Research was created and in late 2004 presented an action plan to identify and target research areas of specific long-term interest to Denmark. These areas, so-called Innovation Accelerating Research Platforms, would have growth potential and a proven base of globally

competitive Danish research capability. Ten such platforms have been identified and funding requests have been made by universities and companies. Another key policy area is technology transfer: The Danish government had identified the low patenting rates of Danish inventors, especially in the United States, as a problem. In 2000, a new law on patents allocated the patenting rights to the institution financing the research, not the researcher, following the U.S. model. More recently a new law on technology transfer was passed and a National Network for Technology Transfer was created to enable the institutions to leverage their patents.

Finland has been one of the first countries to develop a broad set of innovation policy measures and institutions. But despite the praise that Finland often receives for its position in innovation, the discussion within the country shows an awareness that this position needs to be continuously reearned. In 2005 a blue-ribbon panel of experts assembled by SITRA issued "Making Finland a Leading Country in Innovation", arguing that Finland needed to do more to retain its position as a global innovation leader. A key focus of current policy initiatives is to improve the efficiency of the policy instruments being used. As part of that effort two of the largest funding programs, the TEKES Technology Programs and the Research Programs of the Academy of Finland, have moved towards competitive funding mechanisms, where only the best proposals receive financial support, not all that meet some threshold parameters. Among new initiatives, YRKE is a joint effort of TEKES, SITRA, the Ministry of Trade and Industry, and the Technology and Employment (TE)-Centers to strengthen the Finnish network of science parks and technology centers. In June 2006, the Science and Technology Policy Council decided to create new centers of excellence in five key areas of Finnish strengths (energy & environment, metal products and mechanical engineering, forest products, health & well-being, and ICT). Another new effort is the Finland Distinguished Professor (FiDiPro) funding program, a joint program by TEKES and the Academy of Finland to attract foreign researchers to Finland.

In Iceland there is, as in Finland, a trend to move towards more competitive funding mechanisms. A key priority recently has been the restructuring of the traditionally fragmented landscape of research institutions. A number of mergers were initiated to create fewer but stronger institutions with clearly differentiated profiles. One focus area is related to the fishing cluster, where the Food Research Institute is the new focal point for related research and the AVS-plan has been launched to increase the value of the marine harvest. Another focus area is related to life sciences; a new research program launched at the end of 2004 provides funding for post-genomic bio medicine as well as nanotechnology.

In the Baltic Countries, the availability of structural funds has led to a strongly increased focus on innovation policy, an area that had suffered from budget constraints in the past in all three countries. In Latvia, the National Program for Innovation sets out a broad range of activities focused on skills upgrading, finance, research infrastructure, and higher education. A new program on the "Promotion of science competitiveness" provides funds in five state research programs and a new Law on Research Activity revises the legal structure of research institutions. In Lithuania, the Ministry for Economy plans to increase the funds available for enterprise R&D projects seven-fold between 2004 and 2006 due to the availability of structural funds. Estonia, too, is in the process of developing a new innovation strategy to leverage structural funds in the 2007 to 2013 EU-budget cycle. There are also efforts to increase the visibility of innovation in Estonia, for example through the Innoawareness program launched in early 2005. Estonia benefits strongly from its close relations to Finland; some programs financed by SITRA have also been opened for grant applications from Estonian researchers. Estonia has overall focused more on creating a beneficial overall business environment than on incentives or support related to specific activities or industries. There is, for example, no R&D tax credit – the country aims to keep the overall tax rates low but does not introduce exceptions. Information technology, too, is pursued as a society-wide effort, not as a sectoral policy. The Tiger's Leap Program, an effort to promote elearning and ICT use in schools, is a good example of this approach. In terms of funding available for research, the country has, however, identified information technology, bio-medicine, and new materials as priority areas.

In Poland, the organization structure for innovation policy continues to be a key concern. A new strategy document "Increasing the Innovativeness of the Economy for the years 2007-2013" has been adopted by the Council of Ministers on 4 September 2006. It includes plans to create a high level Innovation Council, an idea that had been discussed earlier but had not been pursued. The strategy document

also recommends the establishment of an Innovation Agency, which would be responsible for innovation policy implementation. A further restructuring of the fragmented system of state research institutes is also expected. Innovation policy is currently the responsibility of the Ministry of the Economy (responsible for the demand side) and the Ministry of Science and Higher Education (responsible for the R&D supply). In the Ministry of Economy, the Economy Development Department has assumed responsibility for innovation policy from a previously existing Innovation Department. As in the Baltic Countries, Poland is now devising plans on how to best use the EU structural funds. The "Innovative Economy Operational Program for 2007-2013" provides guidelines on how these funds will be used for innovation policy purposes.

Germany and its federal states have a highly developed innovation policy system. After the federal elections, the aim was initially to concrete all innovation-related responsibilities in an enlarged Ministry of Economy. These plans were implemented only in part, so that now some responsibilities are with the Ministry of Economy while others remain with the Ministry of Science and Education. The Ministry of Science and Education has just launched a new High Tech-Strategy that outlines a broad set of activities both to strengthen the general environment for innovation and for specific activities in three broad functional areas. Interestingly, the government's cluster strategy is presented as an integral part of these efforts. The federal states in southern Germany tend to make much stronger financial commitments to innovation, but northern states like Schleswig-Holstein have created their own programs as well. The "Innovationsstiftung Schleswig-Holstein" provides financial support to link companies to universities and the small program "Innovationsassistent" supports small- and medium-sized companies when they employ qualified R&D personnel.

Russia has in the last two years started to become more active in innovation policy (see more generally in the next section). An important new instrument is the special economic area (SEA) for innovation, that intends to provide infrastructure and streamlined administration for research institutes and companies in a designated location. St. Petersburg, already home to a larger number of scientists and research institutions, won a tender for the creation of SEAs in two locations in the western and northern parts of the city in late 2005. In August 2006, St. Petersburg adopted a program for innovation and technological development for the next three years, with the central ambition to create a regional innovation system that can support high-tech businesses. Pilot projects like the creation of a regional competence center for engineering, a technology foresight analysis, and a benchmarking project versus other European regions are planned for 2006-2007.

Innovation policy in cross-national efforts

Innovation is also a critical topic in many cross-national programs in the Baltic Sea Region. The Baltic Metropolises project mentioned before, for example, has a specific work package on innovation, where the participating cities have created a platform to learn from their respective innovation policies and can also leverage their capabilities by creating stronger linkages between their innovation systems. Innovation is particularly concentrated in metropolitan areas that provide the combination of critical mass and diversity, so these efforts are clearly important also beyond the boundaries of the cities.

The strongest institutional base for cross-border innovation projects in the Baltic Sea Region is provided by the Nordic Council, which allocates around 50% of its overall budget to innovationrelated activities. The Nordic Council has set up two key institutions to drive its innovation agenda: the Nordic Innovation Centre and NordForsk. The strategic ambition is to create an integrated Nordic Research and Innovation Area (NORIA) for joint action in research and development as an integral part of the European Research Area (ERA).

The Nordic Innovation Center is the more business- and soft factor-oriented of the two institutions. It has a current portfolio of about 120 projects and networks. The activities are organized around six economic areas (creative industries, environmental technology, micro- and nanotechnology, innovative building, functional food, and food safety) and four cross-cutting areas (innovation policy, technology foresight, venture capital, and borderless region). Two key areas that have received a lot of attention recently are user-driven innovation and innovation in services, both areas that move further away from research and come closer to a broader concept of innovation. In user-driven innovation, in 2006 the Nordic Council of Ministers organized a Northern Dimension Learning Forum on User-Driven Innovation (NDLF-UDI) – a project to explore "state-of-the-art" user-driven innovation and policy measures

to support it. The program designed as a consequence will provide financing for projects in this area with a cross-border nature and support the development of proposals for relevant EU projects. In services, a recent study has looked at "creative industries", including fields like design, media, and tourism. It recommends efforts to upgrade business competence among entrepreneurs driven by their creative ideas, a strong focus on intellectual property rights, and a financial environment to facilitate investments.

NordForsk, the Nordic Research Board, was created in 2005 as an independent Nordic research institution with three key roles: coordination, policy advice, and funding. NordForsk coordinates research-related activities by identifying important research areas suitable for joint Nordic efforts, focusing funding on research areas of strategic importance in which the Nordic countries have common strengths, participating in the planning of key research infrastructure, and working towards common Nordic calls and partial opening up of national programs in research funding. Policy advice is given to the Nordic Council of Ministers but NordForsk also provides insights for national policy makers by creating a platform for policy learning and development. Funding, provided either alone or in combination with other national or international institutions, is provided for projects in education, research, and research infrastructure in all of the areas in which NordForsk provides coordination and policy advice. Grants distributed so far have included projects focusing on networks, research training courses and mobility scholarships within all disciplines, as well as Nordic research schools within specific disciplines (e.g. Biosphere-Carbon-Aerosol-Cloud-Climate Interactions, five graduate schools within the humanities and social sciences, and the Nordic Marine Academy). While the five Nordic countries are the central focus of NordForsk's activities, it makes efforts towards increasing collaboration with the other Baltic Sea states, especially the Baltic Countries and Northwestern Russia.

The governments of Denmark, Iceland and Norway agreed in July 2006 to establish a Nordic Patent Institute (NPI). Applicants from these countries can either file at the new institution or at their national patent offices. The new institution aims to extend cooperation with other patent offices in the Nordic area at a later stage.

Skills and education

Another key area of Baltic Sea Region collaboration with a huge impact on innovation is skills upgrading. There is a wide array of efforts on the national and subnational levels on education; we focus on cross-national initiatives, especially in higher education. Finland remains overall a role model for how to organize an educational system. In Germany, the OECD PISA-assessment of educational outcomes has raised particular questions about the performance of immigrants, a group that is also facing problems in other countries. In the Baltic Countries, skill development has now become more of a priority as skill shortages have started to open up in their economies. In Latvia, the focus is more on higher education, an area with the most serious shortages. In Estonia, vocational training, too, is a priority as this is an area that has been underfinanced relative to higher education in the last few years. Structural funds are generally used to upgrade the education infrastructure. In addition, regulatory changes are planned to increase choices for students and raise the quality of education.

Higher education has traditionally also been an area where efforts for student exchange and the cross-border collaboration between institutions have played a significant role. The Nordic Council has in this context recently decided to include the Baltic Countries in its Nordplus exchange program that provides funding for students in higher education who plan to spend longer periods of time at another institution in the Nordic/Baltic area. The Nordic Council has also funded a EuroFaculty in the Baltic Countries in the past, and is considering a roll-out of that program in Northwestern Russia. Scanbalt Campus, the cross-border training effort in the life sciences briefly mentioned in the discussion of cluster efforts, is another interesting example of an effort driven by a network of regional clusters.

Previous year's Reports have already presented information about the Baltic University Program, the Finnish-Russian Cross-Border University (CBU), and the Stockholm School of Economics' programs in Riga (1993), St. Petersburg (1997) and Moscow (2003).

Overall assessment

Innovation policy remains a critical area for the Baltic Sea Region; it is one of the foundations of its competitive success and an area where a lot of change requires constant adaptation of existing structures to remain in the lead. It is also an area where the different parts of the Region still play very different roles.

The Nordic countries and Germany invest heavily in R&D and many of their companies compete on their innovative potential. Innovation policy is accordingly focused on providing further resources to the innovation system, and to increase its operation by improving the performance of research institutions and increasing the level of collaboration between them and companies. The Baltic Countries and Poland are in a very different situation. Their companies compete largely on high efficiency relative to the local costs levels, a combination that is possible also because of the quite high standards of basic skills in the labor force. The public institutions in their innovation systems have often received little funding in the past and remained affected by the legacy of the old science systems from socialist times. The review of current trends in innovation policies indicates that the four countries intend to use the opportunity of EU structural funds to move beyond this phase and create the foundations of more knowledge-driven economies. This transition will not be easy, and it remains to be seen how much real change will follow from the rhetoric. Russia, discussed in greater detail in the next section, is also increasing its ambitions in the field of innovation. However, so far, even the research capacity outstrips the ability of Russian companies to use it, and for at least some time foreign investments in research facilities (like the Boeing research plant) and small Russian research start-ups with good linkages to foreign markets will be the prime users of Russian research capacity. Collaboration in the Baltic Sea Region can clearly ease these problems, by giving different countries different roles and opportunities that are appropriate to develop their true potential.

Russia in the Baltic Sea Region

- The strong growth of the Russian economy in recent years provides a benevolent environment for further economic integration with other parts of the Baltic Sea Region.
- Russia's economic policy is currently in a critical phase; different groups in the government try to interpret what a stronger government role in economic development should mean in practice.
- Regions in the Russian Northwest are engaged in many efforts to improve competitiveness; the success of these efforts differs hugely from region to region.
- Despite many attempts, the actual level of participation of Russians in the Baltic Sea Region efforts has historically been relatively low. The positive experience within the CBSS after the shift towards a more practical and result-oriented approach provides encouragement that the situation can be improved.

Russia's role as part of the Baltic Sea Region continues to be one of the most promising but also one of the seemingly hardest issues the Region is facing. In terms of economic outcome, times have never been better. The Russian economy is growing quickly and the level of integration with the global economy, including other parts of the Baltic Sea Region, is increasing (albeit from a low level). But many growth drivers are expected to lose effectiveness soon and the changes in Russian economic policies in the last few years are unlikely to provide a new growth dynamic. Hopes for closer collaboration with Russia within the Baltic Sea Region context continue to be hard to translate into real activity.

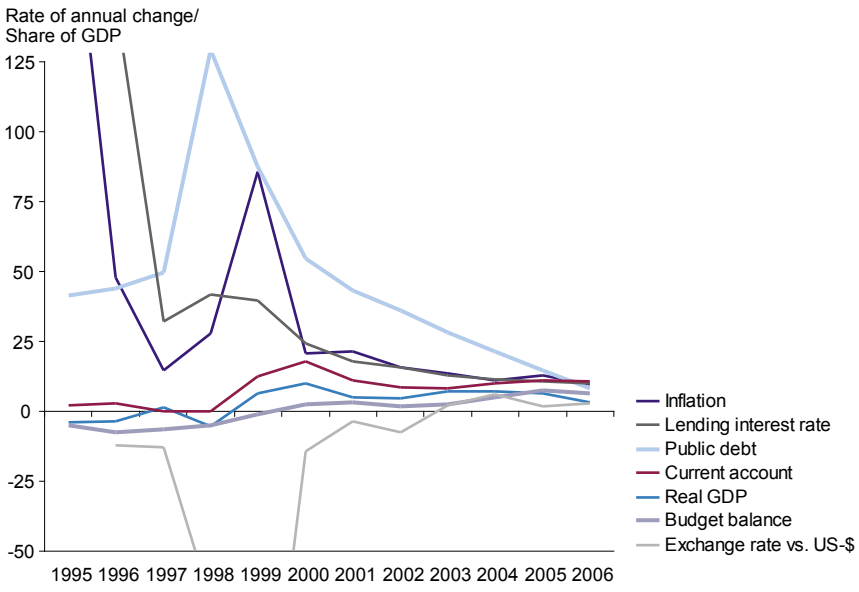
Russia's current competitiveness and economic strategy

The solid economic growth of the Russian economy ever since the end of the 1998 crisis, and the much improved fiscal and monetary policy environment, has created increasing economic opportunities for many companies from other parts of the Baltic Sea Region. Icelandic investors have made significant profits from taking an early position in the Russian food processing market, Swedish banks have become more active in the still small but growing Russian financial services market, and Nordic telecom operators see an increasing share of their revenue growth in Russia instead of in their traditional home markets. Russian inward foreign direct investment, long at very low levels, has started to increase significantly in recent years and for the first time has also reached beyond the natural resource sector. At the same time, more Russian companies are starting to reach out to foreign markets through IPOs in London or through acquisitions of ownership stakes in companies abroad. But while Russia registers a lot of positive economic results, there is also a significant amount of negative data to balance the picture. Growth has been significantly driven by oil prices and idle production capacity elsewhere in the economy, the productivity level remains moderate, investment is insufficient to stop the aging of the capital stock, and Russia's export positions outside natural resources remain weak.

In terms of economic policy the Russian Federation is currently in an important transition phase. Until 2004, the focus was on macroeconomic stabilization and, to some degree, on upgrading the business environment conditions. Since then the climate has changed. The Yukos affair was the first step in a broader decision of the government to take a more active role in economic development and industrial restructuring of the Russian economy. Since then, there was the de-facto re-nationalization of significant parts of the oil & gas industry (including pressure on foreign companies to renegotiate the contracts they have in this area), the creation of national champions in strategic industries – often with the involvement of government – linked companies, and the launch of a series of economic development efforts in terms of clusters, special economic zones, an investment fund, and other activities.

While the general trend towards a more active government role is clear, there is little agreement about whether there really is a consistent strategy in terms of the individual policies. Ministries within the government have distinctly different opinions. A recent example is the conflict between the Ministry of Natural Resources and the Ministry of Economic Development and Trade about whether or not some environmental licenses for foreign investors in a large oil & gas project in the Far East should be revoked. Even when the President takes a seemingly clear

Figure 37: Key macroeconomic indicators, Russian Federation



Source: EIU (2006) State of the Region Report 2006

policy stance, implementation does not always follow his directions; an example is Putin's clear statement that the tax authorities need to stop arbitrary actions against individual companies. The practice still continues, only somewhat less visibly. This lack of clarity in government policies is nothing new; during the Yeltsin presidency, power had also regularly shifted among different groups in the government with very different policy objectives.

There is even less agreement on whether these are, in sum, positive or not for Russian competitiveness. Some, especially liberal economists, argue that given the widespread corruption and weak institutions in Russia, every attempt to have the government play a bigger role will only lead to new excesses with public money diverted into private pockets. Others, such as the liberal camp within the Russian government, feel the need to at least do something to facilitate a speedier restructuring of the Russian economy than would happen if left to market forces alone. Their focus is on new economic development tools like special economic zones for innovation and production, whereas they tend to be more skeptical about the national champions' idea. A third group, generally the more conservative part of the government, views national champions as critical for Russia in order to achieve economic power that will then also support its political position in the world. The debate among these three groups occurs against the backdrop of a population still very skeptical about a market economy which for them is synonymous with private owners of large business groups (oligarchs) that have gained wealth through personal connections or illegal activities.

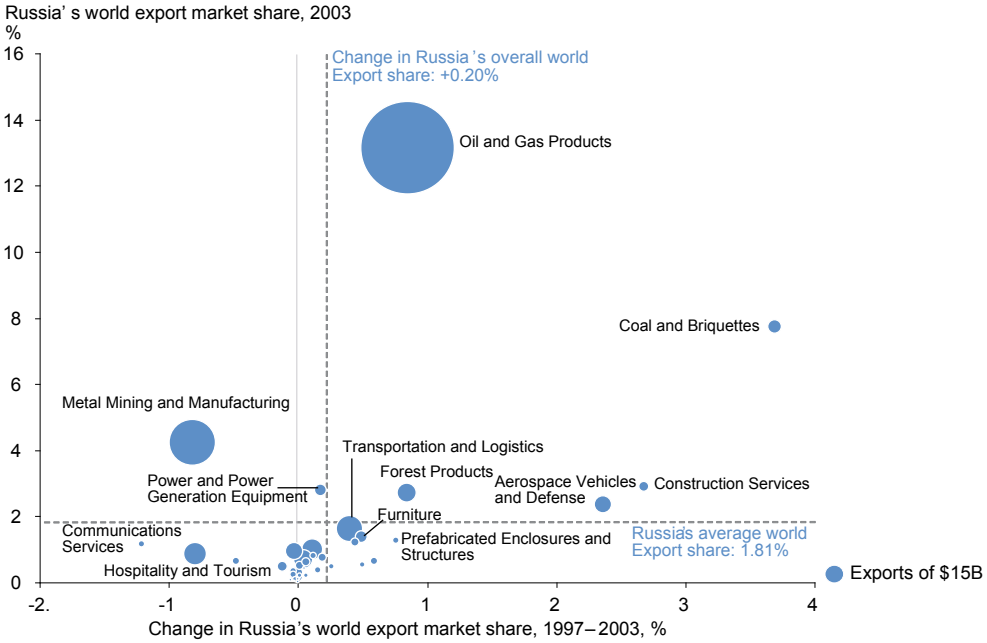
Economic developments and policy in Russia's northwestern region[1]

The positive economic trends in the Russian Federation have also been visible in the development of the parts of the northwestern region closest to the Baltic Sea.

St. Petersburg, the country's second economic center, had suffered much more than Moscow from economic reforms, but has in the last few years experienced a remarkable recovery. With 5.5 million inhabitants and one of the highest levels of GDP per capita in Russia, St. Petersburg is the largest consumer market not only in the Russian northwest, but in the overall Baltic region. The concentration of scientific institutes and universities is almost as high as in Moscow, creating opportunities for science-based industries. There are a number of factors that should support the future growth of the region. The port of St. Petersburg is the nation's largest, especially for foods, and continues to add capacity. The federal government makes investments in the city's infrastructure, has placed orders for naval ships to the city's shipyards, and provides incentives for large companies to move their headquarters to St. Petersburg.

[1] This section was prepared by Alexei Prazdnitchnykh, Baumann Innovation.

Figure 38: Export portfolio of the Russian Federation



Source: Prof. Michael E. Porter, International Cluster Competitiveness Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director. Underlying data drawn from the UN Commodity Trade Statistics Database and the IMF BOP statistics.

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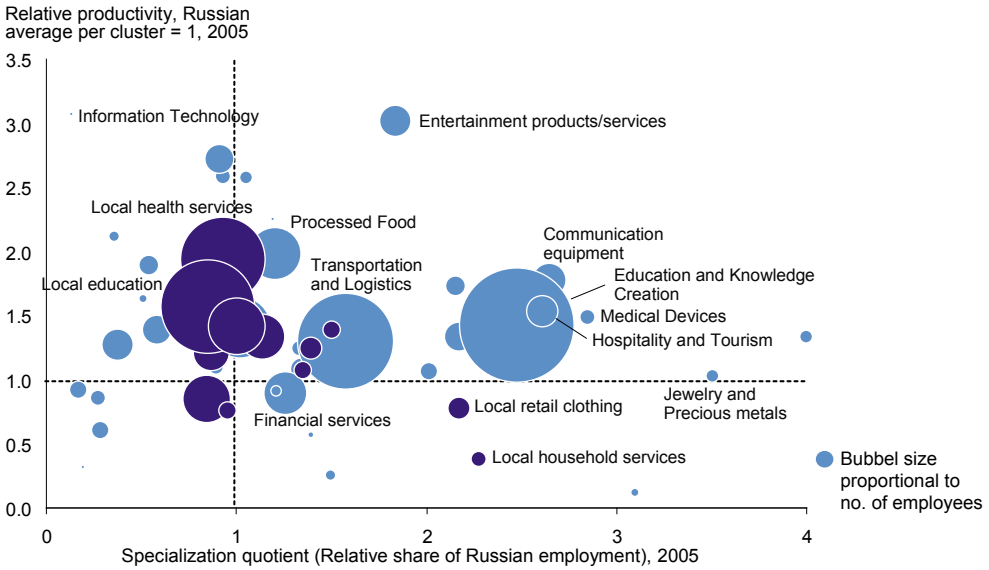
Finally, the administration aims to create a positive environment for the inflow of foreign investment and the city is already home to a significant number of aggressively growing Russian companies.

For years Leningrad oblast has been Northwest Russia's most dynamic region. The region has traditionally been focused on St. Petersburg but after the 1993 reforms the formerly single administrative entity was split into two units, St. Petersburg and Leningrad oblast. In the mid-1990s the regional government worked hard to create a favorable investment environment which attracted companies like Philip Morris, Kraft Foods, Ford, etc. As a result, regional wage levels are among the highest in the Northwest and the region is a net-contributor to the federal budget. In particular the food-processing, wood harvesting and processing, mechanical engineering, and chemical industries advanced. The region is now facing some of the problems of its past successes: shortages in labor supply and lack of adequate real estate, and the worn out, inadequate infrastructure (especially roads) which impede economic development. And the authorities seem more interested in large-scale projects, like the North-European gas main, a large liquefied natural gas factory Ust-Luga, than in improving conditions for many smaller investors and entrepreneurs. As a result, some enterprises which had planned to locate in the Leningrad region left for St. Petersburg or other parts of Russia.

Kaliningrad, the Russian enclave between Lithuania and Poland, was covered already in last year's State of the Region Report. The region has developed better in recent years than the still relatively low GDP per capita and wage data suggest, because of a large shadow economy. In contrast to other regions, this shadow sector is generally a source of income for the local population, and is not based on resource exports. Both the presence of the shadow economy, and last year's economic development of the region in general, are most importantly due to the status of the special economic zone, with tax and customs duty rebates. Various industries, from furniture making to car assembly, expanded in response to these incentives even though their value-added in the region is often minimal. Kaliningrad enter-prises use the special economic zone status to compete on the Russian markets, especially in furniture, paper products, and food products. The governor and his administration have in the last two years aimed to foster regional economic growth, also by addressing corruption more actively than before. But the region's prospects remain challenged by the uncertainty surrounding the special economic zone status and the dependency on the transportation corridor through Lithuania,

Figure 39: Cluster portfolio of St. Petersburg



Note: Local industries in blue; traded clusters in red
Source: Institute for Strategy and Competitiveness (2006

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which is affected by the political relations between Russia and Lithuania, and the EU.

The Murmansk regional economy is based on three pillars: the port, the fishing industry, and the extraction and primary processing of minerals. Stockmanovskoe gas field has huge potential to turn Murmansk into a key transport hub and create demand for mechanical engineering and metal working. Norwegian and Finnish companies are already extremely active in the region. The administration aims to improve the regional business environment and local entrepreneurs work together in many ways. The region is not densely populated, but has a favorable demographic profile. Traditionally military personnel lived in the region, people that have now become businessmen and mid-level managers.

The Novgorod region became well known for its reforms in the 1990s, especially the introduction of regional investment legislation. Reforms of the education system provided for high standards in professional training. This allowed the region to attract significant foreign investment and promote the development of large domestic enterprises. As a result, the basis of the regional economy has been formed by such foreign enterprises as Cadbury and Dirol in food-processing industry, RVS (a plywood manufacturer) in wood processing, and also such local enterprises as Alloys, a group of machine-building enterprises, and Akron, a manufacturer of fertilizers. The food-processing industry also expanded. Since the end of the 1990s, however, few additional improvements have occurred. Other regions have caught up with or surpassed Novgorod, and now wage levels in the region are among the lowest in the Northwest Federal District.

The Republic of Kareliy registers GDP per capita and wages levels and growth rates below the Russian and Northwestern Federal District average, although still above the majority of regions in the European parts of Russia. The regional economy is focused on wood processing: 4 large pulp and paper mills, roundwood, sawtimber, etc. Other important industries include tourism and mining (iron ore, etc.). Because of industry (wood processing and lumber) and geographical specificities (Finnish border), a significant part of the regional economy is under shadow, and strongly criminalized, so a lion's share of the income flows abroad. The state of infrastructure, communications, and social welfare in the region is moderate; the quality of education is somewhat better, with an excellent university.

Finally, the Pskov region has been the least successful part of the Russian Northwest and the country at large. GRP per capita is approximately one and a half times lower than in the neighboring Novgorod and Kaliningrad regions and two times lower than the Northwest average. The regional wage level is among the lowest in Russia. The regional in-

Table 12: Top clusters in the NW Russian region

Region	Cluster	Employment	Specialization
Saint-Petersburg	Education and Knowledge Creation	199764	2,48
Saint-Petersburg	Transportation and Logistics	139518	1,58
Murmanskaya oblast	Transportation and Logistics	35407	1,87
Saint-Petersburg	Production Technology	32264	1,57
The Republic of Karelia	Transportation and Logistics	22630	1,54
Murmanskaya oblast	Metal Mining	21996	13,92
Saint-Petersburg	Communications Equipment	18771	2,65
Murmanskaya oblast	Metal Manufacturing	17051	1,90
Leningradskaya oblast	Forestry and Primary Wood Processing	16542	4,07
Saint-Petersburg	Entertainment	15627	1,84
Saint-Petersburg	Hospitality and Tourism	15499	2,61
Saint-Petersburg	Analytical Instruments	14355	2,18
Leningradskaya oblast	Power Generation and Transmission	13602	1,76
The Republic of Karelia	Forestry and Primary Wood Processing	13562	6,09
The Republic of Karelia	Forest Products	13240	14,88
Novgorodskaya oblast	Chemical Products	11836	5,36
Kaliningradskaya oblast	Processed Food	10459	1,94
Leningradskaya oblast	Chemical Products	9100	2,06
Pskovskaya oblast	Processed Food	8839	1,71
Saint-Petersburg	Motor Driven Products	8676	1,74
Murmanskaya oblast	Power Generation and Transmission	8518	1,57
Murmanskaya oblast	Fishing and Fishing Products	7884	13,67
Saint-Petersburg	Building Fixtures, Equipment and Services	7322	2,15
The Republic of Karelia	Metal Mining	6658	5,41
Kaliningradskaya oblast	Forestry and Primary Wood Processing	5801	2,76
Saint-Petersburg	Publishing and Printing	5716	2,02
Pskovskaya oblast	Motor Driven Products	5083	6,78

Source: Institute for Strategy and Competitiveness (2006) State of the Region Report 2006

frastructure and social welfare systems are in crisis. In Soviet times the regional economy was based on two pillars, the military industrial complex and tourism. A number of important tourist attractions, including the city of Pskov with its historic architecture and the author A.S. Pushkin's house and museum, had been very popular tourist destinations in Soviet times. Today, however, there are few tourists and the core industry of the region is now lumber harvesting and processing which, however, is to a large degree in the shadow economy. Other industries present are mechanical engineering and food-processing. The textiles and clothing industry has also developed, taking advantage of low wages.

Throughout the region, there is a large number of regional, federal, and cross-border projects in place that aim to improve the competitiveness of northwestern Russia. Appendix 2 provides an overview.

Russia's role in Baltic Sea Region efforts

Many countries in the Baltic Sea Region, especially from the Nordic countries and Germany, have bilateral programs related to Russia. Finland is the most active, with efforts like the Russia program at SITRA, the efforts in North-West Russia by the Finnish Central Chamber of Commerce, the research conducted by the Bank of Finland Institute for Economies in Transition (BOFIT), and many more. There are also many cross-national Baltic Sea Region initiatives aiming to involve Russian participants. There is some success but almost all organizations and projects would like to see a stronger role for Russia. Russians tend to be more involved in projects that have very clear returns for all participants, whereas they are less engaged in overall policy discussions. Based on this experience, the CBSS has more recently focused on projects that meet such conditions, being concrete and result-oriented (see for instance the present Swedish CBSS Presidency priorities). This new approach has already shown results and the attendance and participation of Russia has markedly increased.

There are three prime reasons to explain why Russian engagement has in most cases not been as strong as hoped for. First, the Russian participants face resource constraints that are a practical barrier to their participation in meetings and working groups. The better economic environment of the recent past has improved the situation somewhat, but this continues to be a clear issue. Second, the institutional structures of the government in Russia are less stable and have

little experience with such cross-border collaboration. Participants can change frequently and the level of decision-making power they possess is hard to assess, often also for them. Third, Russia continues to be a centralized country and foreign relations are the prerogative of the federal government. The federal government, however, is, also for reasons of political balance, more focused on dealing with the European Union than with a group of countries in one of its many neighborhoods.

Overall assessment

Russia is in an important phase of its economic development and the implications of this are being felt in the northwestern region as well. Largely facilitated by increasing oil revenues, but also better macroeconomic management and earlier reforms, the Russian economy has been growing at a brisk rate in recent years. This has attracted many new investors, also from other parts of the Baltic Sea Region, to serve the Russian consumer market. But despite these positive developments, the Russian economy is fundamentally still in need of major restructuring. This is one of the reasons for the increasing role of the Russian government in the economy, which it feels it cannot leave to market forces alone But there are also other reasons, related to personal interests, political objectives, and misguided views of the drivers of the economic success, that have driven policy choices that undermine Russian competitiveness and ironically hurt Russians and Russian companies more than the foreign investors. It is open which of these two views will dominate in future policy-making in Russia. Either way, the country needs to also address the many structural problems around its judicial system and the political decision-making process to create the context in which long-term growth becomes possible.

Different regions in northwestern Russia have followed different economic paths, strongly affected by the quality of the economic policy choices made. With St. Petersburg as the central economic hub having huge potential, the region overall has good opportunities in which cooperation with the other Baltic Sea Region countries could clearly help. Cooperation is the goal of many organizations around the Baltic Sea, but the track record of engaging Russia is still disappointing. This has a lot to do with the structure of the government system in Russia. Russia's partners in the Baltic Sea need to continue to look for projects that have clear returns for all participants. This will over time improve the linkages, even if the structural barriers will continue to exist.

Positioning and branding the Baltic Sea Region

- Place branding becomes increasingly important as the competition between regions heats up.
- The Baltic Sea Region is facing significant challenges in creating a brand but cannot afford to be passive.
- A more comprehensive approach is needed to increase the impact of the efforts already under way by national and cross-national institutions to increase the visibility of the Baltic Sea Region or its parts.

Traditionally the concept of branding has been associated with companies and their products and services. The notion that a nation or a region is a brand, which needs to be differentiated from other regions and promoted internationally, is relatively new but is rapidly gaining interest. In the context of the changing competitive environment, this should not come as a surprise. With the level of rivalry among locations increasing and the number of locations vying for economic interest rising, marketing is a rational choice for regions to stick out and communicate the unique values they offer. The methods and approaches used, from simple communication campaigns in the media to elaborate branding efforts that involve large numbers of people, have become more differentiated and professional over time.

Within the Baltic Sea Region, there has for some time been a discussion about what the Region can do to raise its profile, both internationally and within its own borders. It soon became clear that the Region is facing a number of challenges. First, it is competing with a number of national and cross-national identities that will remain stronger than the Baltic Sea Region. The Scandinavian, Nordic, and Baltic groups of countries have a clear meaning for many people, while the Baltic Sea Region remains a geographic unit with unclear boundaries. Second, the Baltic Sea Region is, as the Report has pointed out in previous years, home to countries that differ significantly in their stage of economic development, recent historical experience, and many other dimensions that overshadow the common roots and history of relations that also characterize the Region. While this heterogeneity can be turned into an economic advantage, it is a clear challenge in terms of communicating the core values that the Region provides as a place to do business.

Current efforts to raise the profile of the Baltic Sea Region

Many individual countries and regions in the Baltic Sea Region have launched their own efforts to market themselves. For some this happens mainly in the context of a destination for tourists, others focus also on attracting foreign direct investment. Two examples show how different institutions in that context deal with the challenges of the term Baltic Sea Region. Nordea, the financial services group, widely communicates the "Nordic and Baltic Sea Region" as its home market. It is quite telling that the company feels that the term Baltic Sea Region alone is not clear enough and might fail to signal its position in the Nordic countries. Stockholm, the host of last year's Baltic Development Forum Summit, has just developed a new integrated brand that it is rolling out at airports, train stations, and on major highways leading into the city. Stockholm is branded as the "Capital of Scandinavia"; the Baltic Sea Region was considered too complicated a term to be useful in the global communication that the city is aiming for.

A predecessor of many efforts in the Baltic Sea Region is the Nordic Council, which has for many years worked to promote collaboration among the Nordic countries. In the context of this work, the Nordic Council has also tried to establish more clearly what is at the core of the Nordic model. A recent result of these discussions has been "Norden – a global winner region" which provides an interesting perspective on how a part of the Baltic Sea Region looks at itself. It is quite clear that the Nordic Council has identified communication and information to raise the awareness of the region both internally and internationally as an increasingly important element of its work.

The Council of Baltic Sea States (CBSS), the representation of the governments in the Region,

has also identified external communication as a new priority area. While the past objective of political stability could be achieved through meetings of government officials, the new mission of creating closer networks among citizens and companies requires a much stronger focus on involvement and broad mobilization. This can only be achieved, if the activities of the CBSS are visible and are conveyed to a broader public. This way, the Baltic Sea Region can be increasingly identified as a geographical arena that matters.

In terms of cross-border initiatives in the Baltic Sea Region, the investment attraction agencies, organized in BIPA, have started to work together to leverage the Region as an additional argument for why companies should locate in their respective countries. A first step was to start presenting the Baltic Sea Region which they all individually referred to in consistent terms to avoid creating confusion among investors. This also led to a debate on what a key joint value proposition could be for the Baltic Sea Region. "Advantaged access to Europe" is what is now put on the joint website of the BIPA members. A second step will be to join forces in countries like India where all Baltic Sea Region countries have an interest but no established presence of their investment promotion agencies.

The European Parliament is another forum in which the Baltic Sea Region is currently made the subject of discussions. The Baltic Intergroup has worked to increase the awareness of the Baltic Sea Region as an entity in the policy process of the parliament, creating a complement to the well-organized groups representing the interests of the southern parts of Europe. With the Finnish and subsequent German Presidency in the European Council, the Baltic Sea Region is currently in a one-year period in which the Region can be put on the European agenda. The second action plan of the EU Northern Dimension will expire at the end of this year and negotiations are under way between the EU, Russia, Iceland, and Norway to launch a new joint Northern Dimension framework with equal decision rights for all four partners.

The most ambitious effort towards developing a Baltic Sea Region brand has been launched by the Baltic Development Forum (BDF). BDF has for some time argued that the Baltic Sea Region has been too much of a well-hidden secret to the outside world. While it is seldom recognized as an integrated area by others, internally the awareness of the Baltic Sea Region as a joint platform is increasing, especially since EU enlargement has given a further push towards becoming an integrated economic and political entity. Earlier in 2006, the Baltic Development Forum assembled a small group of key representatives from business, government, and academia to prepare the ground for an ambitious branding effort building on many in-depth discussions in the past. Among the first steps the group will establish a suitable management system, and focus on the communication of visions, process and actions. Two of the leading nation-branding experts, Simon Anholt and Wally Olins, are acting as advisors to this initiative. The ambition of this work is to increase economic development and prosperity by positioning the region in the best way possible in Europe and globally. A recognizable brand will change the context in which information and communication about the Baltic Sea Region is being perceived. This can have a profound impact on collaboration in the Region, providing a much more supportive environment for efforts to upgrade competitiveness via cross-border activities. The concrete impact of a branding effort could then be felt across a number of economic dimensions:

- Pursue more effective investment promotion.
- Attract more visitors for leisure and business travel and tourism.
- Attract and retain the best and the brightest talent (brain gain).
- Leverage exports through an improved "region of origin" effect.
- Ensure successful integration into the world community.
- Build on complementarity of strengths between mature and transitioning economies.

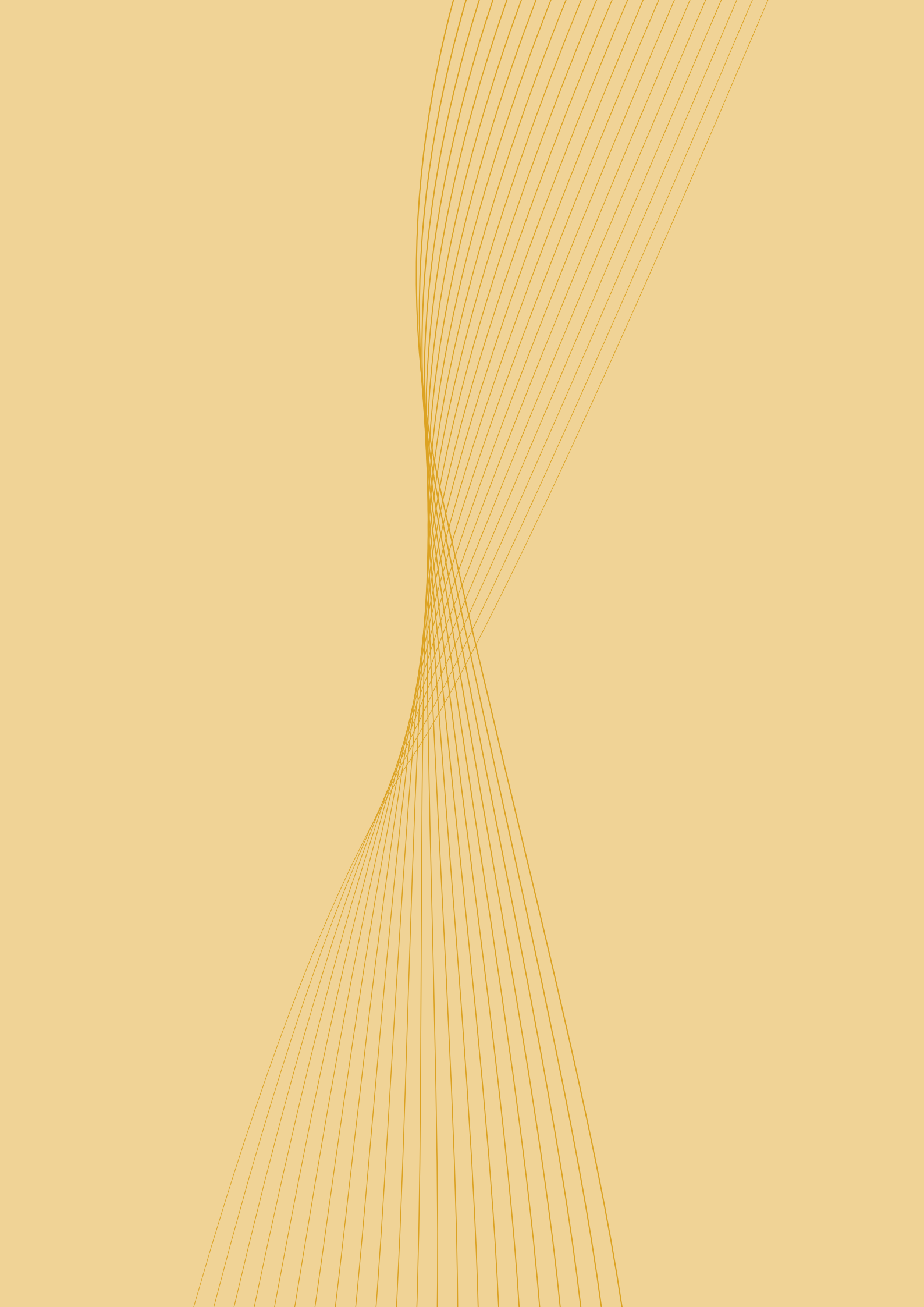
To achieve these ambitious and multifaceted objectives, the strengths and opportunities that characterize the Region need to be identified, strengthened, and communicated. Previous years' Reports have established the Region's leading economic position among other European countries and regions in terms of prosperity growth, labor productivity growth and scientific innovation; the same elements can be used to describe what the Region is about and why one should care about it. Other elements that could

describe the Region as a recognizable entity are common values such as stable democracies, proximity of markets, attractive investment climate, innovation, equality, high education standards, dynamic metropolises and the protection of the environment.

Branding is not a marketing campaign. Branding the Baltic Sea Region is about crystallizing and promoting a stronger and more competitive identity for the Region through a clearly articulated sense of common purpose. It is a long-term plan for earning and maintaining a distinctive, positive and competitive regional reputation, both within the Region and around the world. Marketing and communications are tools in this process, but they are not the primary means by which the regional brand will be built. Branding the Baltic Sea Region needs leadership and "brand champions" in order to secure both the vision and the political commitment to stay the course. Finding an effective way to identify and communicate the Region's brand is a challenge, especially since the Baltic Sea Region does not have any formal statutory or political identity. It is a "virtual" Region, an idea, which will only exist as a brand with a number of common features.

Overall assessment

In the new context of international competition between locations, the role of place branding and marketing has increased substantially. The Baltic Sea Region, too, faces the need to establish itself with a clear identity in the minds of people inside and outside the Region. Given the heterogeneity of the Region and the existence of established cross-national "brands" in some subregions, this is a challenging task. A number of initiatives are addressing these challenges to provide visible examples of how branding can make a concrete contribution to the competitiveness of the Region. What is needed, is an integrated approach that allows these effort to draw strengths from each other.



OUTLOOK:
The State of the Region in 2007

The next twelve months will be another important step in the evolution of the Baltic Sea Region cooperation.

A key political issue is the way that the Finnish and the subsequent German presidency in the European Council will be leveraged to put the Baltic Sea Region as a relevant political platform on the European agenda. The Baltic Sea Region has a significant contribution to make, given its economic performance and experience in moving towards increasingly knowledge-driven economies that are tightly integrated into the global economy. And the Baltic Sea Region has a lot to gain from a more dynamic Europe, in economic as well as political terms. Continental Europe is a key market for the Baltic Sea Region and as such, an important driver of growth. And Europe is home to many of the most natural partners for the Baltic Sea Region in terms of business and research.

A key economic issue is the way in which the Baltic Sea Region will deal with a potential slow-down in the world economy. The Region is strongly export-focused and current growth rates are exceptionally high in many countries. In an optimistic scenario, the slow-down will be accompanied by a lower oil price that will benefit most parts of the Region. For most countries, there are no major imbalances in terms of overvalued asset prices (real estate, stock exchanges) or balance sheets (public or private levels of debt, current account deficits) and in such a scenario the slow-down could be mild. But even then the countries of the Baltic Sea Region will face a slightly more challenging environment in which harder trade-offs need to be made between different efforts to upgrade competitiveness as well as between competitiveness and other policy objectives. Effective decision-making will depend to a significant degree on the nature of the public-private dialogue that individual countries have developed. The Baltic Sea Region can play a supporting role in overcoming barriers that might exist in individual countries.

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Key sources

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Appendix 1: The Global Competitiveness Report

The Global Competitiveness Report (GCR) is an annual publication of the World Economic Forum (see www.weforum.org), providing overall rankings and detailed information on the competitiveness of more than 100 economies which together account for more than 90% of the global GDP. For the last few years, the GCR has contained one ranking on Business Competitiveness (BCI) and one ranking on Growth Competitiveness (GCI). The BCI aims to explain the economically sustainable level of prosperity that can be reached given the microeconomic foundations of an economy; it is the index utilized in our Report. The GCI aims to explain the level of growth in the medium-term that a country can expect given its macroeconomic, institutional, and technological capabilities.

The BCI uses survey data from more than 10,000 executives as well as data from statistical sources on patenting and telecommunication infrastructure and from the Cato Institute's Economic Freedom ranking on legal and institutional aspects of the business environment. The following excerpt from Porter/Ketels/Delgado (2006): The Microeconomic Foundations of Prosperity: Findings from the Business Competitiveness Index in the 2006 Global Competitive-ness Report explains the key steps of the methodology:

"To derive the Business Competitiveness Index (BCI), we proceed using a two-stage approach. First, we use balanced country-level panel data to estimate the coefficients of the model. Second, we apply these coefficients to the 2006 data for each country to obtain the BCI score.

For the first stage estimation, we use the pooled data set to conduct two principal factor analyses, one covering the set of indicators of sophistication of company operations and strategy and the other for the indicators covering the quality of the national business environment. This procedure generates factor loadings for each indicator that are used to calculate a company sophistication subindex and a national business environment subindex value for each country and year. We then determine the weights of these two subindexes in the overall BCI from the coefficients of a multiple regression of the subindex values on GDP per capita (PPP adjusted) across all available years. Note that we regress year N data on year N+1 GDP per capita to capture the expected casual relationship between the two.

This procedure results in a weight of .834 for the national business environment subindex and .166 for the company operations and strategy subindex. This suggests that business environment factors as a group are a greater discriminator of differences in competitiveness across all countries than are corporate factors. This is perhaps not surprising given that companies often operate across multiple locations and that there are other mechanisms for the spread of company best practices. Business environment conditions are more caught up in local politics. The correlation between the business environment subindex and the company operation subindex is positive, signifying that improvements in the two broad dimensions of competitiveness move together.

For the second stage estimation, we use the normalized 2006 data on all indicators for the 121 countries in this year's sample and then apply the factor loadings and subindex weights from the panel regression to calculate the overall 2006 BCI score for each country.

[...]Differences in BCI account for a remarkable 80 percent of the variation in GDP per capita across a widely disparate group of countries."

Appendix 2: Economic development projects in north-western Russia

Table 1. Part I.

Policy area	International projects	Federal projects	Regional projects
Science and technology policies, innovation policies (R&D financing, technopark creation, venture fund creation)	NORUM – EBRD for NW Russia venture fund (SPb, established in 1995, assets: 85 $m – EBRD, 3 $m – private)	Creation of technological SEZ (SPb) Regional venture fund (SPb, 2006, 500-1000) SPFP «R&D in scientific and technological development priority areas for 2002-2006» (SPb)	Murmansk region science, technology and innovation development strategy till 2015 SPRP «Murmansk region science, technology and innovation development strategy» for 2006-2009 SPRP «Leningrad region scientific, technological and innovative development» for 2004-2006 (2004-2006: 57,6)
SME development (funds for SME development, special education programs, incubators)	Weran project (Sweden, 2001: Leningrad, 2002: Karelia, 0,25 €m, «Resource centers for women entrepreneurs»	MEDT SME development program for 2005-2008 – to date - first business incubator (SPb, November 2006: 14)	SPRP «Developing entrepreneurship in Murmansk region» for 2005-2008 (2005-2008: 53,4, 2006: 16,4, including 3 «Apatity» technopark, and 2 – technology transfer center in Kola RAS science center) SPRP «SME development and government support in Leningrad region» for 2006-2008 (2006: 52,6, 2007: 57,7, 2008: 61,4) «Republic of Karelia SME support program» for 2004-2005 (2004: 3) SPRP «Pskov region SME support and development program» (2002-2006: 102) «Plan of measures for SME development support in St Petersburg» (2006: 50, 2007: 100, 2008: 140) Soletskyi business incubator (Novgorod, 2004: no data on financing)
Cluster development (cluster initiatives implementation)	Kola region tourism development strategy (Finland)		Murmansk construction industry development strategy till 2015 SPRP «On-shore fish processing development» for 2006-2008 (Murmansk, 2006: 20) SPRP «Woods of Leningrad region» for 2003-2010 (details unavailable) SPRP «Leningrad region mineral resources base development and utilization» for 2006-2010 (2006-2010: 134,4, 2006: 65,3) SPRP «Tourism and recreation development in Leningrad region» for 2006-2008 (2006: 4,3, 2007: 3,6, 2008: 4,1)

Table I. Part II

Policy area	International projects	Federal projects	Regional projects
Planning and implementation of regional development strategies	Murmansk and Laplandia (Finland) regional authorities cooperation plan for 2006-2007 Cooperation treaty (for 2000-2010) between the Republic of Karelia and the Tromse province (Norway) Cooperation agreement Pskov region administration and the city of Goulbene, Latvia (2004) Euroregions (Euregio): Euregio «Baltic» (1998, **Kaliningrad**, Denmark, Poland, Sweden, Lithuania и Latvia) Euregio «Karelia» (1998, 3 provinces of Finland) Model Euregio «Pskov-Livonia» (2004, Lithuania, Estonia) *and its alternative -* UNIDO-UNDP project «Planning and implementation Chudskoe (Peipsi) lake basin management program» (2004, **Pskov**, Estonia)	FPRD «Kaliningrad region development program till 2010» (2003-2006: **93092,84**, 2006: **9848,68**, II phase began in 2006-2010)	Petrozavodsk city development strategic plan till 2010 General directions of social and economic development strategy for Northwest Federal District till 2015 Novgorod region social and economic development strategy for 2006-2020 Republic of Karelia economic and social development strategy for 2006-2015 Development strategy of Leningrad region (до 2006) and its municipalities (до 2010) *Kaliningrad region social and economic development strategy Pskov region social and economic development strategy* *(fiercely criticized by the Russian Ministry of Regional Development, they must be changed completely)*
Investor-friendly policies (developing investor-friendly policies, investment agency creation)	Republic of Karelia investment portal and interactive map (EU, «Electronic Karelia» project, 2003)		SPb Industrial Investment Agency created (SPb, 2005) Plan of measures for SPb industrial development for 2005-2007 (2006: 80) Presentations of Karelia investment potential in NY, Finland and SPb (2004)
Upgrading education for economic development (professional education)	«Development of pre-high-school professional education in the Republic of Karelia» project (2007-2009, EU, National educational authority of Finland, 0,3 €m)		SPRP «Leningrad region education system informatization» for 2002-2006 (255,5 за 2002-2006)

Table I. Part III.

Policy area	International projects	Federal projects	Regional projects
Other directions (EPZ, and special economic zone creation, industrial parks creation)	SME industrial park (SPb, Sitra - Finland, 150 €m) IT-парк Technopolis (SPb, Technopolis – Finland, 5340)	SEZ Kaliningrad (SEZ mode for all Kaliningrad region)	Technological SEZ, industrial zone «Noidorf» and Novo-Orlovsky park (SPb) Furniture technopark (SPb) SPbSU in name of Bonch-Bruievich technopark (SPb, 26700) Technopark development plans for 2007-2010 (SPb, 14 €m)
Infrastructure development (ports, roads, using PPP)	EU programs: «Interreg III A Kolarctic» (Murmansk, Finland, Norway, Archangelsk region, 3,5 €m) «Interreg III A Karelia» (Karelia, Finland, 4,0 €m) «Interreg III A Neighborhood» (Kaliningrad, Lithuania, Poland, 4,5 €m), «Interreg III A Neighborhood » (Leningrad, SPb, Finland, 6,5 €m) «Interreg III A Программа «Neighborhood» Priority North» (Leningrad, SPb, Pskov, Estonia, Latvia, 7,84 €m)	SPFP «Russian transport system modernization…» (2005: 10000, SPb – belt highway; 2006: SPb 167, Novgorod, 164, Pskov, 80, Karelia, 40 – roads; SPb, Leningrad, Murmansk и Kaliningrad - ports) SPFP «Energy-effective economy…» (Leningrad, 2005-2006: Baltic pipe transit system and North-Europe gas main)	Large infrastructural projects in SPb (2006-2009: 125500): Western High-Speed Diameter 53400 New Passenger Sea Port 8277+ alluviation no data Hotel infrastructure 21360 Moscovskaia-Tovarnaia station area 3200 Orlovsky underwater tube 26000 Aboveground rapid transit 80

Table I. Part IV

Policy area	International projects	Federal projects	Regional projects
National projects in regions: Education Healthcare Agriculture Homebuilding		Homebuilding (2006: Leningrad, 140, Pskov, Murmansk, Karelia) Healthcare (2006: Leningrad, 522, SPb, 60, Kaliningrad, 43, Murmansk, ок 200, Karelia, 28,4; plans till 2010: Karelia, 1432) Education (2006: SPb, 200 – business-school, Murmansk, around 100, Karelia, 128,4, Leningrad, 181) Agriculture (2006: Kaliningrad, 120, Leningrad, 570; plans till 2008: Karelia, 708)	SPRP «On government support for mortgage in Kaliningrad region» for 2006-2010 SPRP «Housing of young families in Murmansk region» for 2006-2008 SPRP «On government support of those citizens in need of improvement of housing conditions in Leningrad region, based on principles of mortgage financing » for 2003-2012 (270 за 2003-2012) Plans for the program of renovation of old buildings in SPb (SPb)
Enhancing efficiency of administration (implementation of result-oriented budgeting, education for government officers, etc.)	«Enhancing efficiency of government administration and implementing administrative reforms in Northwestern Federal District of Russia» conference (07.12.2005, Pskov, Finland trust fund, aimed at learning from experience exchange)		Implementation of result-oriented budgeting – experiment in education sector (SPb, 2007) Implementation of result-oriented budgeting, for 2005 budget (Karelia, 2004)

Abbreviations:

SPFP	special-purpose federal program
FPRD	federal program of regional development
SPRP	special-purpose regional program
SEZ	special economic zone
MEDT	Russian Ministry of Economic Development and Trade
RAS	Russian Academy of Sciences

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Dr. Christian Ketels is a member of the faculty at Harvard Business School and Principal Associate at Professor Michael E. Porter's Institute for Strategy and Competitiveness (ISC). He holds a PhD (Econ) from the London School of Economics and further degrees in economics from the Kiel Institute for World Economics (IfW) and the University of Cologne. He is also a Senior Research Fellow at the Centre for Strategy and Competitiveness at the Stockholm School of Economics. Dr. Ketels serves on the board of the foundation Clusters and Competitiveness, a not-for-profit organization located in Barcelona, Spain and is member of a number of policy advisory groups in Europe, Asia and the Americas. He has led many initiatives and research projects on national and regional competitiveness, has written widely on economic policy issues, and is a frequent speaker at events in Europe, the United States, and Asia on country competitiveness and company strategy.

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