

## Economics of the Northern Dimension

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## Preface

In 1995 Finland joined, together with Sweden and Austria, the European Union. The integration strategy of Finland is to be an active partner in shaping Union policies. In concrete terms, this has meant that Finland was among the countries to join EMU in its conception in 1999. Another example of this has been the Finnish initiative of the *Northern Dimension* in 1997, which has been adopted by the European Council on the agenda of the Union. As such, it covers Union policies and bilateral links in the northern part of Europe with the aim to increase stability, both political and economic, and prosperity through increased co-operation in the Region.

ETLA, The Research Institute of the Finnish Economy, has carried out intensive research throughout the entire 1990s on economic transition in the nearby countries and regions of Finland, especially in the Baltic countries and Russia. Therefore, in order to celebrate the first Finnish Presidency of the Union in the second half of 1999, we considered it to be a proper venture to organise a conference on the economics of the *Northern Dimension*. This is the collected volume of the papers and comments presented in the conference.

The financial contributions to this project by the Finnish Ministry of Trade and Industry and the Ministry for Foreign Affairs are gratefully acknowledged. I thank Dr. Kari E.O. Alho, Research Director at ETLA, for bearing the major responsibility of organising the conference and being the editor of this volume. Many thanks also to Ms. Arja Riih  for acting as the conference and editorial secretary and Ms. Tuula Ratapalo for typing the volume. Dr. Anthony de Carvalho has assisted in language checking. The volume is based on the contributions by the various speakers and commentators, and I warmly thank them all, as well as the active audience and the chairmen of the conference.

Helsinki, May 2000

Pentti Vartia

Managing Director, ETLA



## List of Conference Speakers

**Alec Aalto**, State Secretary for EU Affairs, Prime Minister's Office, Finland

**Kari E.O. Alho**, Research Director, The Research Institute of the Finnish Economy (ETLA)

**Hannu Arkonsuo**, Managing Director, Arewcon-development, Finland

**Richard E. Baldwin**, Professor, Graduate Institute of International Studies, Geneva and CEPR

**Erik Berglöf**, Professor, Stockholm School of Economics and CEPR

**Grigori Dudarev**, General Director, Solid Invest Group, St. Petersburg

**Gunnar Eliasson**, Professor, Royal Institute of Technology, Stockholm

**Erik Forsman**, Director, Confederation of Finnish Industry and Employers

**Carl B. Hamilton**, Professor, Stockholm School of Economics and CEPR

**Inkeri Hirvensalo**, Director, Institute for Markets in Transition, Helsinki School of Economics

**Juha Honkatukia**, Research Supervisor, The Research Institute of the Finnish Economy (ETLA)

**Outi Honkatukia**, Administrator, OECD

**Einar Hope**, Professor, Norwegian School of Economics and Business Administration, Bergen

**Jaakko Iloniemi**, Managing Director, Centre for Finnish Business and Policy Studies (EVA)

**Jaak Leimann**, Professor, Tallinn Technical University, Former Minister of Economic Affairs, Estonia

**Kaj-Peter Mattsson**, Ministerial Adviser, Finnish Ministry of Transport and Communications

**Markku Ollikainen**, Professor, University of Helsinki

**Michael Rauscher**, Professor, University of Rostock and CEPR

**Wolfram Schrettl**, Director, International Economics, DIW, Berlin

**Timo Summa**, Director, EU Commission

**Pekka Sutela**, Head, Bank of Finland, Institute for Economies in Transition

**Matti Vuoria**, Chairman, Fortum Corporation, Finland

**Peter Westin**, Senior Research Fellow, Russian European Centre for Economic Policy (RECEP), Moscow, and Stockholm School of Economics

**Mika Widgrén**, Professor, Turku School of Economics, Yrjö Jahansson Foundation and CEPR

**Józef Wiejacz**, Ambassador of Poland to Finland

**Valery Yaroshenko**, Deputy Trade Representative of Russia, Helsinki

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**Urpo Kivikari**, Professor, Turku School of Economics

**Pekka Sutela**, Head, Bank of Finland, Institute for Economies in Transition

**Pentti Vartia**, Managing Director, The Research Institute of the Finnish Economy (ETLA)

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# Introduction

*Kari E.O. Alho*

The Northern Dimension, as launched in the Finnish initiative to the EU in 1997, comprises not only the relationships between the countries in the Region but also their relations to the EU at large. Its aim is to provide a framework and a channel for the European Union to promote stability and prosperity in countries and regions located in northern Europe at or near the borders of the Union.

Geographically, we can define the Region in several ways to include in a broad sense countries which are either Nordic countries or countries of the Baltic Sea area, or even to include all countries within the Euro Arctic co-operation. In a narrower definition, we only include the Nordic countries, the Baltic countries, Poland and the regions of the big countries, like Russia located at the Baltic Sea or limiting to the EU outer border.

There are four distinct categories of countries in the Region defined by their relation to the EU: there are EU members, there are Nordic countries outside the EU, there are EU applicant countries and there is one country in its own category, namely Russia. This implies that the policies to promote stability and growth within the Region have to have a multi-faceted approach and operate in various bodies and networks of co-operation.

In economic terms, the differences within the Northern Dimension are marked. But this also provides room for efficient co-operation and utilisation of the resource bases of the different countries within the Region. Accordingly, the ties are also quite close as the intense links between, e.g., the Nordic countries and the Baltic countries reveal. We can, on good grounds, define the Northern Dimension as an economic region of its own in Europe with substantial potential for growth.

The conference on 'Economics of the Northern Dimension' was held in Hanasaari, the Swedish–Finnish Cultural Centre, located to the west of Helsinki, on the Gulf of Finland, the Baltic Sea, on September 16-17, 1999. This volume comprises the collected papers and comments presented in the conference.

The idea of the conference was to consider and discuss views on the concept of the Northern Dimension presented by both academics, representatives of public authorities and businesses covering the key areas

relevant to the Northern Dimension from an economic point of view. We hope that the following collection contributes to future efforts to create value added to the concept of the Northern Dimension.

This volume consists of three parts. First, the economic ties and problems within the Region are analysed. The second part turns to consider co-operation using the approach of sectoral and regional studies, and the third evaluates the role of the EU, the key actor in the Region.

## **Part One            Economic and Political Ties within the Northern Dimension**

In *Chapter 2*, **Alec Aalto**, State Secretary for EU Affairs, Prime Minister's Office, Finland, notes in his opening presentation that the concept of the Northern Dimension covers ten countries: the five Nordic countries, two of which are outside the EU and three members of the EU, four EU aspirant countries, i.e. Poland and the three Baltic countries, and the nearby regions of Russia, with a total population of 84 million people. He considers that FDI is a key factor enhancing growth, but some major barriers exist in this respect, especially in Russia. The Northern Dimension is a political process that will produce results gradually by creating preconditions for the private sector and is not meant to be an EU development aid programme. He also emphasises other aspects of the Northern Dimension than purely economic ones, such as legislation, the need to invest in human resources within the Region, communications networks and internal security.

In *Chapter 3*, **Jaakko Itoniemi**, Managing Director of EVA, the Finnish Centre for Business and Policy Studies, opens up the discussion on the political arena of the Northern Dimension. He singles out a great many international bodies working already in this Region and remarks that there is a good deal of political will to co-operate but still relatively little readiness for deeper political integration. He considers the Finnish initiative as a deliberate effort to turn the attention of the Union northbound, as a kind of counterbalance to the Southern (Mediterranean) Dimension of the EU. Yet, there are profound differences between them, most notably in population trends, non-existence of gaps in borders, and richness in mineral resources like oil and gas. The utilisation of these resources may, in his mind, revolutionise the character of the whole region. However, the political impediments to this kind of virtuous spiral are substantial, so that increasing all kinds of ties between Western Europe and Russia are of utmost importance. The

Northern Dimension is the beginning of a long and arduous process – taking decades rather than years – which should ultimately lead to a more stable and prosperous northern Europe.

*Chapter 4* by **Kari E.O. Alho**, Research Director of ETLA, is a general presentation of the economic interrelationships and developments within the Northern Dimension. He points out three basic economic issues within the Northern Dimension: first, there are close ties within the Region, especially in trade, where the countries trade with each other more intensively than the basic gravity model of foreign trade would predict, second, economic developments within the Region have not uniformly been very successful, however, and third, there are wide disparities in economic performance. Then he turns to analyse the contribution that the West and the EU could make to speed up economic growth and concludes that each nation is in the end responsible for its own economic success. Macroeconomic ties are also important in the Region and likely to be somewhat changed as a result of EMU, as evident in, e.g., the Russian crisis having had only a subdued effect on the rest of the Region.

*Chapter 5* is an evaluation of the linkages within the Northern Dimension from the point of view of trade structures and the new theory of economic geography explaining the location of industries by Professor **Mika Widgrén** from the Yrjö Jahnsson Foundation and the Turku School of Economics and Business Administration. He first engages in an in-depth analysis of the structure of trade between the EU, on the one hand, and Poland and the Baltic countries, on the other.

In general he finds, similar to Kari Alho in *Chapter 4*, that the Northern Dimension countries (NDC) form an area of natural trading partners and have potential for sizeable future growth in trade. Their trade patterns differ markedly, however, so that Poland is more oriented towards the German market, while, of the Baltic countries, Estonia and Latvia are more directed towards Finland and Sweden. The author also finds that the comparative advantage of these countries vis-à-vis the EU market is quite different from that of the EU countries, as is intuitively quite clear, and furthermore that the three Baltic countries have similar comparative advantage with each other in the EU markets. This implies that the accession of these countries to the EU should be simultaneous so that they do not have to face potential disadvantages resulting from different market access with respect to each other.

A trade analysis also shows that the EU candidate countries do not have extensive trade in intra-industry trade (IIT) with the EU. However, quite a high share of Estonia's trade with Finland and Sweden is

IIT, and the same holds for trade between Poland and Germany and Lithuania and Denmark. Widgrén shows that this has been associated with an expansion of foreign direct investment by firms in these EU countries to these CEE countries. As a final item, he considers what the new theory of economic geography can predict of the future location of productive activities in the region of the Northern Dimension. This literature has identified that the forces of both agglomeration and dispersion are at play in the integration process. He concludes that there may be some more, although not an overall, relocation in industries within the Northern Dimension, but more likely to be complementary gains from integration in both the CEE and EU countries in the Region.

In *Chapter 6*, **Gunnar Eliasson**, Professor at the Royal Institute of Technology, Stockholm, takes an eclectic view on economic developments within the Baltic Rim, starting with a long historical perspective from the times of the Vikings to the present challenges of transition and the affluent western countries in the Region. He identifies the efficient sea transport system across the Baltic and North Sea regions as the cohesive factor tying these two seas together. He strongly argues that the adequate catalyst for growth will click in automatically, once large-scale corruption and the extreme risks of political opportunism have been eliminated.

Regarding economic policy, he suggests a Schumpeterian policy recipe of three basic stages: first, get the institutions right, second, encourage foreign investments and, third, open up resources for expansion and development through a policy of “creative destruction”. The Baltic and North Sea countries may even become an attractor for new investment from all over the world, as successful as they were in the old days of the Vikings and the Hansa. The growth is, however, likely to be unevenly distributed. As a policy instrument, Eliasson proposes an insurance fund, endowed and managed by the western countries, that protects western investors from adverse consequences of political risk still prominent in some countries in the East.

## **Part Two            Sectoral and Regional Studies**

In *Chapter 7*, **Kaj-Peter Mattsson**, Ministerial Adviser, Finnish Ministry of Transport and Communications, turns to consider concrete plans of co-operation in the field of transport. He identifies four main Pan-European transport corridors within the Northern Dimension linking the capitals of the Nordic countries to each other, the Nordic

countries and the Baltic countries together and to the EU, and linking Russia, to and through the Region, further to the EU. He notes that the real obstacle to promoting these transport corridors is the lack of adequate funding, even though the EU finances, through its various programmes, sizeable investments in this area. In the end, each government has to finance its transport system with its own funds.

The concept of the Northern Dimension contributes in his opinion to the promotion of transport investment by, first, focusing political attention in the EU to the north, and by focusing on the long distances in the Region and thereby also on the key role of transport. Transport policies should pay due attention to environmental concerns. A common 'transport policy language' should be reached within the Region to meet jointly the challenges of trade, logistics, and the environment here.

In *Chapter 8*, **Matti Vuoria**, Chairman of the Fortum Corporation, Finland, evaluates the energy markets within the Northern Dimension. He starts by noting that, somewhat paradoxically, in contrast to the four basic freedoms of the Internal Market, there are still obstacles to the free flow of energy within the EU. He also points out that there has been a fundamental change in the roles of the governments and businesses in the energy markets, so that the key role of the former has been substituted by that of business corporations in the infrastructure and transfer of, and investment in, energy. The dependence of Western Europe on imported energy will rise dramatically in the future and much of this demand will have to be met with supplies existing within the Northern Dimension. The Northern Dimension is a suitable region to meet this excess demand, if the energy supply infrastructure can be established through the Baltic Sea routes. This basic fact has to be accepted by the governments in the Region. The regional energy network and energy flows have to be considered and efficiently integrated with the wider perspective of European energy networks. The future of the Northern European energy markets cannot be based on any single source of primary energy, either.

*Chapter 9* turns to environmental issues. Ms. **Outi Honkatukia** from the OECD, Dr. **Juha Honkatukia** from ETLA and Professor **Markku Ollikainen** from the University of Helsinki evaluate pollution control in the Baltic Sea. They consider eutrophication in the Baltic Sea caused by nitrogen pollution. They first evaluate, in the tradition of the literature on transboundary pollution, the noncooperative solution, where each country minimises the sum of the cost of pollution and its abatement cost independently from each other. This is, however, nonoptimal from the point of view of the Baltic Sea. Then the coop-

erative solution is presented, where each country also takes into account the transfer of nitrogen pollution to other neighbours around the Baltic Sea. This leads to more abatement and less pollution than the noncooperative solution. The actual solution reached in the Region is a 50 per cent club solution, where the nine partner countries around the Sea agreed to cut their nitrogen and phosphorous effluents by 50 per cent. This is, however, less efficient than the full cooperative solution, as it does not take into account the existing differences in the marginal costs of reducing pollution, which should be equalised under efficient cooperation. There is also a cost-efficient way to achieve the given target of an aggregate reduction with the minimum total cost.

Next, the empirical calibration of the model is carried out for nitrogen emissions in the Baltic Sea. For the partner countries, the shares of their own emissions in their total concentration of nitrogen varies widely. Specifically, for the EU countries in the Region and Estonia, the shares of foreign sources are marked, more than 50 per cent, while for the rest of the countries domestic sources are the dominant factor. The authors then compare the club solution, where each country reduces its emissions by 50 per cent to the cost-efficient solution where the sum of the total abatement cost is minimised given the aggregate target of 50 per cent reduction. As the costs differ markedly between the countries, the cost-efficient solution is much cheaper than the straight-line reduction scheme. The aggregate cost of the former is only a little more than 20 per cent of the latter, to which the countries have committed themselves. Thereby, also the burden placed on the countries to abate their emissions differ markedly between the two solutions. The authors also find that the countries have not, in general, followed either of these paths in their emissions; instead of putting the emissions on a decreasing trend, they have increased significantly between 1990 and 1995.

*Chapter 10* is a concise presentation of the Polish view on the Northern Dimension by Ambassador to Finland **Józef Wiejacz**. He states that Poland has again resumed its key historic role in Central Europe and reestablished its close historic links within the Baltic Sea Region. In contrast to the strained relations between Poland and Russia and the Soviet Union, there is now a genuine opportunity for change in the bilateral relations between them and in the multilateral relations between the EU and Russia, of which the new EU common strategy on Russia is a manifestation. Now, Poland's main goal is to join the European Union and much needs to be done to accomplish this task. Polish membership is a positive factor, not a threat, to cooperation with Russia as well. There is also important regional cooperation with the Rus-



sian territory of Kaliningrad. He welcomes the Finnish initiative of the Northern Dimension, but would like to see funding to stimulate the realisation of large scale and ambitious infrastructure projects in the Region.

In *Chapter 11*, **Valery Yaroshenko**, Russian Deputy Trade Representative, Helsinki, offers a Russian view on the concept of the Northern Dimension. He points out that the significance of the Northern Region is increasing due to a number of reasons. For example, it is the only geographical link between the EU and Russia, which is important since an ample supply of energy and other resources are located in the Region and the sea routes go through the Region. In his view, the concept of the Northern Dimension opens up possibilities for common projects of mutual interest, of which the countries, especially Finland, in the Region have many ideas. These projects can also contribute to revival and transformation within the Russian economy. What is needed now, is to proceed from the preliminary stages of information gathering and dissemination to financing of the actual projects in practice.

In *Chapter 12*, Research Fellow **Peter Westin** from RECEP, Moscow, gives a detailed view on the macroeconomic developments in Russia since the August 1998 crisis. This period is marked by the deflationary forces that emerged as the rouble depreciated heavily, which have boosted domestic production. Industrial production revived quite favourably and imports fell markedly, by almost 50 per cent, which created a strong substitution effect allowing the domestic production to expand. The developments have been clearly better than was generally predicted in the early post-crisis evaluations of Russia. Similarly, inflation has been contained much better than was expected and the budget has moved into surplus. Higher prices of oil and energy have injected liquidity into the economy and cash payments have increased markedly. However, it is uncertain whether the realised change is an once-for-all improvement in the trend of the economy or whether it is just a reflection of the short-term impact of a substantial real depreciation. Russia inevitably needs strong institutional and structural reforms in its economy, and these may, in Westin's opinion, be delayed due to the current strong growth in the economy. Developments in investment and confidence in the banking sector are crucial.

**Part Three      The Role of the EU in the Northern Dimension**

In *Chapter 13*, Professor **Erik Berglöf** from the Stockholm School of Economics turns to the relations between the EU applicant countries and the Union, on the one hand, and those between Russia and the EU, on the other. He notes that “returning to Europe” has been on top of the political agenda in many CEE countries in the transition phase. He considers the EU as an “outside anchor” to the reform process in these countries. He singles out seven points and conclusions in the relations between the applicant countries and the EU in order to provide positive leverage on the reform process going on in the applicant countries. Membership with its rewards must not be too far in the future and the timetable for accession must be fixed. Membership should not be automatic, either, and must depend on the level of aspirations by the candidate countries. The order of accession should not be predetermined. Holding off of membership may be invoiced so that countries have the motive to make efforts to be able to join. The criteria of membership should be defined more clearly as they are now vague in some respects. The last point relates to the interaction between enlargement and the internal reform of the EU. As there is positive interaction between them, i.e., the pressure to reform is more pronounced, the larger the enlargement, there will also be increased uncertainty about when the enlargement will actually happen.

As to Russia, Berglöf makes five points. Here, in contrast, the key question is financial, not political. First, the cooperation should encompass a broad range of fields, far beyond structural and macroeconomic issues. Second, anchors must be provided at many levels of the Russian government, e.g., at the regional level. Third, as has been spelled out by the EU, free trade between the Union and Russia should be the long-term objective. Fourth, the effects of enlargement of the EU on Russia should be recognised. And fifth, future decision-makers should be tied to the cooperation. Berglöf also notes that an alarmingly small number of young Russians prefer to study in Europe.

Finally, in *Chapter 14*, Director **Timo Summa** from the European Commission presents a view of how the Northern Dimension is seen in the Commission. He starts by stating that it is important for the EU to take an initiative in this rapidly developing region. He reviews the steps taken by the EU bodies since the Finnish initiative in 1997 and analyses the Northern Dimension by asking: with whom, why, and how should the co-operation take place? He first reviews the existing ties between the EU and the countries located in different categories of relations with the EU. As to the second part of the question, he notes

that, from the point of view of security, stability and sustainable development, and due to the common border with Russia, the Northern Dimension is of major interest to the EU. Also the vast natural resources of Russia are vital as to the demand for energy by the Union. There are, however, some major obstacles in the smooth and expanding co-operation, such as inadequate economic infrastructure, legislation and, i.a., the weak financial services sector. And finally, how is the co-operation to be enhanced? In Summa's opinion, as has been delineated by the Union, basically the existing institutional framework should be relied on, although there is a need to improve co-ordination between different means of financing, e.g., through joint operations by international financial institutions to realise the huge capital investment needed in the Region.

\* \* \*

To conclude this volume is just a starting point in the economic analysis of the Northern Dimension. The Region has both wide differences and great potential to enhance future co-operation between the countries themselves and with the rest of the EU. This will provide challenges for economic research as well.



# Part One

Economic and Political Ties  
within the Northern Dimension



## 2 Opening Presentation

*Alec Aalto*

The recent political and economic transition in Europe has significantly affected the European Union's interests in northern Europe. Further to an initiative of the Finnish Government at the European Council of Luxembourg in December 1997, the Northern Dimension has entered into the agenda of the European Union.

The Northern Dimension is a political concept and part of the Union's external relations. It is a policy designed to improve co-ordination of Community and Member State programmes and of activities of International Financial Institutions. By achieving a more coherent approach to the specific problems and needs of the European North, the Northern Dimension in the policies of the EU will provide added value.

The partners of the Union in developing a policy for the Northern Dimension are two members of the European Economic Area, i.e. Norway and Iceland; four countries involved in the accession process, i.e. Poland, Lithuania, Latvia and Estonia, and one country linked with the Union through a comprehensive Partnership and Cooperation Agreement, Russia. In the case of Russia the geographic focus would be on the North-West Russian regions and Kaliningrad. Including the northern parts of the Union we are talking about a population of approximately 84 million people of which 24 million live in the five Nordic countries, 7.8 million in the Baltic States, 38.6 million in Poland and approximately 13.5 million in North-West Russia, including Kaliningrad.

Given the great divergences in size, economic and social development and aspirations towards the Union, the partner countries obviously have varying expectations on a Union policy for the Northern Dimension. The time frame depends on each country's future relationship with the Union. On the other hand there are fundamental interests, such as the environment and energy supplies, which concern most if not all of the countries involved – now and in years to come. Let me also emphasize that the Northern Dimension is not a series of bilateral relationships between the Union and partner countries, it is a way of promoting joint interests and joint responsibilities for common problems.

## **1 Increasing Prosperity**

A fundamental factor when trying to promote foreign direct investment flows in the region is the legal environment.

Important work is being accomplished to enhance business activity in the Baltic Rim. The liberalization of legislation in Estonia, Latvia, Lithuania and Poland is furthering preconditions for foreign investment. Attention is given to providing the necessary resources for authorities responsible for the implementation of laws and regulations. From the perspective of attracting foreign direct investment, the crucial factors in the immediate future are the region's human resources, infrastructure, market access, and assets of technology and innovative capacity. Increased attention must be given to developing sufficient management, marketing, finance, and language skills.

In the case of Russia it is clearly a mutual interest to increase economic interaction between Russia and the outside world. Russia must radically improve the investment climate in order to bring about new investment in production facilities and thereby increase export earnings. By increasing her income Russia will be able to build new industry, modernise her infrastructure and service her debts.

Correspondingly, legal and other uncertainties are major impediments to attracting foreign direct investment. Negative experiences in the region are often the result of unclear, rapidly changing legislation, inconsistent, sometimes even retroactive regulations, and arbitrary implementation of existing rules particularly in the field of accounting and taxation. A related problem is the insufficient protection of investors' rights and the weak position of minor shareholders on the Russian market.

The flight of capital from Russia has reduced domestic resources for co-financing of investment projects of interest to foreign partners. The recent global media coverage of corruption allegations related to the misuse of international public funds intended for strengthening the Russian economy has evoked understandable demands for a more prudent approach to providing international finance.

Governments have a crucial role in boosting economic development. The dismantling of investment barriers requires further efforts from the Russian Federation, but it must be supported by international co-operation. At present, important work on investment barriers is being done in the framework of Russia's WTO accession negotiations and the implementation of the Partnership and Co-operation Agreement (the PCA) with the EU.



## 2 Towards Positive Economic Interdependence

Poland and the Baltic States are rapidly integrating in the economic structures of the Union, not least through the accession process. The external relationship is being transformed into an internal market. Today's Russia for its part is much more European-oriented than the Soviet Union ever was. Russia is highly dependent on European markets, and the Union will be increasingly dependent on Russian energy supplies. The Union has a share of almost 40 percent of Russian trade, and this share will increase with future Union enlargement.

The agenda of the Northern Dimension has been set in the Council's guidelines and in the Presidency Conclusions of the European Council in Cologne. According to the programme of the Finnish EU Presidency, the Northern Dimension policy will supplement and support the Union's Common Strategy on Russia.

Clearly, the emphasis here is on long-term results. The Union's Northern Dimension is a political process that will produce results gradually through creating preconditions for private investment in sectors of strategic importance for the economy. By coordinating and consolidating the activities of the Union and its Member States, and of International Financial Institutions in the regions located in the immediate vicinity of the Union, the Northern Dimension is conducive to stability and increased economic cooperation in the Baltic and Barents regions, in particular.

The Northern Dimension in the Union's policies is not a development aid programme. It is essential that EU programmes and actions on a bilateral and regional basis promote economic cooperation in which the public and private sectors are responsible for their own contributions. There is a strong focus on co-operation and co-financing between private investors, international investment institutions and public programmes.

Trade dependence between the EU and Russia is based to a large degree on expected demand for energy over the next two decades, particularly on the foreseen demand for gas. Russia holds about a third of the world's gas resources. The market for gas and for Russia's enormous other natural resources lies in Europe. Today, two thirds of Russia's exports to EU countries comprise energy, and in the future the EU will be even more dependent on imported energy as its own output declines.

According to the theme of the seminar I have concentrated on economic cooperation. Closely related, however are key issues related to

social and labour policy, the infrastructure such as well-functioning communication networks, and internal security. Let me just note that the credibility of developing economic intercourse over the borders requires firm action against undesirable side effects such as organized crime and illegal immigration.

Substantive issues related to the EU's strategy on Russia and the EU's Northern Dimension policies should and will also be discussed, as appropriate, in the transatlantic dialogue conducted between the Union and the United States and Canada. Here opportunities exist for cooperation in the region regarding fields of activity such as energy, nuclear safety, environmental protection, public health issues and the prevention of international crime.

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The conference on the Northern Dimension on the Foreign Minister level on the 11th and 12th of November 1999 to be held in Helsinki offers member-countries and partners a forum on equal footing for further development of the concept. A summary of the conference will be presented to the European Council in Helsinki. On the basis of the results of the conference, the Helsinki European Council could request the Commission to prepare a Northern Dimension Action Plan for the region.

The success of the Northern Dimension policy must be based on the interest and active involvement both of the whole Union and of all the partner countries concerned. A Finnish team of experts has recently visited all seven partner countries together with representatives of the Commission. The general impression is that all partners are eager to cooperate with the EU and that they have quite high expectations.

Political stability through positive economic interdependence is the main premise of the Northern Dimension. It is also a guiding principle of European integration, based on the experiences of post-war Europe.

Finally, special attention should be given to activating the younger generation, for instance by giving young researchers, business managers and civil servants a better chance of collaborating with colleagues in northern Europe and other parts of the continent. There is a greater need to invest in human resources and in interaction between the new Russia and the affluent market democracies of Europe.

The Finnish Government actively supports this seminar on the Economics of the Northern Dimension. I wish to thank the organizers at ETLA for the excellent arrangements, as well as the experts who have contributed by preparing their contributions. Let us hope that this results in a fruitful exchange of ideas and practical proposals.

### 3 The Northern Dimension; the Politics of it

*Jaakko Iloniemi*

The enlargement of 1995 of the Union was not, in itself, a very dramatic new phase in the history of the Union. Only slightly more than 20 million people were involved. The day Poland enters the Union the number will be twice that. The three countries concerned in 1995 were all well established democracies and market economies. They were, from the outset, net contributors to the budget of the Union. In the case of Finland there was some doubt of that but there is none today. These new members brought relatively little heavy baggage with them. Not one of them had border problems with their neighbours nor serious problems with ethnic or national minorities.

What was different from earlier enlargements was the fact that two of these new members were Nordic countries. They extended the union further north by more than a thousand kilometres. Although Norway is not yet a member of the Union - only associated through an EEA-agreement - it, too, strengthens the impression that the union has a very real new dimension - stretching from the southern shores of the Baltic to the Arctic Sea.

There has been a good deal of co-operation between the countries that stretch all the way beyond the Arctic circle. The first major organisation designed to further co-operation between these countries was established already in 1996. The participating countries are Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States. Even other countries and international organisations can participate as observers, and they do, including the European Union. The most important common problems for this group are those related to the arctic environment, which is highly vulnerable. Damage done may take centuries to be remedied.

There are other bodies engaged in the region. The Barents Euro-Arctic Council is one of them. There, countries of the geographic region co-operate in a multitude of ways. Countries around the Baltic Sea have, again, their own council on a ministerial level where also Norway is a partner. So there is no lack of various types of organisations working in the region. These are the major inter-governmental ones, but the list is much longer from councils of universities and cities to chambers of commerce and the like.

The multitude of various organisational arrangements tells one thing very clearly: there is a good deal of political will to co-operate but there is still relatively little preparedness for deeper political integration. Most of the activities are sectoral - the common political institutions are of a consultative nature.

## **1 Why a Finnish Initiative?**

As the Finnish government advanced the idea of a Northern Dimension for the policies of the Union - in September 1997 with Prime Minister Paavo Lipponen as the announcer - this was a deliberate effort to turn the attention of the Union northbound. It is a well known fact that the Union has had for quite some time a Southern Dimension and the Barcelona process to advance it. The motives are easy to understand. It is in the best interest of the Union that the relations with the countries of North Africa and the eastern end of the Mediterranean Sea are as good as possible. There are important historical links and considerable economic and social interests to be safeguarded. There are also factors pertaining to security - both in its broad and its narrow meaning - that have to be addressed.

The situation in the North is, in a number of ways, profoundly different from that in the South. It is one of the features of the Mediterranean region that there is population pressure which is felt also in the European Union, and in particular in the countries of Southern Europe. The situation is entirely different in the North. The arctic region in Norway, Sweden and Finland is very thinly populated and the numbers are decreasing, not increasing. On the Russian side, the population has been much larger but the trend is downward. Population pressures do not make the North an interesting region for the Union.

## **2 Russia of the North**

What is common with the Southern region is that there is a very dramatic difference in living standards between the western part of the region and its eastern part. In Russia, many socio-economic indicators are depressing. In the Report of the European Commission on the Northern Dimension of last year there is the following passage:

”Differences in border areas between the Union and the Russian Federation are considerable. In the Russian Federation the infant mortality rate is today approximately six times higher than in neighbouring

Finland. Life expectancy at birth is below 57 years in Russia, 77 in Finland. Narrowing down the disparities in living standards is today one of the major challenges for the Northern region.”

These differences reflect a break down of social services in the Russian society - a breakdown of the relationships and the responsibilities between local and central authorities. Lack of public funding in regions where the government has always been the key to all economic activity has deprived the population of their most basic services. The consequences are dramatic and extremely harmful. This is one of the many reasons why there is, if not an exodus, then at least a flow of people out from the region.

One might ask why do these destitute people not cross the Finno-Russian border and seek employment and well being there, the way many Moroccans, Algerians or Turks do in Western Europe. Finnish immigration policy is still very restrictive. Although approximately half of the foreign born population of Finland comes from the Federation of Russia, most of them are ethnically of Finnish origin. Illegal immigration is almost non-existent. We could hardly police a border of 1300 kilometres on our own. One of the wonders of Russia is that in spite of all their difficulties their border control is still effective. They are able to prevent any important transgressions over the border and thus we do not face the problem of illegal aliens or large scale smuggling through the vast forest lands that cover the major part of the border regions.

Much of what is today the Northwest of Russia was during the Soviet years a military zone of highest importance. A very important part of the Soviet navy was stationed in the Murmansk area. This was also the part of Russia where ocean going nuclear submarines with intercontinental missiles were situated. Nuclear plants, including six of the Chernobyl type of reactors, are also numerous there. Plenty of both military and civilian nuclear waste is stored there, much of it without proper safeguards. These environmental risks are very considerable. Something is being done with external assistance, not only from the European Union but with also Norway and the United States participating.

Another major environmental hazard is associated with the exploitation of the rich mineral reserves of the region. Much of the processing is done with minimal or no consideration for the environment. Smoke stacks emit every conceivable hazardous substance, including heavy metals, to the environment. From a Finnish point of view, it is good luck that the prevailing winds blow from west to east and not the other way around. Great efforts have been made to modernise these plants

so that the emissions could be cut but the progress made so far is still modest.

All the aforesaid suggest that Russia has an enormous task to cope with in order to restore the Northwest to a healthy and attractive environment. The awareness is there but the funding does not exist. This need not be so.

### **3 Unlimited Resources**

A geological map of the region depicting areas north and northeast from St. Petersburg towards the Barents Sea and the Kara Sea is dotted with riches. There is gold, there are diamonds, there are all sorts of industrially usable chemicals. There are also very considerable forest resources. On the continental shelf and in parts of the continent in which permafrost prevails there are very important quantities of gas and gas condensates, and oil. The proven gas resources are much larger than those of the North Sea. In a word, this poor and destitute region has the dormant resources that could change it into one of the wealthiest regions of the world.

There will be other speakers who address this question. Let me only say why these resources are a major factor in political relations between the states of the North, and the European Union.

The day these resources become available and contribute towards the economy of the region many things will change. Economic activity on the Russian side of the border will pick up momentum. The cross border trade, which is today insignificant, may increase considerably. Investment activity, which is almost non-existent, will become important. With the development of Russian resources in the Northwest of Russia the character of the whole region may become revolutionised.

The energy resources of Northwest of Russia are, as I already stated, enormous. The need for gas and gas condensates in Western Europe is increasing year by year as existent supplies are slowly depleted or the cost of extraction becomes prohibitive. Alternative sources to the present one exist only on a limited scale in North Africa. Nothing would be more welcome than a broadly based system of co-operation with the Russian federation. They have the energy and Western Europe has the need and the purchasing power. Russia needs the cashflow thus generated. Western Europe, and the United States, have the necessary technology and the investment capital for extensive exploitation of the resources. Where is the snag?

As I see it, the snag is a political one. The present political situation in Russia has not made it possible to create an economic atmosphere that would be conducive to large scale, capital intensive investment. It is true that the Duma has enacted new laws, among them laws governing production sharing which are essential for any major capital investment. Although the present laws are much more in line with what investors see as the minimum, they are still not yet adequate. There is western investment, even fairly important investment in the more traditional parts of Russia and the former Soviet Union, where oil and gas have been exploited for a very long time. There is even some investment in the Northern territories. Here we are, however, talking about opening up entirely new fields with gas pipe systems that would call for billions upon billions of dollars to make the difference. Plans exist, feasibility studies have been made - but the problem is the political feasibility, not the economic one.

#### **4 Russia before Choices**

The best hope that the European Union has is that whatever the political colouring of the next president of Russia is, and whichever group gets the upper hand in the Duma, they would see it to be in Russia's self interest to co-operate with Western Europe and the United States. Such a co-operation would enhance and increase interdependence and thereby lay a foundation for a lasting and fruitful relationship - not only in commercial terms, but also in political terms.

These thoughts and this pattern of thinking is well known both in Russia and in other countries that might be effected by the realisation of great projects. Today much of Russian oil flows to the world market through ports in Estonia and, in particular, in Latvia. The initial reactions in these countries have been suspicious. Are the Finns proposing plans that might divert these flows in order to tap the transfer payments is a question that is being asked, and there is nothing astonishing about it. The Finnish reply has been that we are talking about entirely new resources here which would complement, not replace, the facilities in the Baltic republics. It is comforting to see that prime ministers of the Baltic republics have taken a relaxed attitude towards these plans. They understand today much better than before that fuller utilisation of the potential for economic growth in the Baltic Sea region, and to its north, is in their own best interest. They have already seen, with the collapse of the Rouble a year ago, how important a healthy Russian economy is to their own well-being.

Whenever a government launches a major idea, the first question, the natural first question is why do they do it, what is in it for them, and the next, equally natural - what is in it for us. It would be foolish not to expect these question in the context of the Northern Dimension. For Finns the reasons are obvious and many faceted. The most immediate one is, of course, a political one. By increasing and enlarging co-operation in the region - from the southern shores of the Baltic Sea up to the Arctic Sea - conditions for greater stability and predictability could be created. Interlocking interests would be the best guarantee for good political relations even at times when there could be other factors putting a burden on such good relations. Tangible common interests survive even when political moods shift. That is one very good reason for the initiative.

The economic interests are equally obvious. Finnish history proves that whenever Russia has had times of prosperity, as at the turn of the century during the Witte reforms, we have benefited from that. The same is true with the Baltic republics. Russia's prosperity radiated to us - no doubt that would be the case even in the future - with more open economies than before.

The environment has already been discussed. As Russia gets moving it can afford to clean up its nuclear dumps and it can afford to filter the emissions of the smoke stacks, thereby improving the environment to the benefit of all. The gas leaks and other emissions detrimental to the atmosphere are a problem for all of us.

## **5 European Interest**

So Finland would benefit - but not Finland alone. One of the principal problems in Northern Europe and in Eastern Europe as well is the relatively low degree of Russian integration into the mainstream of European life. Western Europeans understand Russia poorly and the same seems to be true of Russians towards Western Europe. During the seven decades of Communist rule, Russia was isolated and it was exposed to European thinking only through the filters administered by the Communist party. The greater the interface, the better are the possibilities for mutual understanding. The greater the interdependence, the smaller are the risks for abrupt or ill-thought political moves.

Someone might say that this is a very optimistic, almost deterministic way of seeing the future and too much emphasis is put on converging interest. There are examples in history when very real economic interests have failed to influence enough political leaders so that they



would have avoided conflicts. That may be true. To me what seems to be a matter of great importance is that by increasing all kinds of links between Western Europe and Russia, there would be a cultural change. The culture of democracy and market economy, still so weak in Russia and in some other parts of the former Soviet Union, needs encouragement. Opportunities for exposure to these ideas would increase. At the same time, Western Europe would better understand and appreciate Russia as an important cultural sphere.

The Northern Dimension is not a cure-all, a panacea to the problems of Northern Europe. What it could be, when properly implemented, is the beginning of a long and arduous process which ultimately leads to a more stable, a more predictable and a more prosperous Northern Europe. We are not here talking about years but decades, perhaps many of them. This is, however, the right time to develop the blueprints and to prepare for the decisions.



# Discussion

*Jaak Leimann*

Let me, first of all, thank you Mr. Pentti Vartia and your colleagues from ETLA for the opportunity to take part in this conference. It is a great honour for me, and I think for Estonia, to be a discussant here.

I would like to present my brief comments, stressing first of all some general points and then describing some possible parts of the Northern Dimension and some projects that are important from the point of view of Estonia.

First, the Northern Dimension is a good, quite well-known idea. Every good idea has strong integrative power. Estonia sees the whole Northern Dimension above all as a tool for developing cooperation in the Baltic Sea region and regards issues of energy, transport, the environment and justice as its most important spheres.

The most significant results of the Northern Dimension are the attraction of greater attention to the region and involvement of the region's countries in working out their own proposals.

The key question for this idea is the future of Russia. However, even according to pessimistic scenarios it is quite possible to solve issues regarding energy. Russia has energy and Western Europe has the need and the purchasing power. Even more, the oven-mouth for Europe might be located in North-West Russia. We can see cash flows thus generated.

To resolve all the other issues requires huge financial resources. In today's very realistic situation, it is unclear how to finance the other parts of the Northern Dimension.

We need various implementation scenarios. We have to place greater emphasis on the role of the Baltic states.

## **1 Energy**

The energy system is a basic element of the economic, social and regional infrastructure of each state. Estonia would wish to see the Northern Dimension as a widened EU policy in the Baltic Sea region, which features open participation for all countries surrounding the Baltic Sea and effective sectoral cooperation.

The main interests of the Estonian energy sector, within the framework of the Northern Dimension, are as follows:

- a power network ring around the Baltic Sea (Baltic Ring);
- a gas supply pipeline ring around the Baltic Sea (Nordic Gas Grid project).

## **2 Transport**

Estonia has been an important transit corridor between the East and the West thanks to its geographical position as well as to the deep and relatively ice-free ports.

The Estonian interest is to develop a modern infrastructure:

- reconstruction of the railway network is needed not only in the east-west direction, i.e. Tallinn-Narva track, but also in the north-south direction, the Tallinn-Tartu-Petseri track;
- development of the highway network beyond Via Baltica is essential;
- in the context of the Northern Dimension, Estonian ports in Tallinn and in its vicinity (like Muuga Port with a Free Trade Zone) and airports in Tallinn and Tartu deserve special attention.

## **3 Forestry**

This is one of the rapidly developing areas, considered as a priority. In the context of the Northern Dimension, Estonian interests related to the development of this sector are:

- in order to promote the wood processing industry we propose an Estonian Pulp Mill project. Taking into consideration the availability of raw materials in Estonia, the construction of a pulp mill is a viable option.

The future of the Northern Dimension will be more promising, and political support will be stronger, if various countries could see real perspectives for their own more important projects.

## 4 Economic Developments and Interrelationships within the Northern Dimension

*Kari E.O. Albo*

### 1 Introduction

The Northern Dimension is a concept launched by the Finnish Government in the fall of 1997 to form the basis for EU and other international policies, their enhancement and a more clear definition, due to the new situation in Northern Europe. This new situation is made up by the Northern enlargement of the European Union to include Finland and Sweden as new members in 1995, the integration process of the Baltic countries and Poland towards membership in the EU, the difficult transition of Russia towards a market economy and integration into the international economy, and the many linkages within politics and economics ranging from trade and FDI being the major forces of development and growth, to issues like the macroeconomy and the environment around the Baltic Sea area. The aim is to build a cohesive bundle of measures to secure political stability and economic and social progress in the Region. The Northern Dimension is basically a part of the external relations of the European Union. The concept is defined in such a way that it covers co-operation within the Baltic Sea region, the Barents and other Euroarctic co-operation, Nordic co-operation, bilateral relations and co-operation with the nearby regions.<sup>1</sup>

The European Council noted in Luxembourg in December 1997 the Finnish proposal concerning a Northern Dimension for Union policies and gave the task to the Commission to prepare an interim report during 1998. In Vienna, in December 1998, the European Council welcomed the Interim Report on a Northern Dimension for the EU Poli-

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<sup>1</sup> A representative of the Finnish Ministry for Foreign Affairs in charge of the Northern Dimension has recently stated: "The starting point of the concept of the Northern Dimension is the mutual dependence in economic relations between the European Union, Russia and the Baltic countries. It is the goal to utilise this mutual dependence in a way, which contributes to the economic success of the countries in the Region and creates stability to the Northern regions of Europe and the Baltic Sea. Utilisation of this mutual dependence also contributes in a positive way to the normalisation of the relations between the Baltic countries and Russia." (Heikkinen 1999, p. 16).

cies by the Commission. According to the resolution of the Helsinki Summit in December 1999, the next stage will be the preparation by the EU Commission of an Action Plan for the Northern Dimension during spring 2000.

The Northern Dimension is basically an opportunity for the political and economic stability of the countries in the Region, even though they also compete with each other, as in general all countries which participate in the global or regional marketplace. However, the balance lies more on the positive side, as is typical in international co-operation and division of labour. The Northern Dimension consists, irrespective of a number of wide economic differences and difficulties, of a substantial potential, as we shall see.

The bulk of the Northern Dimension countries lie in a periphery with respect to the EU core. There are acute fears of delocation of productive processes, as vividly presented by Baldwin (1999).<sup>2</sup> All countries in the region of the Northern Dimension are open to the EU, not solely to the Northern Dimension region in itself, with some important qualifications. The EU is the “pole” of the Northern Dimension, affecting trade and financial relations and policies within the Region. This is a key point in understanding also the economic operation of the Northern Dimension.

Recently, the Balkans and South-West Europe have stolen the spotlight of the public arena and policy-making. Nevertheless, the Northern Dimension, without such an intense media focus, is a concept of vital interest to the nations in this region as such and to political stability and economic progress in Europe in general. The political sphere is important, but the practical steps are mostly economic.

The aim of this paper is, first, to describe the Northern Dimension as an economic region, and then to identify the key economic problems in it and to discuss what can be accomplished by international and regional policies in this respect. Accordingly, the question should be tackled, how well do the market-based processes function and what are the existing barriers to them, which should be dismantled, and should the relevant problems be left to be solved in the properly func-

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<sup>2</sup> “Much of the public debate on international integration revolves around fears that freer trade will cause industrial ‘delocation’, namely the shifting of manufacturing activities from one region to another...In Europe, rich nations fear delocation to low-wage nations, poor nations fear delocation to highly industrialised nations, small countries fear delocation to large countries and non-members fear delocation to EU members. “ Baldwin (1999), p. 253-54.

tioning markets and through competition or be handled by cooperation and policy intervention. We can focus on the existing obstacles to market processes, and adopt the well-taken point that as free as possible commercial and economic operations and the removal of the technical, administrative and fiscal barriers are as such conducive to growth and stability in the Region. Second, we ask the question, how important are these international linkages in trade and FDI in general, in contrast to the “domestic” factors, leading to convergence through growth. Third, we can study trade policy arrangements in the Region. It is not clear either, whether a regional approach is the most suitable one, or whether a wider, or even a global approach, should be used instead. So, we can ask, should the Region form such a body, even though, at the moment, it is a hardly an institutionalised policy-making body, e.g., in terms of a regional trade agreement.

The paper discusses the economic developments and links within the Northern Dimension, the various approaches suitable for its analysis and some of the policy questions. First, it is our aim to characterise the Northern Dimension as an economic region or even as a “bloc”. Section 2 describes the basic characteristics and recent tendencies of the various economic regions in a global perspective and tries to identify the basic problem setting relevant to the region of the Northern Dimension. Section 3 turns to analyse the links within the Northern Dimension from the point of view of trade, FDI and trade policy. Section 4 considers and outlines the international spillovers to growth, convergence and divergence in it, and the role of international policies to cope with these policy questions within the Northern Dimension. Section 5 further considers the new situation in the short run in the macroeconomy within the Region, and Section 6 concludes.

## **2 Economic Developments within the Northern Dimension**

The Northern Dimension is not yet an unambiguously defined concept as an economic and statistical entity. In a narrow sense, as defined by Alec Aalto in this volume, the Region covers 10 countries or their regions consisting of 84 million people. However, from a policy point of view, as the nation states are the relevant policy-makers, and due to easier access to data, a wider view may be in place in order to carry out quantitative analysis of the Region. Using such a wider definition, the Region covers the Nordic countries and countries around the Baltic Sea.

Using the narrow definition, the Northern Dimension has a GDP of some 820 Bill. USD (in 1997).<sup>3</sup> Its population is 22 per cent, but its production only 11 per cent of that of the EU. Already this notion gives the basic characteristic of the Northern Dimension: it is a large area, but in average terms lags behind in its level of income, which is essentially due to the fact that more than half of its population is made up of CEE countries and regions of Russia, the income levels of which are quite much lower compared to the EU countries.

Let us first characterise the Northern Dimension in comparison to other economic regions in a global perspective by comparing the overall income levels, their growth and dispersion within the Northern Dimension to some of the other major trading areas, economic regions or trading blocs in the world:

- The European Union
- The Mediterranean region (“The Southern Dimension” of the EU)
- NAFTA (North America and Mexico)
- The Pacific Rim
- Mercosur (in South America).

The idea of this comparison is to better identify the characteristics specific to the Northern Dimension. Note that with the definition obeyed, the regions are not defined to be mutually exclusive; there is some overlapping.

The income levels are presented in Figure 1. The general pattern is that the regions fall into two categories so that the rich “cores”, the EU and North America, are both surrounded by two “peripheries” with clearly lower average income levels. The aggregate growth rates in real incomes over the five-year period from 1992 to 1997 are shown in Figure 2. The performance in growth of the Northern Dimension is of an average magnitude. In general, the America-based regions enjoyed a buoyant growth, while the Europeans lagged behind. Both core regions have, during the past two years, been hit by two or more economic or political crises in the periphery: North America by the Asian crisis in 1997, the long-standing Japanese crisis and by the Latin American crisis in 1998; Europe by the Russian crisis in 1998 and the Balkan crisis in

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<sup>3</sup> In this section of the paper, the narrow definition of the Northern Dimension covers the five Nordic countries, the three Baltic countries, Poland and the nearby regions of Arkangel, Murmansk, the Republic of Karelia, St. Petersburg and the Region of Leningrad of Russia.



Figure 1. The average income levels of the major economic regions in USD, PPP, 1997

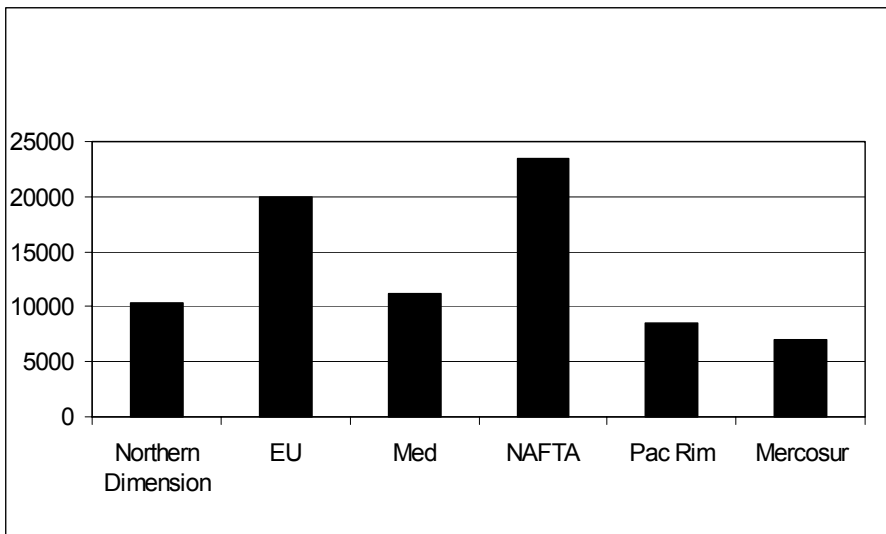
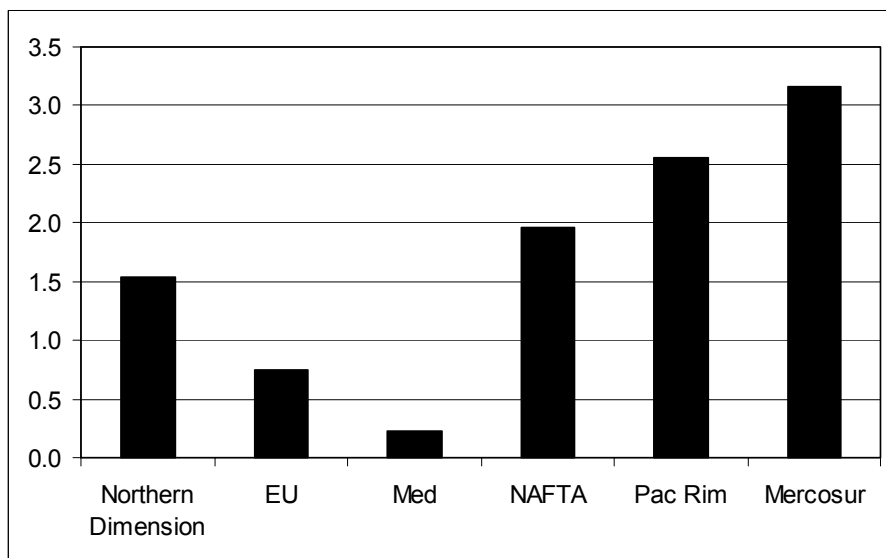
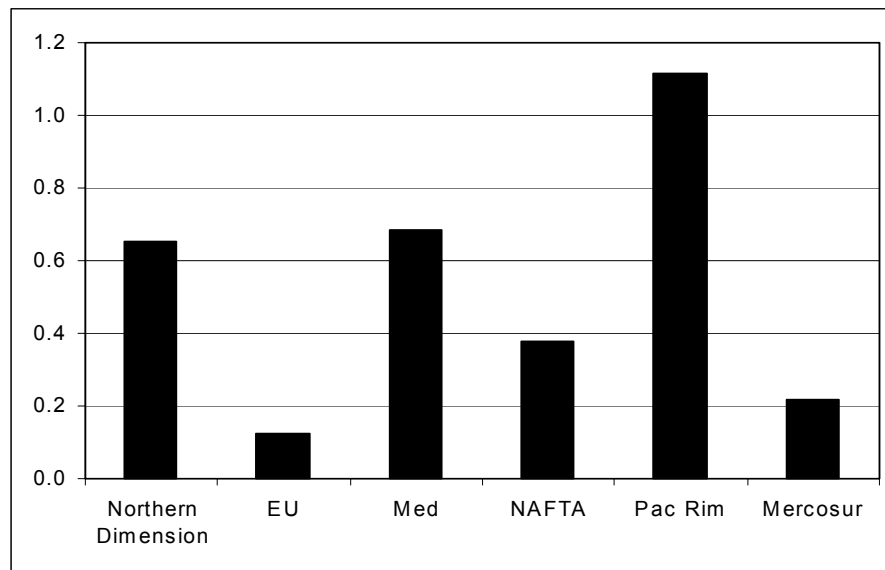


Figure 2. The average growth rate of real GDP per capita in PPP, p.a., 1992-97, per cent



1999 (which is mostly, however, a political one, but has some sizeable local effects).

**Figure 3. The coefficient of variation of the income levels in PPP, 1997**

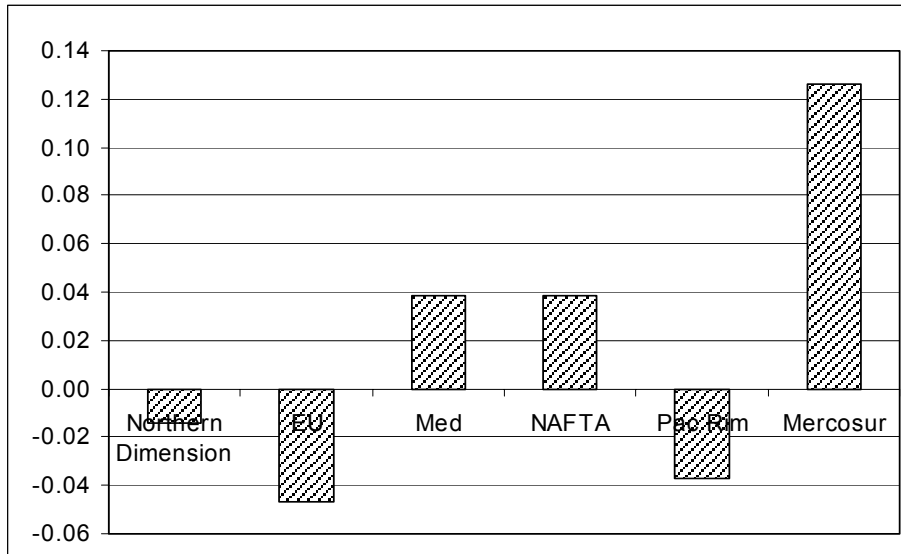


The dispersion in the income levels is shown in Figure 3. We measure this by the coefficient of variation, which is defined as the (weighted by population) standard deviation of the income levels of the group of countries divided by the respective average income level. Some interesting observations also emerge from Figure 3.

The EU is by far the most homogeneous of the trading regions in the world, followed by Mercosur and NAFTA. Even though it is generally regarded as a region with record wide differences in living standards and conditions (measured, of course, too simply here using only aggregate income levels), the Northern Dimension is not very marked with respect to heterogeneity in a global comparison. The Mediterranean (“The Southern Dimension” of the EU) is a region with a somewhat larger dispersion in incomes. Of course, in relation to the EU the disparity in incomes within the Northern Dimension is pronounced. The overall picture is again that the rich cores are homogeneous and the poor peripheries are heterogeneous (with the exception of Mercosur).

Figure 4 shows how income dispersion has evolved over time, measured by the change in the coefficient of variation. The high dispersion in incomes has persisted within the Northern Dimension, as is the case with other regions as well, with the exception of Mercosur. In the EU, developments have continued towards a marked convergence in the income levels.

**Figure 4. The change in the coefficient of variation of the income levels in PPP, 1992-97**

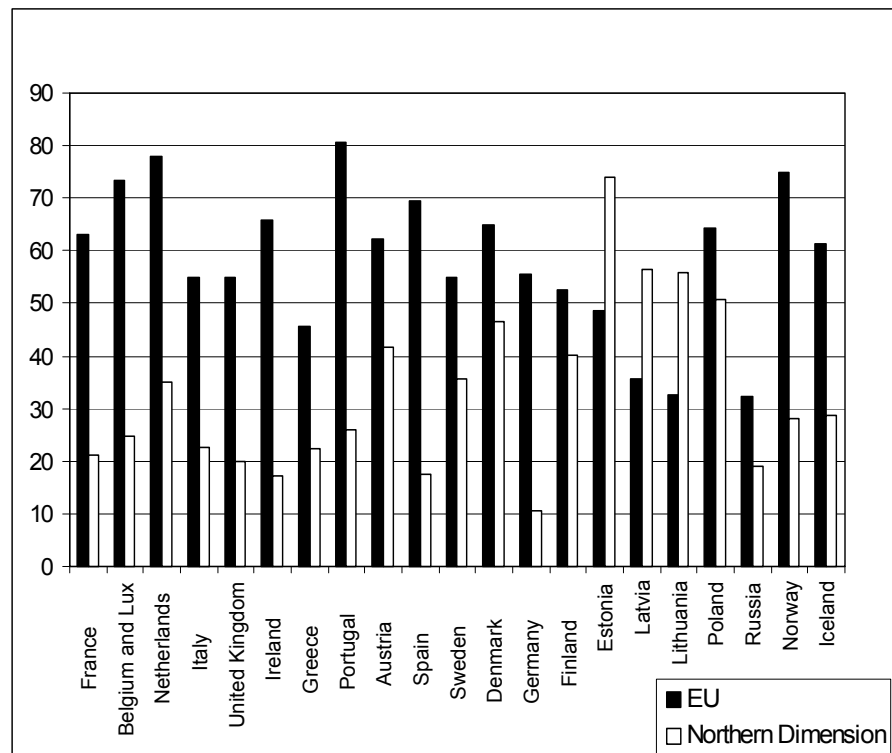


On the basis of this short review, the Northern Dimension emerges as an economic region with some marked characteristics of its own. Its heterogeneity calls us to identify, within the Northern Dimension, the North-West (the EU and EEA countries), the North-East (the EU applicant countries, i.e. the Baltic countries and Poland) and Russia. It seems to be, as is often stated, that narrowing the wide income disparities is the most pressing problem and target in the Region. If this is so, we have to first ask, how much of the existing situation is due to present economic ties, or lack of them, within the Region, and, secondly, how much their intensification could contribute to the solution of the current problems in the Region. Then, the basic policy tools of international co-operation in this connection need to be defined. We turn to the growth issues after considering next the economic linkages within the Northern Dimension.

### 3 Economic Linkages within the Region

Figure 5 shows the destination of exports by the various EU and Northern Dimension (ND) countries.<sup>4</sup> The general pattern is not very

<sup>4</sup> In this section the Northern Dimension is defined in a wide sense so that it covers all the Nordic countries and the countries around the Baltic Sea, i.e., the following set of countries: Denmark, Estonia, Finland, Germany, Iceland, Latvia, Lithuania, Norway, Poland, Russia and Sweden. Note that we do not make any effort to concentrate on the

**Figure 5.** The share of the EU and Northern Dimension as a destination of exports, 1997, per cent

unexpected, namely that the EU is the big player in foreign trade in the Region. However, the Northern Dimension is a bigger trading partner than the EU for all the Baltic countries and quite close in importance for Poland. It is also noteworthy that for the biggest countries in terms of population, Germany and Russia, the Northern Dimension is of quite small importance. On the other hand, the Northern Dimension is important for Austria, notably a non-ND country, Denmark, Finland, and to a lesser degree, Sweden.

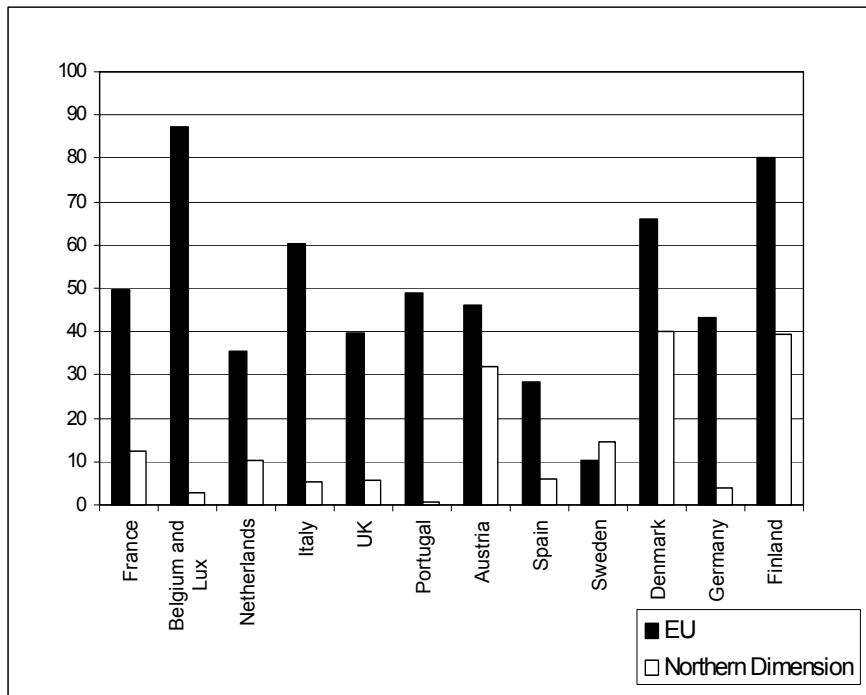
In FDI flows, we have the following pattern, see Figure 6.<sup>5</sup>

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regions in the big countries, as was done above in Section 2, like Russia, Germany or Poland, mostly relevant to the Northern Dimension. This is due to the better availability of data and to the analytical point that in many considerations of policy, like in the fields of trade, integration, and macroeconomics, a country-wise analysis is more relevant.

<sup>5</sup> One year is clearly too short a time span to get a reliable picture of the FDI flows as there are also negative flows between the countries, due, e.g., to losses made in foreign subsidiaries, divestment and loan transactions between the parent and the subsidiary. In Figure 6, this problem notably applies for Swedish FDIs. Also, data on Latvian FDIs are missing.

**Figure 6. The share of the EU and Northern Dimension as a destination of outward FDI, 1997, per cent**



Now we see a markedly different picture. The Northern Dimension is hardly a destination at all, and anyway much less than in trade, for FDI's made by firms in the EU countries. The Northern Dimension is of importance in total FDI flows for only some of the countries, namely for Denmark and Finland.

We divide the analysis of the economic ties in the fields of trade and FDI into the following categories:

- trade potential
- trade structure
- trade and investment barriers
- trade policy.

### 3.1 Trade Potential

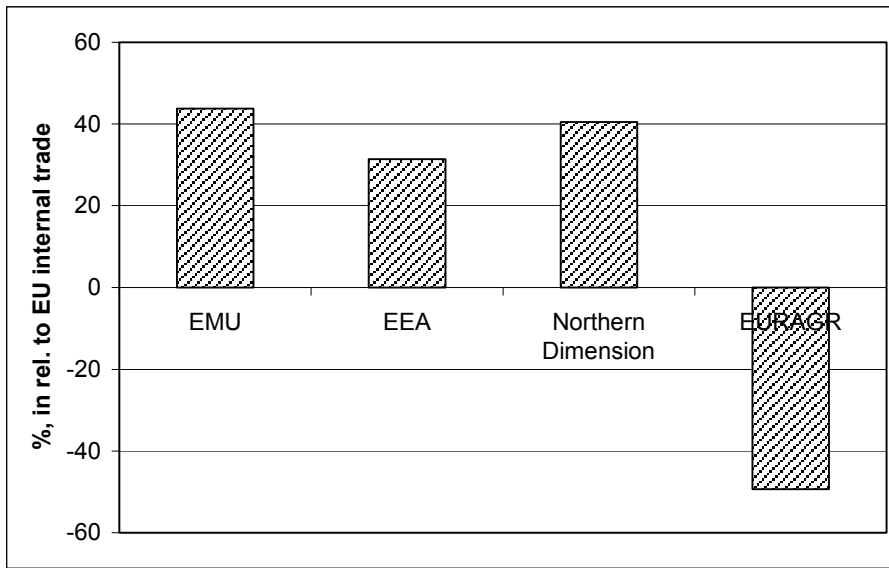
There have been a number of studies analysing trade potential within Europe and elsewhere using the gravity model, applying this method in

Europe during the recent years mostly to analyse trade between the EU and the CEE countries. (Normally Russia is not included in these studies.) The gravity model measures current trade in relation to its potential. By potential it is meant, not the growth as such of trade between the partners over the longer run, but the existing level of trade between two countries in relation to the average situation prevailing between countries displaying the same set of factors determining the intensity of their mutual trade. These factors consist of economic potential, measured by GDP, population and various measures of geographical and cultural proximity of the trading countries, such as distance and language between them. For Finland, in relation to her trade with the CEE and the neighbouring countries, a number of these studies have recently been carried out at ETLA (see Erkkilä and Widgrén 1994, Alho et al. 1996, Partanen 1998 and Partanen and Hirvensalo 1999). The general outcome of these studies is that there is a substantial so far unused potential for CEE exports to the EU, while the reverse does not seem to hold. None of the studies have, however, considered directly the Northern Dimension as a trading area in the sense of Sapir (1998) and Soloaga and Winters (1999), who have recently considered the various regional trading arrangements and their effects over time, i.e., whether they are trade creating or trade diverting. Let us next fill some of this gap.

The gravity model is specified here along the lines of Sapir (1998) and adopts a few of the elements presented by Soloaga and Winters (1999) in its specification. We apply the model to the bilateral trade flows between the EU and Northern Dimension countries so that we discern as explanatory variables the following two sets of variables: first, the basic explanatory variables of gravity, i.e., incomes of the importing and exporting country, their populations, their distance, their areas, whether they have a common border and common culture (language) and whether they are islands. The second set of explanatory variables is made up of dummies capturing the effects of the trading blocs/regions: EU, EMU, EEA, Europe Agreement, and Northern Dimension. In contrast to what has been previously done, we separate EMU from the general situation prevailing within the EU Single Market. At the moment, the model has only been estimated for the year 1997.

The estimated model performs in general quite well and is meaningful. The results concerning the impact effects of the trading blocs are presented in Figure 7. The comparison is made with respect to the average intensity of trade prevailing within the EU Single Market (which is described by the 0 level in the Figure). The impact of a monetary union (before its completion, though) seems to be a factor spurring a

Figure 7. The estimated trade effects of the various regional arrangements in Europe



very high level of mutual trade. Or we may, instead, interpret this result so that the situation is the reverse: intense trade is conducive to the build-up of a successful monetary union. The impact effect on trade of belonging to the Northern Dimension is also clearly positive and quite substantial. These countries conduct trade with each other, which is, *ceteris paribus*, some 40 per cent more than what is stipulated by the model to be the intensity of trade on average between otherwise similar countries in the European Union.

The intensity of trading relations based on the Europe Agreements lag very much behind those prevailing within the EU countries on average. All the regression coefficients for these trade bloc/region variables, with the exception of EEA, are highly statistically significant.<sup>6</sup> So, we may conclude that the Northern Dimension seems to have something special in it, which clearly manifests itself as a positive factor in their mutual trading relations. What this is in more detail, is an interesting point to be analysed further, but is not revealed by the gravity model as such. Some hint to this can be seen from Figure 5, which shows that for a number of countries the Northern Dimension is a more important trading partner

<sup>6</sup> Data on Iceland are missing from the estimation, so EEA only covers Norway here.

than the EU, even though the overall GDP in the Northern Dimension is much smaller than in the EU.<sup>7</sup>

### 3.2 Structure of Trade

The analysis of trade structure as carried out by Erkkilä and Widgrén (1994), Partanen and Widgrén (1999), Kaitila and Widgrén (1998) and Kaitila (1999), shows i.a. that EU exports to the CEE countries comprise largely intermediate goods and components, while the CEEs export final goods to the EU. This intra-industry trade gives, at the same time, rise to vigorous FDI activity between the regions. However, for the Baltic countries, intra-industry trade with the EU is not significant. The study by Partanen and Widgrén (1999) also shows that Finnish trade with Poland by branch is very concentrated as compared to the corresponding EU trade and is based on comparative advantage. As such, it is not likely to have the same growth potential as overall trade between the EU and the CEE countries.

The economic integration effects transmitted through trade and FDI, and which concern the EU accession of the CEE countries, have been extensively studied in the literature and recently analysed in Finland as well with the aid of a CGE (computable general equilibrium) model by Vaittinen (1999). A problem which the EU entrants face may be that of immiserising growth, which in simple terms means that they allocate, due to the EU membership, their resources towards goods and industries, the domestic price levels of which exceed those in the world markets. This notably concerns agriculture. However, the calculations by Vaittinen show that this is not the final outcome, because the rise in the terms of trade compensates for the former effect. Anyway, in principle there is the danger of a kind of Dutch disease here, as, according to the results by Vaittinen, the food industry booms as a result of the EU accession and the rest of the manufacturing sector declines.

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<sup>7</sup> The gravity model normally gives the empirical result that the impact effect of belonging to a preferential or a non-preferential trading arrangement is very substantial. The literature on trade has not yet addressed this issue in my mind in a proper way, because normally the trade barriers existing today are quite low, and their removal cannot produce such sizeable effects on trade as are given by the estimates of the effects on trade flows by the trading arrangements in general and also here above, compare them to the results by Sapir (1998) and Soloaga and Winters (1999).



### 3.3 Trade and Investment Barriers

There have also been down-to-earth analyses of trade and FDI barriers existing within the Baltic Sea region by Hirvensalo and Hazley (1998) and earlier by Hernesniemi (1996). On the basis of an extensive company survey, Hirvensalo and Hazley conclude that there are similarities and differences in the investment barriers identified in each of the five countries considered. In general, the firms experience more investment barriers in Russia than in the Baltic countries and in Poland. Frequent changes in legislation and sometimes even retroactive regulations and their application to accounting and taxation are the most significant investment barriers in the Region. The lack of business skills and management were also noteworthy. The conclusions by Hernesniemi (1996) were quite similar, but he also paid attention to the high cost of financing faced by private sector firms. Hirvensalo (1999) in her study of the investment strategies of Finnish firms in Russia concluded that they have had a cautious and so far wise strategy in this respect. Similarly, barriers created by legislation and regulations and their frequent changes are important investment barriers coupled along with high taxes.

### 3.4 Trade Policy

The major trade policy issue in the Region is, of course, the EU accession of the CEE countries. The trade regime with Russia is another key issue. In general, we should consider here the trade arrangements between the EU and the rest of the Region, on the one hand, and the relations between the non-EU countries, on the other. We should approach these questions of regionalism by taking a global view on them, too. Sapir (1997) interestingly analyses the current trade arrangements of the EU and also presents a number of possible visions on the future as well. An avenue prevailing in trade during the recent decades has been expanding regionalism. Accordingly, could the Northern Dimension be imagined to be one new dimension in this sense? Proceeding in this direction, the EU in its fresh Russian strategy puts forth the idea of a possible EU-Russia free trade area. Sapir imagines that there should be, as a desirable outcome at the end of the road, integration through a customs union, rather than a number of FTAs, with the quite low external barriers of the EU and unified rules of origin, combining, in our terms, not only the Northern but also the Southern Dimension of the Union, i.e., the Mediterranean countries and Africa. The key problem of taking this route is obviously Russia, which pursues quite a restrictive foreign trade regime with rather high import tar-

iffs (some 15 per cent on average) and export taxes in the energy sector, of course crucially dictated by the chronic deficiency encountered in raising government revenues through taxes. Sapir foresees some political tensions and likely economic countermeasures, prompted by such an EU-based step towards global regionalism, mostly the creation of FTAA (Free Trade Association of the Americas) by the US. Anyway, the Russian market is more important for a number of countries within the Northern Dimension, especially Finland and the Baltic countries, so they have a special interest in forming a better trading system with and in Russia than prevails today.

Even if we leave these kinds of far-reaching global visions aside, we have to consider the current trading relations and the potential medium-run changes in them. Kaitila and Widgrén (1998,1999) and Widgrén (2000) point out that the three Baltic countries trade with similar goods and thus compete with each other in the EU markets. Therefore, a two-speed accession of these countries to full membership of the Union could be harmful, if one or two of them have preferential access to the EU markets before some of its neighbours.

Let us then turn to FDI, which we touched upon to some extent above. This is an important and rapidly growing aspect of the global economy. Recently, in empirical research, there is a tendency to apply a similar kind of gravity modelling to FDI as to trade, see, e.g., Brenton et al. (1998). We may in general conclude on the basis of their work that the bias in FDI directed by the industrialized countries to the CEE countries and Russia is bigger in the negative direction than that prevailing in trade (even though this proposition is not tested by the authors, and this gap may well turn out not to be statistically significant, because of the fact that these country and region dummies are in many cases not significant explanatory variables in the model for FDI). Some other studies of integration, however, suggest a sizeable boost to investment in CEE by a reduction in the interest premium caused by uncertainty, and which is likely to disappear in the process of EU integration, see Baldwin et al. (1997).

We tried to apply the same gravity model to FDI flows as was done for trade above. The result was much poorer, and, of the regional dummies, only the Northern Dimension is significant and negative. So, with this quite scant evidence, the problems within the Northern Dimension seem to be in FDI, not in trade, which is a strength in the Region.

## 4 Economic Growth and Integration within the Northern Dimension

As we saw above in Section 2, the overall economic performance of the Northern Dimension has not been very successful, and there are wide disparities in income levels. What, if anything, can be done by international policies to alleviate this situation? In particular, we are interested in studying the role of international factors, i.e., spillovers from the industrialised countries to other countries (the CEEs and Russia), and the effects of deeper integration, contrasted to domestic factors driving growth.

The major determinants of growth are the accumulation of productive factors, physical capital, human capital (knowledge), labour and the change in the skill to efficiently combine these in the productive process, and the distribution of the income generated through production in a way, which again contributes to growth. Standard neoclassical theory predicts strong convergence in income levels through trade and the assimilation of identical, freely accessible technology. This is not confirmed by empirical evidence, but rather the conditional convergence holds, which means that countries converge towards their own steady-state growth path, which is determined by a number of country-specific factors instead of a uniform global pattern.

### 4.1 International Spillovers in Growth

We can distinguish between two international influences. First, the spillovers of Western growth on Eastern growth, namely the demand created by growth in the Western countries as materialised in the growth of the Eastern exports. This is the normally understood “pull” or demand link between the countries. We return to this macroeconomic issue below in Section 5. Second, we can examine the effects of Western growth materialising through imports of productive inputs like equipment, the “push” or supply channel in the CEE countries. Growth theory is not interested in the former question, which is a macro feature, as the theory assumes full employment of productive resources, these being the crucial factor behind growth.

Let us accordingly consider international spillovers of growth of the “push” type. To my knowledge, there have so far not been empirical studies concentrating on the relations experienced in this respect from the EU countries to the CEE countries and Russia. Therefore, we have to consider what, e.g., the study by Coe et al. (1997) tells us about

these effects in general in the global economy. So, we have to apply here the North-South framework to the analysis of the West-East economic links. The intention is by no means to identify the East as the South, but rather to use this as an analytical device.

The main empirical result of Coe et al. (1997) is that the elasticity of the developing country total factor productivity (TFP)<sup>8</sup> with respect to the developed country R&D stock is 0.06. The effect runs mainly through imports of machinery and equipment, rather than through total imports, and depends positively on the volume of imports. From the major Western European countries this spillover impact is smaller, as they possess smaller R&D stocks; for them this elasticity lies in the range of 0.004-0.008. In equilibrium, the R&D stock grows at a rate of 2-3 per cent in real terms if R&D expenditure remains as a constant share of GDP. Using this estimate, the impact of total Western R&D on the rise of Eastern TFP is 0.12-0.18 percentage points annually, if compared to a situation of no Western R&D. Coe et al. (1997) consider this as a strong result of a substantial spillover.<sup>9</sup>

The foreign input to growth can also be felt through capital accumulation, which is enhanced by foreign direct investment. Currently, inward FDI is financing some 15-20 per cent of the capital formation in the CEE countries. We should, however, allow for the fact that there is some kind of offset from inward FDI to domestic investment, the magnitude of which has, to my knowledge, not been analysed in the case of CEE countries. So we have to consider this impact with some caution. In an important study prepared at the World Bank, Barbone and Zalduendo (1996) studied the convergence of the CEE countries in income levels towards the EU. They develop a growth model for these countries along the lines of new growth theory, which defines technological progress (growth rate of total factor productivity) to be endogenous, rather than exogenous as traditionally was done in the classical growth theory. Their model includes, first, the standard story that the average growth rate of GDP depends on the rate of investment and the accumulation of human capital. The accumulation of the latter, rather than its level, depends, in the spirit of new growth theory, on the state of the economy with respect to its economic "freedom", or market orientation, vs. distortions and government interventions. This is measured in the World

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<sup>8</sup> By total factor productivity is meant that part of the level and growth of production which cannot be explained by the accumulation of factors of production such as capital and labour.

<sup>9</sup> One drawback in the paper is that the authors do not include the domestic rate of investment as one factor driving growth in their model, but only the investment in human capital, captured by secondary schooling.

Bank study by the modified Index of Economic Freedom (IEF), ranging from a value of 1 (free) to 5 (unfree), and initially constructed by the Heritage Foundation in the US, which has become a popular tool in cross-country studies of growth.<sup>10</sup>

The results by Barbone and Zalduendo (1996) show that raising the investment rate (investment as a ratio to GDP) permanently by 2.5 percentage points leads to a rise in the growth rate by 0.25 of a percentage point. An improvement of the index of economic freedom, e.g., from its current value of 3.0 to near the average level of the EU countries of 2.5, would raise the growth rate by another 0.2 of a percentage point per annum. Note that in Brenton et al. (1998), the IEF also plays an important role in the determination of FDI in the majority of the countries. Bad values of the index are a marked depressing factor of inward FDI. So, it could have a dual role with respect to growth, both to the internal organisation and accumulation of factors of production and to the climate conducive to the inflow of FDI.

Let us make a calculation of the effects running through both these channels. A rise in the Index of Economic Freedom by 0.5 of a percentage point, which is an ambitious, but also reasonable, medium or long-run target for the Eastern Northern Dimension countries, would raise, *ceteris paribus*, in the long-run the inward FDI stock by as much as roughly 100 per cent according to Brenton et al. (1998). (The EU accession could raise it further.) Assuming that this change would be spread over 10 years, this process would then be reflected in a rise in the annual growth rate of the CEE countries by 0.3 percentage points. This consists of a “direct effect” of 0.2 percentage points (i.e. running through the human capital variable) and an indirect one of the magnitude of 0.1 percentage points through FDI, if we assume the case of no offset of domestic investment by FDI. For Russia, this indirect effect is very small, because its stock of inward FDI is minimal.

Let us then turn to analyse the effects of trade liberalisation and growth. This has also been quite a popular strand of analysis, see, e.g., the papers in the September 1998 issue of *The Economic Journal*, especially that by Greenaway et al. (1998).<sup>11</sup> A shortcoming of this, and also

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<sup>10</sup> I omit here the modification introduced to the index by the authors, as it empirically does not seem to be very meaningful.

<sup>11</sup> Recently, the relationship between the level of income and trade has also been analysed by Frankel and Romer (1999). They try to identify the effect of trade on income, admitting the danger of drawing spurious inferences from this relation, which loom in this effort, because trade may - as specified in the gravity model - be largely due to the high income level itself. Without going into the details of their instrumentation proce-

that of the above analysis of growth in the CEE countries by Barbone and Zalduendo (1996) along the lines of the new growth theory, is that the possibility that changes in trade and other policies lead to a one-shot rise in the income level or to a permanent rise in the growth rate is not allowed for in the specification, nor tested empirically. In empirical terms, it is not, of course, easy to test this difference, but anyway an effort in this direction should be taken due to its strategic importance from a practical policy point of view.<sup>12</sup> At any rate, Greenaway et al. (1998) conclude that complete “trade liberalisation” could result in a rise of the growth rate by as much as two percentage points. This can be compared to the above result based on the World Bank study. However, Greenaway et al. do not clearly state what they mean by liberalisation, that is whether a change in the index by the full scale amount from the most restrictive situation to the most liberal, or is it something between.

So, to conclude, we may come to the standpoint that the spillovers from Western growth are important but nevertheless quite limited, so that in the end each country has to manage its own growth. The best way for the EU to speed up growth in the Northern Dimension region is to tie the Eastern ND countries to a steady reform process, see on details of this, e.g., the paper by Berglöf in this volume.

## 4.2 A Digression into the Theory of Economic Geography

We next want to raise the controversial question proposed by the new literature on economic geography. In contrast to what has been implicitly assumed above, could integration, instead of being a cure to the growth problems, in fact be, instead, the cause of them? We again use the North-South framework to analyse the relation between the West and the East. To my knowledge this point of view has not been previously applied in the economics literature to the problems of integration and transition, and it could be an interesting opening for an avenue in this direction. Against this background, the following should be taken as an outline of a possibility rather than as a serious challenge to the conventional wisdom of a positive growth effect of integration.

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dure, their preferred result is that a rise of one percentage point in the ratio of trade to GDP increases income per person by at least one-half of one per cent.

<sup>12</sup> A full discussion of this point falls outside the scope of this general presentation. The overall method is to test whether the impact coefficients die down or sustain as time elapses from the policy change. The difficulty therein is that we do not know the time lag, which may be quite long, from the policy change to the initial effect in the change of income or its growth rate.

The key terms, around which economic geography builds its analysis, are increasing returns to scale, cumulative causation, backward and forward linkages in consumption and production, agglomeration, catastrophic growth and congestion: see e.g. the papers in the special issue of the *European Economic Review*, February 1999, and the paper by Mika Widgrén and the following discussion by Richard Baldwin in this volume. The basic message of this literature is, if simplified, that “success creates success and poverty creates poverty” so that the many factors of success and backwardness are linked in a virtuous or vicious cumulative manner to each other. As such, this is quite an intuitive message and, in a way, confirms what the layman easily thinks about economic development. But what may not be so intuitive is that integration itself, i.e., the lowering of trade barriers, can be the factor, which triggers the cumulative process of agglomeration vs. dispersion. Of course, the theory is rich enough to be able to show that there are conditions and policies, which can break this vicious circle.

Such a cumulative or circular causation can be both demand-linked and cost-linked. In production, under increasing returns to scale, firms want to be located where the big market is. The more firms there are in the big market, the better the supply conditions and the lower the cost of production, so more firms are driven to that market. On the demand side, the movement of labour to the rich core creates extra demand there and this expenditure-shifting leads to more production-shifting and the demand-linked cycle repeats (Baldwin 1999).

Consider then trade liberalisation. There are two forces at play which cause a shift of resources between two initially symmetric regions. First, the pro-agglomeration effects of cumulative causation as mentioned above, and secondly the anti-agglomeration forces of more competition, as imports face an improved competitive position. These, in turn, depend on the trade regime, and on the opening of the borders, in an asymmetric way, which is the key factor possibly, but not necessarily, leading to catastrophic agglomeration. The effects are in mathematical terms fairly complex, so it is not easy to understand them intuitively. But let us try. Imagine that there is a reduction in the trade barrier between two symmetric nations. As Baldwin (1999) analyses, both the pro and anti effects will change due to this impulse. The pro-agglomeration effect is reduced due to the fact that more expenditure leaks abroad as the cost of imports goes down. The competition effect is also reduced as with a lower trade barrier there is a tendency to invest less in the neighbouring country. Depending on this balance, a cumulative agglomeration may be caused or not.

There are also forces at play hampering this kind of process. One is congestion and one is free capital mobility, and one is trade barriers. The trade barriers may also be welfare-improving as shown by Baldwin. Note that this is in contrast with the bulk of the results produced by the empirical analysis of liberalisation, referred to above, although there may be a J-curve kind of effect arising from the liberalisation to growth, as indicated in the paper by Greenaway et al. (1998). In effect, this means that, initially, the liberalisation leads to a slowdown in growth in the restructuring phase and only later on to an acceleration in it.

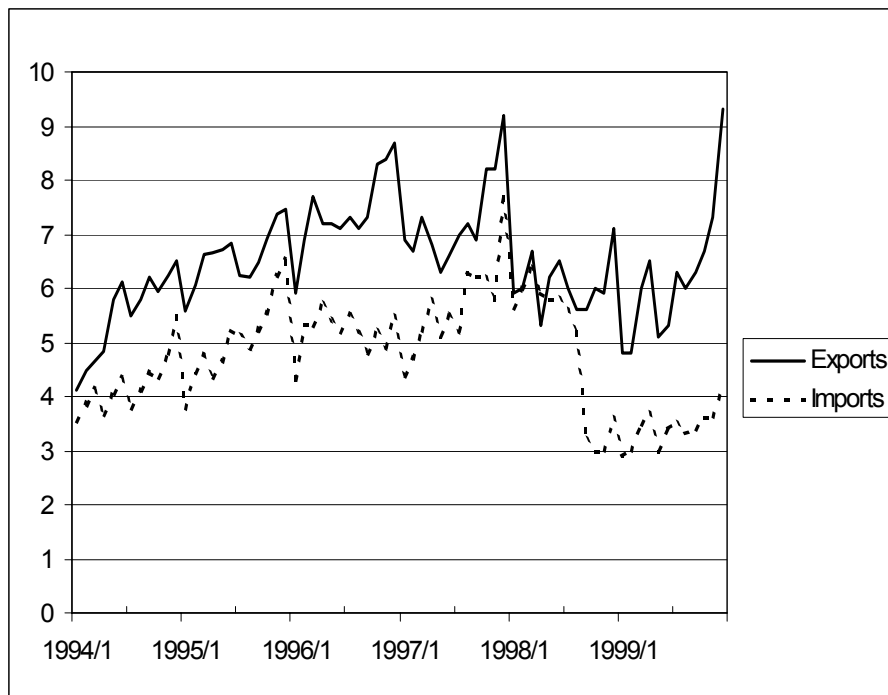
It is too early to conclude on the basis of this short exposition, whether these kinds of forces could play an important role within the Northern Dimension. When thinking about applying such ideas to the problems faced in the Region, we should pay attention to the fact that the whole, or large parts of the region, are located in a periphery with respect to the core, the big EU markets. The analysis of economic geography also has a message on regional integration. Baldwin (1999) shows that the idea of a global trade diversion due to a regional trading arrangement, i.e. the fear of a fortress, can be true: it pays for two equal sized countries to build a free trade area at the cost of an outsider country.

### **4.3 On the Growth Strategy in the Region**

Traditionally, the Northern Dimension has been considered in terms of the classical framework of resource based, raw material intensive growth. The recent rapid rise of information technology and other high-tech industries, some of which already belong to the industrial core, to become a substantial growth factor in many countries within the Northern Dimension, is a marked divergence from this pattern, which should be recognised properly.

There are wide differences in the growth strategy adopted in practice within the Northern Dimension. Estonia notably obeys an open and harsh policy of integration to the world economy with very low trade barriers. Russia has adopted more of a strategy of import substitution as we can see from Figure 8. During the late 1990s, both her imports and exports have stagnated, irrespective of the recent strong revival in exports due to the higher price of oil.



**Figure 8. Russian exports and imports, bill. USD, monthly**

Such a strategy, called “import-substitution growth”, does not have a very good reputation as an out-dated strategy. Many countries obeyed it during the early stage of the post-WWII era and then abandoned and replaced it with an export-led growth strategy. This does not mean that exports should be favoured at the expense of domestic production, but rather there should be a neutral stance for supplying both markets. So, import substitution may prove to give good results for some time, but is not likely to produce a success in a longer-term perspective. Import tariffs are an indirect tax on exports as the tariffs cut import demand and thereby improve the trade balance, leading to an artificial appreciation of the exchange rate, which hampers exports. Of course, Russia is a big country, where foreign trade does not play a crucial role, so it should concentrate more on structural reforms to overcome the weaknesses within the national economy itself, as recommended also in several papers in this volume.

There is a nice case of a sub-region within the Northern Dimension, consisting of Estonia, Finland and Sweden, which trade and invest (FDI) very intensively with each other, and where the poorer country enjoys the benefits of access to international capital markets and can thereby raise its consumption level ahead of the increase in its production. Of

course, such a strategy can be very vulnerable, and not easy to sustain permanently without interruptions, as has now taken place recently.

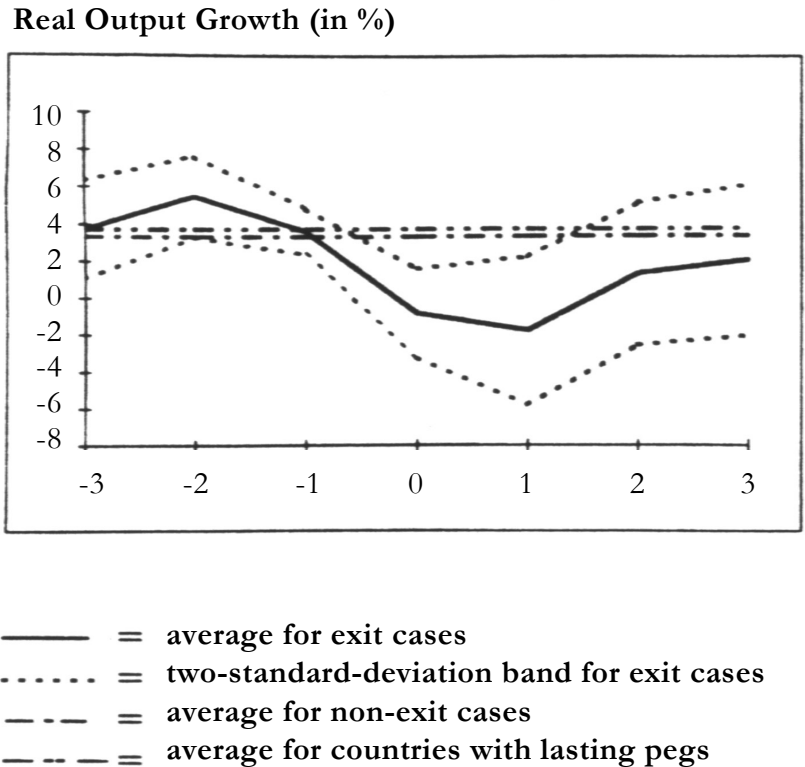
## **5 The Macroeconomy in the Northern Dimension**

Above we have concentrated on supply factors as determinants of growth. However, short-run macroeconomic developments and management are important issues from a number of important angles. First, they are important as such, secondly they are influenced by the spillovers between the countries and therefore important from the point of view of the Northern Dimension, too, and, third, there may be a link from the short-run to some longer-term questions of policy-making, such as structural change and integration within the Region.

Let us consider these issues in turn. The key background to the current situation is, of course, the crisis, which the Russian economy had to undergo in 1998, the aftermath of it and its spillover effects on the neighbouring countries. The other side of the coin is the reduced purchasing power and harsher living conditions, and widening income gaps in Russia itself. As analysed by Eichengreen (1999), it seems to take on average some 3-4 years before a country, hit by a currency crisis and forced to abandon the currency peg, reaches the growth rate of the average non-crisis countries. However, this convergence is not unambiguous, as witnessed by Figure 9. On the other hand, the depreciation of the rouble has been in real terms bigger than the average in the crisis countries in the past, and, on the other hand, the Russian crisis seems to have been of a different nature in the sense that it has not been of a boom-and-bust type, but rather a case of a chronic reduction in output almost throughout the transition period.

There are also important macroeconomic linkages between the countries in the Region. We know that the collapse of the Russian market for Finnish exports in 1991 was one factor, but not perhaps the most decisive one, for the slide of the Finnish economy into an utmost difficult depression, being one of the severest any industrialised country has experienced during peacetime. Currently, we see a somewhat similar difficult phase in the Baltic countries, which have also experienced a sharp downturn in their economies, partly affected adversely by the cut in their exports, directly or indirectly, going to the Russian market. They managed to maintain their pre-crisis exchange rate parities with strict policies and quite a deep recession. The problem lies in determining the forces putting these economies back on a growth path. In Finland, it was clearly the boom in exports, spurred by the marked

Figure 9. Real output growth in countries with a currency crisis (exit cases) in comparison to other countries



Source: Eichengreen (1999)

depreciation of the currency. But it is interesting to find out how the Baltic countries will manage to overcome their recent recession and return to a growth path with the previous fixed parity of its currency. It seems that a successful wage-price adjustment would play a crucial role in this connection.

What is the connection between the short and the long-run, especially with respect to policies within the Northern Dimension? We may take two opposite stances here: the better the short-run developments, the better the prospects for internal adjustment and structural reforms and the more attractive the (transition) country looks to the outsiders, especially investors. On the other hand, there may be the possibility of Creative Destruction, which calls for hard adjustment within the firms and hard policies in hard times, and a likely acceleration in the structural reforms and measures within the hard hit country.

The economic linkages within the Northern Dimension have also changed, maybe in a fundamental way, due to EMU, which has so far not been well analysed. The currency crisis, which took place in Finland in the early 1990s was very much aggravated by the several consecutive hikes in interest rates caused by currency speculation in 1990-92. During the Russian crisis of 1998, at least to some extent thanks to EMU, no such contagion took place. Irrespective of the asymmetric position of Finland with respect to the shock (i.e. a markedly higher volume of exports going to Russia than in the EU in general), in contrast to the previous situation, the new situation is that the interest rate is determined by EMU area wide developments and common monetary policy. The Russian crisis had a very small direct effect on the Euro Area and the financial flows turning away from the crisis areas are conducive to the stability and low interest rates in the EU core and so in Finland, too, so that the reflationary forces associated with a crisis in an emerging economy were also felt here this time. Similarly, there was at this time no contagion between the intense traders Finland and Sweden, in contrast to what happened in the early 1990s. So, we may even consider the possibility that the Finnish membership in EMU is protecting Sweden, i.e. giving a free bonus of extra credibility to its macroeconomic policies, too. Now the shock is absorbed in the whole Euro Area, instead of individually, first in Finland, then Sweden experiencing a possible “domino” effect of contagion. This is an interesting point deserving more research.

## **6 Conclusions**

We have considered here a number of issues, hopefully to some extent illuminating and important to the economic analysis of the Northern Dimension. Growth and macro issues are both important, although the long-run issue of successful economic transformation is perhaps more pressing once the short-run macroeconomic adjustment in Russia and nearby countries has put those economies on a steady path of revival.

A number of important issues in economic interrelationships have, of course, not been touched upon in this paper. One question is related to the free movement of labour. We know that rich countries prefer trade in goods to the free movement of labour, which would cause an increasing pressure towards redistribution of income. This theoretical result by Wellisch and Walz (1998) seems to hold currently in the EU enlargement.

Altogether, we could come to the following “iron rule” of economic ties. Mutual economic ties are important in specific branches and regions, but not crucial to the overall developments of a country. The so-

lution to the growth problem, irrespective of sizeable international spillovers and contributions by integration policies, rests, in the end, in the hands of each nation itself. However, more empirical work as to the determinants of growth within CEE countries and the Northern Dimension is in place, which emerges as a clear conclusion from what has been stated above. As an important observation, we found that trade relations are quite intense within the Northern Dimension, which is a strength of the Region. The most pressing problems lie in FDI. Therefore, efforts should be made to create an environment more conducive towards a free flow of capital. A new stage in the economic relations within the Region should be reached and it has to be asked, whether the time will soon be ripe for Russia to dismantle its tariff and non-tariff barriers to trade and FDI.

It is important that the EU, the key actor in the Region, gives a possibility for, and enforces, too, within its capacity, the eastern Northern Dimension countries to restructure their societies and economies. This is the best way economic convergence can be advanced within the Region and in Europe in general.

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## Discussion

*Inkeri Hirvensalo*

First I would like to thank Kari Alho for the presentation on "Economic Developments and Interrelationships within the Northern Dimension", in which he explores and analyses many topics of great interest for economists in the context of the political concept of Northern Dimension. He raises several issues which are of both theoretical interest and importance and also have significant policy implications. I particularly welcome his approach when he points to areas where further research is needed or suggests new angles for an existing research tradition.

The cases in point are the call for a better understanding of the significance of belonging to a preferential trading arrangement or a trading bloc/region, the need for better models explaining FDI and the call for, if I may interpret his message quite freely, more empirical analysis of the international spillover effects in the transition economies within the Northern Dimension.

On the first two points, that of the significance of close trading regions and models explaining FDI, he also points out the sub-region of Finland-Estonia-Sweden within the Northern Dimension. Based on that particular example one could hypothesize that the cultural ties between the countries and potentially the expectations of trading companies and investors concerning the operational environment could be worth more and deeper studying. One finding, which I personally have made in studying the Finnish foreign investors in Russia is the difference in the time horizon of Russian and Finnish investors. When the Finnish investors are prepared to wait for several years for their investments to bear fruit the Russians expect to cash in immediately.<sup>1</sup>

Alho points out the fact that the Index of Economic Freedom (IEF), which measures market orientation, distortions and government interventions, has proved significant in explaining the FDI in a World Bank study. In a somewhat similar vein a recent IMF study concludes that both investor perceptions of country risk and survey-based indicators of a country's legal and political climate significantly contribute to explaining cross-country differences in attracting foreign direct invest-

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<sup>1</sup> Inkeri Hirvensalo (1999): Investment into Russia; Experiences of Financing FDI's into Russia (in Finnish), ETLA, series B, No. 150.

ments among transition economies. On survey-based studies among the foreign investors within the region's transition economies, as pointed out by Kari Alho, it has been found out that the most significant investment barriers consist of rapidly changing legislation and its inconsistent implementation throughout the region.<sup>2</sup>

At this point I would like to mention that our unit at the Helsinki School of Economics would like to invite all interested parties to participate in a study on norms, institutions and business culture around the Baltic Sea Region. We are currently carrying out a feasibility study for a relatively large comparative research. The feasibility study is financed for our part by the Ministry of Trade and Industry.

From the research carried out in the field of internationalization of companies we know that relatively small and internationally inexperienced Finnish companies have ventured to Estonia, contrary to the expectations that "normal" paths of internationalization of companies would have predicted.<sup>3</sup> In many cases also strategic reasons, such as early movers' advantages or saturation on domestic markets or high competition on other close markets provide plausible explanations. Such FDI have also resulted in subcontracting relationships, which could be reflected in increasing intra-industry trade between the countries.

On the account of the spillover effects of growth and integration within the Northern Dimension Alho analyses the international spillover effects of the so called push type, which materialize mostly through imports of machinery and equipment to the CEE, and points out that in the conditions of developing countries such growth creating spillovers can be considered substantial. In the transition economies, however, and particularly in Russia such effects are most likely negligible as the share of machinery imports is also small. However, a potential multiplying effect could be caused by the fact that a majority of such FDI, at least in the Baltic countries have been made in export oriented enterprises, who are not just building their operations on the local demand. So both the push forces of technology imports and pull forces of foreign demand are in operation.

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<sup>2</sup> Colin Hazley – Inkeri Hirvensalo (1998): Barriers to Foreign Direct Investments in the Baltic Sea Region, ETLA Discussion Paper No 628.

<sup>3</sup> Inkeri Hirvensalo (1993): Adaptation of Operation Strategies to Radical Changes in Target Markets; Finnish Operations in the Former USSR from 1976 until 1991, Helsinki School of Economics, B-132, 1993.

On a more practical note I can also refer to a limited survey carried out in all three Baltic countries on technological spillovers of FDI and subcontracting relationships and point out that the most notable technological spillovers were found to be in the upgrading of the product quality. The significance of that in turn is very difficult to quantify and translate into growth effects.<sup>4</sup>

Alho also raises an interesting point in questioning the role of integration as a cure to growth problems. The argument is based on the view that success creates success and poverty creates poverty in line with the recent lines of research in economic geography. This is clearly a question where further research is needed in order to create, for example, a better understanding of the significance of so called industrial clusters, which may attract investors across borders. Particularly, as we know that the experiences of creating free economic zones have not been encouraging in any Northern Dimension countries, the economic analysis of industrial clusters, such as transportation and related services in the Baltic countries, for example, is actually called for.

Towards the end of his paper Alho makes some remarks concerning the Russian economy. He points out that the Russian recent revival is to a large extent due to a sharp reduction in imports rather than a rise in exports or a strategy called import-substitution growth rather than export-led growth. It could be added that, indeed, there does not seem to be any pronounced industrial policy behind this kind of strategy, which would provide for an export-led growth strategy. The Russian exports continue to be based on various raw materials and energy, which is free for exports after the domestic demand has been fulfilled. Therefore I would also be less optimistic about the extent of creative destruction taking place in the economy as a result of the crisis.

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<sup>4</sup> Foreign Trade Relations, Foreign Trade Regimes and Foreign Direct Investment in the Baltic Countries, February 28, 1999, Research Institute of the Finnish Economy ETLA.



# 5 Comparative Advantage, Intra-Industry Trade and Location in the Northern Dimension

*Mika Widgrén*

## 1 Introduction

There are at least two aspects of economic geography that are closely related to the concept of the Northern Dimension. They both stem from the so-called core-periphery model. First, we may think that the Northern Dimension is peripheral area within the expanding European Union and, second, that there are small scale cores and peripheries within the Northern Dimension. The aim of this paper is to deal with them both.

In the paper, we describe the Northern Dimension Countries' (NDCs) comparative advantage and trade patterns within the area and then draw some conclusions on the location of production in the area. Our aim is, first, to describe the Northern Dimension as an economic area and to discuss its importance from the viewpoint of the countries within the area. Second, we analyse trade patterns within the Northern Dimension and make comparisons to extra Northern Dimension trade, again in European perspective (see e.g. Kaitila & Widgrén 1999, Partanen & Widgrén 1999). Third, drawing on earlier empirical and theoretical results of economic geography, we conclude how all this may affect to location of production in the Northern Dimension (e.g. Krugman 1991, Forslid & Wooton 1999, Forslid et al. 1999, Haaland et al. 1999).

Formally, the concept of Northern Dimension is defined in such a way that it covers co-operation within the Baltic Sea Region, the Barents and other euroartic co-operation, the bilateral relations and co-operation with the nearby regions. Since the paper deals with foreign trade we assume that the Northern Dimension is defined on the basis of country borders. In its widest version, we assume that it consists of Finland, Sweden, Norway, Denmark, Germany, Poland, the Baltic countries, Russia, In its widest interpretation, the Northern Dimension can be divided into four groups of countries in terms of their trade relations with the EU. First, there are EU members Finland, Sweden, Denmark and Germany, second, there is an EEA country Norway,

third, there are applicant countries the Baltic countries and Poland and, finally, there is Russia. In this paper, our main focus is on applicant countries and hence on narrow definition of the Northern Dimension.

After the Central and Eastern European countries opened up to trade with the Western Europe the relative importance of the Baltic Sea region as a part of integrated Europe increased but still the Northern Dimension can be considered as a peripheral region (for a more detailed analysis, see also Alho 2000). From the economic geography point of view a common worry among politicians of such regions is that deeper integration will lead to loss of industry and jobs in these regions. These worries get support from recent theoretical work where, indeed, deeper economic integration may lead to increased concentration of industrial production (e.g. Krugman 1991). Putting the issue of Northern Dimension on the agenda during Finland's presidency in the EU reflected these worries in practise.

Another issue, which may have implications on trade patterns and location within the Northern Dimension stems from significant differences between the levels of NDC's economic development. With this respect, an often claim is that deeper integration with the Central and Eastern European countries and the EU would lead to an outflow of industrial production from Finland and Sweden to the Baltic countries and to an inflow of labour from the Baltic countries to Finland and Sweden. Deeper integration within the Northern Dimension may, however, be beneficial for both the Baltic countries and Finland and Sweden as emerging industrial production in the Baltic Rim and foreign direct investments to these countries may, by creating input-output links, have positive complementary effects on industrial production in Finland and Sweden. Using Krugman and Venables (1995) type of argument in a small scale within the Northern Dimension free trade between the core (Finland and Sweden) and periphery (the Baltic states) should first benefit the former and the convergence of real incomes should occur when trade costs within the Northern Dimension have decreased to a low enough level. In the following we make qualitative conclusions whether we see some evidence on this kind of development within the Northern Dimension.

The third aspect, which may affect location of industrial output, is trade policy. From the Northern Dimension point of view, one of the main contributions of Finland's presidency was the decision to start membership negotiations with Latvia and Lithuania. In Baldwin (1994) it has been argued that hub-and-spoke trade arrangements tend to concentrate output towards the centre since the home market effect works more effectively when the spokes do not have incentives to develop

their mutual trade arrangements. The latter is a consequence of their small size together with competing positions in the hub's markets. In terms of their membership negotiations, the artificial division between the Baltic countries was removed during the Finnish presidency. This improved the situation from the Northern Dimension point of view since all Baltic countries have now, in principle, similar trade agreements with the EU. The Europe Agreements are, however, hub-and-spoke type, which decreases the unity of the Northern Dimension as an economic area and maintains the incentives for the Baltic countries of not to develop intra-Baltic free trade.

Table 1 shows NDC's potential trade patterns in their European trade with partial income catch-up, which means that it is assumed that the Baltic states catch up to the income level of Spain whereas Poland will reach the average of Ireland, Greece and Portugal. Given a two per cent growth rate in the EU, this implies a slightly faster than four per cent growth rate in the above-mentioned NDCs. Figures are based on gravity model calculations in Baldwin (1994). The table distinguishes between two definitions of the Northern Dimension, namely narrow and wide. The former consists of Finland, Sweden, and the Baltic countries and the latter adds Germany, Denmark, Norway, Poland and Russia into the group.

In terms of demand and the distance from the core, the Northern Dimension is and it remains like a periphery also after the enlargement of the EU. Finland's and Sweden's joint share of EU wide GDP is about three per cent. Adding the Baltic states to that does not change

**Table 1. The relative importance of the Northern Dimension for selected countries (the share of potential ND trade of countries' European trade)**

Country	Narrow Northern Dimension	Wide Northern Dimension	Russia's share
Finland	17.0	54.7	20.6
Sweden	10.1	46.7	12.3
Germany	3.3	15.0	4.7
Estonia	17.0	60.4	30.0
Latvia	12.5	53.2	25.6
Lithuania	7.8	48.7	19.8
Poland	9.4	33.6	14.3

the situation significantly. Nevertheless, the Northern Dimension forms a natural trade area, which is, even under its narrow interpretation, relatively important for the countries in the area. The Baltic Sea region, when Russia is excluded, accounts roughly for one third of Finland's and Sweden's potential trade in Europe (see Table 1) and for the Baltic countries figures are only slightly lower.

Table 1 shows that, in terms of trade potential, the relative importance of the Northern Dimension increases towards Northeast. Regardless of which interpretation of the Northern Dimension we take the highest figures are those of Finland and Estonia. By excluding Russian trade the Northern Dimension seems to be the most important market area for Estonia, Latvia, Finland and Sweden. It is worth stressing that Russian trade figures give a somewhat biased picture here as the country is included as a whole.

The narrow Northern Dimension area has only slightly over 20 million inhabitants. Compared to that the trade shares are relatively high showing that the Northern Dimension can be considered as a natural trading area.

Table 2 gives the distribution of EU countries' exports to Poland and to the Baltic states. If we rank the EU countries according to their export shares to the Baltic states, the three most important exporting countries always belong to the Northern Dimension. In the case of Estonia they are Finland, Germany and Sweden, in the case of Latvia, Germany, Finland and Sweden and in the case of Lithuania, Germany Denmark and Finland. Finland is the largest exporting country to the Baltic countries.

In Table 2, there are three cases where the trade share of one EU country exceeds one third. They are exports from Finland to Estonia<sup>1</sup> and from Germany to Poland and Lithuania. Germany is a dominant exporting country also in Latvian markets but Finland and Sweden have considerable shares there as well. In sum, Tables 1 and 2 show that the Northern Dimension has developed to an important market area especially for small countries located in the region. It also seems that the Northern Dimension can be divided into Northern coast of the Baltic Sea including Finland, Sweden, Estonia and Latvia and the Southern coast including Germany, Lithuania and Poland.

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<sup>1</sup> In 1997, Estonia was Finland's seventh largest export country.



**Table 2. The distribution of EU exports to Poland and the Baltic countries in 1996**

Country	Estonia	Latvia	Lithuania	All Baltic Countries	Poland
France	2.1	3.5	5.3	3.6	8.3
Belgium-Luxembourg	2.0	4.3	4.1	3.3	4.9
Netherlands	3.8	7.7	6.3	5.7	5.3
Germany	14.1	29.1	38.6	26.5	42.1
Italy	3.7	5.7	8.4	5.9	13.6
United Kingdom	3.8	8.3	6.6	5.9	7.7
Ireland	0.6	1.0	0.9	0.8	0.7
Denmark	3.7	6.3	8.6	6.1	2.8
Greece	0.1	0.4	0.3	0.2	0.3
Portugal	0.1	0.1	0.3	0.2	0.1
Spain	0.6	1.0	2.5	1.3	2.9
Sweden	12.0	14.8	7.9	11.3	4.6
Finland	52.7	16.8	8.5	28.1	2.6
Austria	0.6	1.2	1.7	1.1	3.2
Total EU	100.0	100.0	100.0	100.0	100.0

Source: Kaitila & Widgrén (1999) and Partanen & Widgrén (1999).

## 2 Revealed Comparative Advantage

Next, we analyse the structure of comparative advantage in trade between the NDCs. Comparative advantage is measured by Balassa index of revealed comparative advantage<sup>2</sup>. Our main aim is to describe trade patterns within the Northern Dimension but we also draw some conclusions on NDCs revealed comparative advantage in the EU market.

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<sup>2</sup> Originally in Balassa (1965) where he states that “Comparative advantages appear to be the outcome of a number of factors, some measurable, others not, some easily pinned down, others less so. One wonders, therefore, whether more could not be gained if, instead of enunciating general principles and trying to apply these to explain actual trade flows, one took the observed pattern of trade as a point of departure [...]”

As noted earlier comparative advantage is related to location since differences between comparative advantage between the centre and the periphery weakens the effects of the home market effect. If comparative advantage in peripheral areas differs from the core areas this may be a reason to locate more to areas like the Northern Dimension. On the other hand, as the Baltic countries are quite different economies from Sweden and Finland and as it is likely that their comparative advantage is quite different this might further strengthen the Northern Dimension as an economic area.

Comparative advantage is measured by Balassa indices of revealed comparative advantage. Balassa indices are calculated as the ratio of the share of a given product in a country's exports to another country to the share of that product in aggregate intra-EU exports, i.e.

$$BI = \frac{x_{ij}^k / X_{ij}}{x^k / X},$$

where  $x_{ij}^k$  is the exports of country i to country j of product k,

$X_{ij}$  is total exports of country i to country j,

$x^k$  is the intra-EU exports of product k,

X is total intra-EU exports.

To analyse whether the EU countries' RCA in exports to the Baltic countries depends on their revealed comparative advantage in the EU, we calculate a  $\chi^2$  test for the values of the Balassa indices smaller than or greater than unity. In this case, the null hypothesis is that comparative advantages are independent. The test statistic can be written as follows

$$\chi^2 = \frac{N \left( |AD - BC| - \frac{N}{2} \right)^2}{(A+B)(C+D)(A+C)(B+D)},$$

where N denotes the number of 4-digit CN classes (1,242 in all), A denotes the number of classes where an EU country has a revealed comparative advantage in both applicant country's market and EU markets, B the number of classes where an EU country has revealed comparative advantage in EU markets but not in the NDC market in question, C the number of classes where there is comparative advantage in the NDC

market but not in EU markets and, finally, D gives the number of classes where an EU country does not have revealed comparative advantage in either market. The NDC markets have been split according to country lines. The results are given in Tables 3 and 4. The values in bold are significant at the 1 per cent level with one degree of freedom. If the value is larger than 6.64, we can reject  $H_0$ , which means that comparative advantage in NDC trade is not independent of the comparative advantage in intra-EU trade.

**Table 3. Chi square tests for the independence of Balassa indices in NDC-EU trade vs. intra-EU trade (CN4). If index value exceeds 6.64 it is significant at the 1 % level and  $H_0$  is rejected.**

Country	EU to Poland	EU to Estonia	EU to Latvia	EU to Lithuania
France	<b>24.7</b>	<b>19.41</b>	<b>8.69</b>	<b>20.20</b>
Belgium-Luxembourg	<b>47.8</b>	<b>29.81</b>	<b>19.85</b>	<b>18.18</b>
Netherlands	<b>72.0</b>	<b>45.91</b>	<b>59.75</b>	<b>20.46</b>
Germany	<b>119.3</b>	<b>27.80</b>	<b>10.02</b>	<b>19.73</b>
Italy	<b>228.9</b>	<b>135.69</b>	<b>168.69</b>	<b>86.71</b>
United Kingdom	<b>90.4</b>	<b>34.84</b>	<b>31.55</b>	<b>33.94</b>
Ireland	<b>90.9</b>	<b>66.52</b>	<b>30.35</b>	<b>72.83</b>
Denmark	<b>125.2</b>	<b>108.34</b>	<b>69.48</b>	<b>48.18</b>
Greece	<b>125.0</b>	<b>25.01</b>	<b>14.59</b>	<b>34.15</b>
Portugal	<b>89.7</b>	<b>80.01</b>	<b>29.20</b>	0.28
Spain	<b>65.9</b>	<b>17.90</b>	<b>13.82</b>	<b>15.45</b>
Sweden	<b>196.7</b>	<b>37.41</b>	<b>13.43</b>	<b>47.47</b>
Finland	<b>155.2</b>	<b>7.24</b>	<b>29.15</b>	<b>12.13</b>
Austria	<b>66.2</b>	<b>9.10</b>	<b>15.45</b>	<b>7.76</b>

Source: Kaitila & Widgrén (1999).

Table 3 shows that in their exports to the NDCs the EU countries' revealed comparative advantage clearly depends on their revealed comparative advantage in the EU markets. The only exception to this is Portugal whose RCA in its exports to Lithuania seems to be independent of its revealed comparative advantage in the EU markets. Otherwise the test variables are highly significant. In terms of  $\chi^2$  statistics the largest exporters obtain the lowest but, still, highly significant values.

**Table 4. Chi square tests for the independence of Balassa indices in NDC-EU trade vs. intra-EU trade (CN4). If index value exceeds 6.64 it is significant at the 1 % level and H0 is rejected.**

Country	Poland to EU	Estonia to EU	Latvia to EU	Lithuania to EU
France	0.0	<b>2.33</b>	0.94	1.02
Belgium-Luxembourg	0.4	0.48	0.37	1.81
Netherlands	0.0	0.03	0.01	0.37
Germany	5.4	<b>11.79</b>	3.19	<b>14.79</b>
Italy	<b>9.4</b>	2.62	0.28	1.40
United Kingdom	<b>10.4</b>	0.43	0.01	5.42
Ireland	2.3	0.08	0.03	0.39
Denmark	<b>33.4</b>	<b>38.15</b>	<b>20.13</b>	<b>19.68</b>
Greece	<b>14.2</b>	<b>18.20</b>	<b>7.82</b>	<b>22.29</b>
Portugal	<b>53.1</b>	<b>50.48</b>	<b>25.35</b>	<b>48.17</b>
Spain	0.9	0.35	1.39	2.62
Sweden	3.6	<b>6.89</b>	0.14	0.04
Finland	<b>9.8</b>	<b>11.45</b>	1.61	1.26
Austria	<b>28.2</b>	<b>15.82</b>	<b>9.95</b>	<b>15.11</b>

Source: Kaitila & Widgrén (1999).

In their exports to the EU, the NDC's revealed comparative advantage is mostly independent of EU countries' revealed comparative advantage in the EU markets. Dependence seems to be the widest for Poland. In the four columns of Table 4, we have country pairs between each EU country, Poland and each Baltic country. The EU countries that have a figure in bold, say, Latvia's column, compete with Latvian exports in the EU market. Such countries are Denmark, Greece, Portugal and Austria. These four EU countries have similar revealed comparative advantage patterns with all three Baltic countries. In addition to these, Estonia's revealed comparative advantage in the EU also corresponds to that of Germany, Finland and Sweden, while Lithuania's corresponds to that of Germany. The correspondence between the Baltic countries' RCA and the EU countries' RCA is clearly the widest in Estonia's exports to the EU.

If we take the Baltic countries' aggregate revealed comparative advantage in the EU markets we find that they are highly dependent. We obtain  $\chi^2$  values 241.5 for comparison of Estonia's and Latvia's revealed comparative advantage, 236.1 for Estonia vs. Lithuania and

207.0 for Latvia vs. Lithuania. They are all highly significant, hence telling that, on average, the Baltic countries specialise similarly in the EU markets.

The Baltic countries' revealed comparative advantage patterns are most similar to each other in the aggregate EU market. This means that they compete first and foremost with each other (and perhaps with the other transition countries). Consequently, the way to admit the Baltic countries into the EU in several phases would be harmful for those countries left to wait for their turn to join as they are deprived of full access to the Single Market. Estonia enjoys a surplus in its intra-Baltic trade.

A two-phased accession would have had an effect on the allocation of foreign direct investment in the Baltic region by favouring Estonia, the likely first entrant, and already the Baltic country most integrated with the EU.<sup>3</sup> If at such a time credible negotiations are under way for a quick entry of also Latvia and Lithuania into the EU there may not be any substantial effect on FDI flows. The decision to widen the membership negotiations and to remove the two-phase negotiation strategy with the CEECs supports this development.

In their most important export markets they also seem to compete with the same EU countries (see Kaitila & Widgrén 1999 for details). There seems to be, however, geographical differences in the Baltic countries' specialisation as their most important markets are different. Latvia and Lithuania have the Netherlands and the UK among their most important trading partners but Estonia's trade is more concentrated towards its closest EU neighbours Finland and Sweden. Surprisingly, the figures in Table 4 show some evidence of the correspondence between Finland's and Sweden's and, on the other hand, Estonia's revealed comparative advantage. This might actually be a sign of complementary effects mentioned above. Some 50 per cent of Estonia's exports to the EU go to Finland indicating that the correspondence is not a sign of competition in the EU markets but rather in Finnish markets and still Finnish firms have similar comparative advantage in the EU markets.

In general, the Baltic countries' revealed comparative advantage in the EU markets seems to correspond most with the specialisation patterns of Denmark, Austria, Portugal and Greece. This holds for all three Baltic countries. Furthermore, Estonia's revealed comparative

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<sup>3</sup> See Baldwin (1994) for the details of this argument.

advantage corresponds with those of Finland and Sweden, which is at least partly due to the fairly high intensity of vertical intra-industry trade between these countries. This tendency has also supported Estonia's exports to Finnish and Swedish markets and, at the same time, it seems to somewhat divert Finland's and Sweden's imports of textiles and clothing from Southern European countries to Estonia.

### 3 Intra-Industry Trade

The share of intra-industry trade (IIT) is usually high between developed industrialised countries and fairly low between countries that are at different stages of economic development. IIT has indeed been lower in trade between European countries in transition and the EU than in intra-EU trade. But as the countries of Central and Eastern Europe have been narrowing down the difference in economic structures and income levels, also the share of IIT in total trade has been rising.

Recent research shows that most of this IIT is, however, vertical and not horizontal in character (see e.g. Aturupane et al. 1997). This means that even though the countries are engaged in the exports and imports of goods that are classified in the same product group, the goods are of dissimilar quality. We shall first look at overall IIT levels and then proceed to the question of the quality of the goods.

The extent of intra-industry trade is calculated using the Grubel-Lloyd index. It measures the sum of the absolute differences between the exports ( $x$ ) and the imports ( $m$ ) of commodities  $k$  in trade between countries  $i$  and  $j$ , where  $k$  runs through all the products in which the countries are engaged in trade with each other. In the denominator we have the total sum of exports and imports between these two countries. If the index takes value zero, there is no intra-industry trade between the countries. As the index approaches 100, also the share of IIT in total trade approaches 100 per cent. More formally the index is given by

$$GL_{ij} = \left[ 1 - \frac{\sum_k |x_{ij}^k - m_{ij}^k|}{X_{ij} + M_{ij}} \right] * 100.$$

Table 5 summarises the results for IIT in EU-Baltic trade with intra-EU trade as a comparison. We may note a few points. The overall level of intra-industry trade between the EU and the Baltic countries is fairly low. In trade between Finland and Sweden and Estonia, it has been increasing fairly rapidly though.<sup>4</sup> To some extent this may be credited to the Finnish and Swedish EU membership in 1995, even though also the other EU countries have increased their IIT levels. In trade with the Baltic countries in aggregate, all EU countries, excluding Greece, have seen their IIT levels rise at the CN4 level. For individual Baltic countries there are some further exceptions to this general rule, but typically between countries that do not trade a lot with each other. Third, the EU countries geographically close to the Baltic countries, i.e., Finland, Sweden and Denmark exhibit by far the highest levels of IIT. The countries farther away from the Baltic Sea have both lower levels of aggregate trade and lower levels of IIT. This also corresponds with the usual observation that country-specific factors explain IIT. The Baltic

**Table 5. Grubel-Lloyd indices of intra-industry trade between the EU and Poland and the Baltic countries (1996 data)**

Country	Estonia	Latvia	Lithuania	Poland
France	6.9	4.3	6.5	20.2
Belgium-Luxembourg	3.1	18.1	5.9	20.1
Netherlands	4.3	3.4	10.0	22.8
Germany	12.1	16.0	14.9	29.8
Italy	7.2	9.9	4.0	18.9
United Kingdom	3.5	6.4	4.0	19.2
Ireland	0.7	0.5	0.3	7.0
Denmark	20.3	15.7	22.7	24.6
Greece	0.0	0.0	0.2	6.0
Portugal	1.9	0.0	5.1	10.0
Spain	1.7	3.5	1.5	19.9
Sweden	25.6	11.4	8.6	21.3
Finland	28.7	7.4	9.7	8.0
Austria	5.0	3.4	6.0	15.7

<sup>4</sup> In Erkkilä and Widgrén (1994) it was estimated by using less detailed classification that IIT accounted for 16 per cent for trade between Finland and Estonia.

countries' income levels are so different from those in the EU that geographic proximity remains the only explanatory country-specific factor behind the levels of IIT. Compared to intra-EU levels the shares of IIT are, in general, very low in the Baltic countries' trade with the EU.

In trade between Poland and the EU, the proportion of IIT is higher than in trade between the Baltic states and the EU but it is still low compared to Czech Republic or Hungary for example. Here again the highest shares can be found in Poland's trade with her biggest and most proximate trading partners. The Northern Dimension is represented by Germany, which is by far Poland's biggest trading partner, Denmark and Sweden.

**Table 6. The CN4 product groups with more than 3,000,000 ECUs worth of total trade between an EU country and Estonia and more than 80 % of intra-industry trade in 1996**

Country	CN	Products	Total trade 1000 ECUs	IIT, %
Sweden	2710	Oil (not crude) from petrol and bituminous minerals etc.	10,741	83.5
Finland	8544	Insulated wire, cable, electric conductors; optic fibre cable	24,851	97.9
	8522	Parts and accessories of sound/video recording equipment	11,575	93.5
	6403	Footwear, uppers of leather	8,700	80.9
	4407	Wood sawn or chipped length	4,321	93.2
	6110	Sweaters, pullovers etc, knitted or crocheted	4,091	86.4
	9506	Articles and equipment for sports	3,942	82.4
	8431	Parts for machinery for lifting and handling machinery	3,513	89.6
	7307	Tube or pipe fittings, of iron or steel couplings	3,171	84.3
	5209	N/A (52: Cotton)	3,159	92.4



At the individual Baltic country level the picture is, of course, mostly similar to that in the aggregate. Estonia leads in the extent of IIT, which is mostly due to its trade with Finland and Sweden. Indeed, as much as over a third of Estonia's trade with the EU is based on IIT at the four-digit level.

Latvia's highest shares of IIT are in its trade with Germany, Denmark and Sweden. For Lithuania, the highest levels of intra-industry trade are with Denmark and Germany. In all trade with the EU, however, Lithuania comes in last as IIT covers only some 17 per cent of its trade. For each Baltic country IIT is highly concentrated on their trade with their most important trading partners.

Table 6 lists those CN4-products where an EU country and Estonia have more than 3 million ECUs worth of exports and imports, while the share of intra-industry trade exceeds 80 per cent. This will reveal the products that are both important for Estonia and where IIT is prevailing. It is worth noting the most extensive IIT in ECU terms, especially where it takes place, is mechanical equipment. At the CN4 level there is extensive IIT between Estonia and Finland in wires, cables and electric conductors, but also in sound and video recording equipment. Finnish companies have a lot of subcontracting in Estonia, which is reflected in these figures. The CN4 items listed in Table 6 account for less than one tenth of Finland's and Estonia's trade, though. Such IIT also exists between Germany and Latvia in electric transformers, static converters and inductors. Between Lithuania and the EU such trade did not exist in 1996. There the large IIT products were in alimentation and textiles.

The pattern of IIT may reflect the foreign direct investment (FDI) made between the countries, in this case flowing typically from the EU to the Baltic countries. The EU country in question may be using the Baltic country as a base for production partly substituting for, partly complementing domestic production. Indeed the high level of IIT in Estonia's trade with Finland and Sweden is met by the dominance of these countries in the stock of FDI in Estonia (see Table 7). Especially many Finnish but also Swedish companies are engaging Estonian companies in subcontracting. Other motivation for FDI is the possibility for firms to expand as the domestic EU market may already be quite mature and does not offer real growth prospects.

The largest source of FDI in Latvia has been Denmark, which also has the second-largest IIT level. Germany is the second largest EU source of FDI into Lithuania and has the second largest share of IIT. Even though there is thus a positive correlation between the FDI flows and the extent of IIT, one should not make too strong judgements on the basis of this evidence.

**Table 7. The stocks of foreign direct investment in the Baltic countries from the EU, the United States and Russia by country of origin, % of all FDI**

Country of origin	Estonia, Q2 1998	Latvia, Q4 1996	Lithuania, Q4 1997
France	0	0	2
Luxembourg	0	0	4
Netherlands	3	2	1
Germany	4	5	11
Italy	1	0	1
United Kingdom	4	7	8
Ireland	0	2	5
Denmark	5	27	6
Sweden	18	5	12
Finland	31	3	5
Austria	2	2	2
United States	6	11	26
Russia	4	14	2
Other	22	22	15

Figure 1 shows the distribution of EU-based FDIs to Poland (horizontal axis) and the distribution of vertical IIT between Poland and the EU (vertical axis). The vertical axis is in logs since Germany is so dominating trading partner and, among the EU countries, it has the highest share of IIT. A simple regression

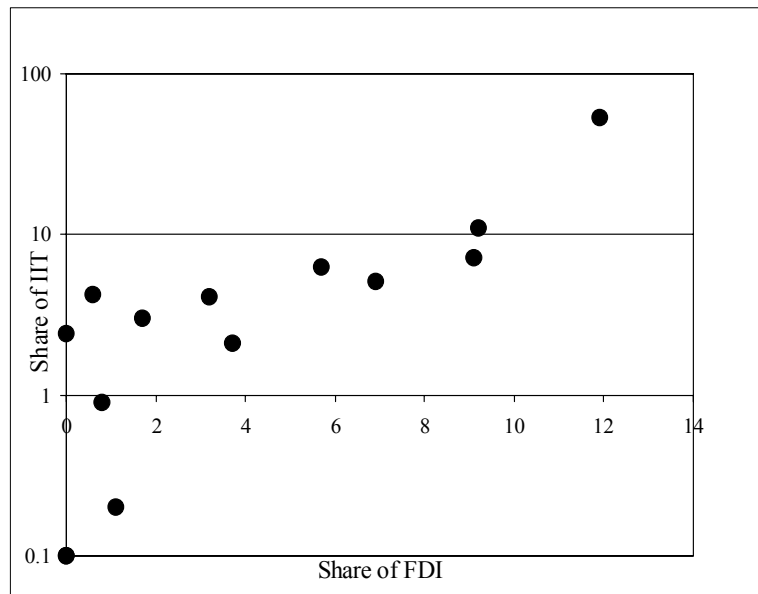
$$\text{VIIT}(i) = 8.88 + 0.13 \text{ FDI},$$

(5.37) (3.73)

gives a more quantitative description of the relationship between the two variables where t-values are in the parenthesis.

The trade of the Baltic countries with the EU is mostly inter-industry trade, hence based on comparative advantage. This is due to huge differences between the EU countries and the Baltic countries in terms of their resource endowments and economic development. The other side of this is that intra-industry trade (IIT), which usually occurs between similarly developed countries. The share of IIT ranges from 0 to 30 per cent in trade between Estonia or Poland and EU countries and from 0 to 20 per cent in trade between Latvia or Lithuania and EU countries. Estonian and Polish figures approximate to the lowest levels of IIT reached by EU countries in their intra-EU trade but Latvia and Lithuania are still lagging behind.

**Figure 1. The shares of vertical IIT and inward FDI in Poland by EU country**



In all cases, IIT is mostly vertical in nature, hence based on quality differences. Baltic countries' IIT with the EU can be explained by industry-specific factors, not by country-specific factors as mentioned above. Among the Central and Eastern European countries (CEECs), rapidly increasing vertical IIT has characterised trade development of the more integrated transition countries like the Czech Republic and Hungary, who have also gained the largest flows of foreign direct investments among the CEECs. Among Baltic countries Estonia seems to fit best to this picture.

The development in IIT within the Northern Dimension confirms the results of earlier studies (Hoekman and Djankov 1996, Aturupane et al. 1997). CEEC firms have incentives to establish linkages with West European countries when they are at the early stages of their transition process and integration with the West. These linkages give them access to know-how, working capital and distribution channels. IIT is a way to transfer technology. Like in the Central Europe, this development occurs between countries that are located relatively close to each other.

In the case of Estonia vertical intra-industry trade accounts for nearly 30 per cent of its trade with the EU. Also this figure is very

close to the levels reached by countries like Finland or Portugal. In the case of Estonia, intra-industry trade is very concentrated in its trade with Finland and Sweden, which, as these countries are also the largest foreign investors in Estonia. The same holds for Poland who trades intensively with Germany, who is the biggest investor in Poland.

IIT creates input-output linkages and therefore it is relevant for economic geography considerations. Within the Northern Dimension, it seems that these linkages via IIT are emerging in concentrated areas. According to the IIT and FDI figures, the strongest linkages are between Finland and Sweden and Estonia and Germany and Poland and Lithuania but there seems to be linkages between Denmark and the Baltic countries and to some extent Sweden and Poland as well. In terms of economic links, one interesting phenomenon within the Northern Dimension is that at least to some extent one can draw a dividing line between the Northern and Southern Baltic Sea regions.

#### **4 The Northern Dimension and Economic Geography**

In Haaland et. al (1999), four potential sources that affect geographical concentration in Europe were found. First, concentration of demand tends to explain concentration of production. The bigger the markets the more industries tend to locate close to them. Second, comparative advantage has an important influence on the pattern of relative concentration. Since comparative advantage plays the main role in trade between the incumbent countries and the applicant countries within the Northern Dimension this seems to be an important source of concentration within the area. Third, input-output linkages within industries tend to have an impact on absolute concentration as industries generate their own demand through them. Fourth, the higher the non-tariff trade barriers, the more concentrated is production as firms find it advantageous to locate production close to the bigger markets.

The Northern Dimension, especially when interpreted in a narrow sense, is located in a relatively large area and far from the centre of the EU. In terms of economic geography, this means that one could expect that geographical concentration of production works against the Northern Dimension as production shifts towards the demand. In a recent empirical study Haaland et al. (1999) find that concentration of demand is – by far – the most important explanatory variable behind both absolute and relative concentration. In terms of demand potential the Northern Dimension is roughly of the size of a fourth of Germany. So, by interpreting the Northern Dimension in a wider sense does not change the basic conclusion here.

Comparative advantage may, however, work as a counter-force against absolute concentration towards the centre (or demand). A recent paper by Forslid & Wooton (1999), drawing on Krugman (1991) type of model, shows that economic integration may or may not lead to more concentrated production since when trade is liberalised location becomes more dependent on comparative advantage. Among the countries of narrow Northern Dimension, Finland's and the Baltic states' trade with the EU is more of inter-industry than intra-industry trade indicating differences in their patterns of comparative advantage from the centre. This suggests that economic integration would strengthen NDCs specialisation in industries where they have comparative advantage, hence increasing relative concentration of these industries but this time not towards the centre but towards the Northern Dimension.

According to the results of Haaland et al. (1999) intra-industry linkages do have a substantial impact on absolute concentration. Firms with strong ties tend to locate close to each other. More formally, absolute concentration is positively related to the measure

$$IO = \frac{\sum(\text{Input from own industry})}{\text{Output}}.$$

Thus the more of its own production an industry uses the more concentrated it should be in absolute terms.

In Haaland et al. (1999) concentration is measured using shares of industry X's production in different countries. In the case of the Northern Dimension – and Central and Eastern Europe in general – relatively high degrees of vertical intra-industry trade between close neighbour countries suggest that input-output linkages may occur on a cross-border basis. Good examples within the Northern Dimension are Finland and Estonia and Germany and Poland (for Finland and Estonia see Table 6 above).<sup>5</sup> This may decrease country-based concentration but increase area-based concentration. One may also interpret this phenomenon as a mixture of home market effect (in a small scale) and

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<sup>5</sup> Very similar conclusions can be drawn for Poland and Germany. At CN4 level the most important items in both exports and imports are cars, motor vehicles and their parts, medical doses, parts of office machinery, etc. In trade between Germany and Poland nine out of ten most important import and export goods are the same at CN4 level.

comparative advantage. Take Finland and Estonia or Germany and Poland for example where the former is like a “big” home market with a greater demand tempting firms close to the bigger markets but the latter is able to specialise according to its comparative advantage (e.g. labour intensive production). Proximity to a “partner” country seems to create input-output linkages as a mixture of these effects.

In a recent paper Forslid et al. (1999) find some evidence for an inverse U-shaped relationship between integration and concentration. In this relationship, industrial production is dispersed when trade costs are either high or low while intermediate trade costs indicate more concentration. An inverse U-shaped relationship is due to dispersion forces that work against the usual agglomeration forces that are due to forward and backward linkages in industries. In their simulation study Forslid et al. found a U-shaped relationship between trade costs and the share of imperfectly competitive traded goods sectors, which was clearest for the Northern Europe (Finland, Sweden, Norway and Iceland). One surprise in their simulations is that food industry starts to agglomerate into the Northern Europe. In the paper it is argued that the explanation might be that food industry is a relatively capital intensive industry giving a comparative advantage to Northern Europe and relatively low economies of scale, which makes proximity to large markets less important.

In their study Forslid et al do not consider Eastern European countries. It is interesting that the Baltic countries all seem to have a comparative advantage in food industries (see Kaitila and Widgrén 1999), which may in fact strengthen the location effects found in the Forslid et al. study. The Northern Dimension also changes the picture as unskilled labour is more abundant factor in the Northern Dimension than it is in Europe North. This might cause relocation in industries like textiles and leather and products and other manufacturing, which are characterised by relatively low economies of scale and labour intensity.

The Northern Dimension has several economic implications that are relevant in studying economic geography in Europe. First, the Northern dimension can be seen as a natural trading area within the EU where countries have closer economic ties together than they have with other EU countries on average. Although the economic size of the Northern Dimension is small it can be considered, when interpreted widely as the Baltic Sea region, less peripheral than Finland and Sweden as EU members today. The relative size of the Northern Dimension is not, however, the most important issue since also peripheral areas may benefit from deeper integration when there are forces like comparative advantage that works against agglomeration. For pe-

ripheral areas integration is the more beneficial the lower trade costs are. The Northern Dimension is likely to contribute with this respect as well.

As a sub-region in Europe the Northern Dimension changes the patterns of comparative advantage and may, therefore, affect industrial location in Europe. Trade data suggest that there are considerable input-output linkages emerging, on the other hand, between firms in Germany and Poland or Lithuania and further North between firms in Finland or Sweden and Estonia or Latvia. In terms of comparative advantage these pairs of countries are very different but at the same time a surprisingly high share of their trade is vertical intra-industry trade going together with foreign direct investments from Finland, Sweden and Germany to the Baltic countries and Poland. This suggests that deeper integration within the Northern Dimension is having a complementary effects on industrial production in the area.

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## Discussion

*Richard E. Baldwin*

Much of the public debate on international integration revolves around fears that freer trade will cause industrial 'delocation', namely the shifting of manufacturing activities from one region or nation to another. These fears are many and often inconsistent. In Europe, rich nations fear delocation to low-wage nations, poor nations fear delocation to highly industrialised nations, small countries fear delocation to large countries, and nonmembers fear delocation to EU members. Mika Widgrén's paper addresses some of these concerns. He first presents a brief portrait of the Northern Dimension Countries (NDCs) economies before reviewing their trade and investment patterns. Much of the analysis is motivated by the new economic geography literature (see Fujita, Krugman and Venables 1999). This is a very interesting focus.

Widgrén, however, does not really explain the new geography models, so I begin my comments with a brief discussion of the logic of these models. The so-called economic geography literature focuses on two types of models: the Krugman model based on footloose labour sometimes called the core-periphery model B and the model based on vertically-linked industries introduced by Venables (see Fujita, Krugman and Venables 1999 for specifics). The hallmark of these models is that agglomeration forces tend to encourage concentration of industrial activity via 'circular causality.' That is to say, spatial concentration itself creates an environment that encourages spatial concentration.

The two models feature both demand-linked and cost-linked circular causality. In the footloose-labour model, a shock to the distribution of firms triggers two distinct cycles of circular causality. First, when firms move, workers follow and this migration leads to expenditure-shifting. Since firms prefer, *ceteris paribus*, to be in the big market, expenditure-shifting leads to more production-shifting, and the demand-linked cycle repeats. Second, production-shifting lowers the price index in the 'receiving' country (since fewer goods need to be imported) and raises it in the 'sending' country. Assuming migration equalises real wages, the initial shock will lower the receiving nation's nominal industrial wage relative to that of the sending nation. This 'cost shifting' or change in industrial competitiveness encourages more delocation to the receiving nation, so the cost-linked cycle repeats.

In the vertically-linked-industries model, firms use the output of other firms as intermediate inputs. Thus, production-shifting alters the international demand pattern (viewing other firms as customers) and alters the international cost pattern (viewing other firms as suppliers). As in the Krugman model, two distinct but closely related processes of circular causality encourage agglomeration. Since labour mobility is negligible in Europe, often even between regions within a nation, the Venables model is generally preferred in European applications.

The basic point of these models is that as trade costs come down, forces emerge that encourage further concentration of economic activity where economic activity is already concentrated. This, in principle, could be bad news for the NDCs -- who are undoubtedly far from the economic centre of gravity of Europe (which in case you were wondering is just to the West of Frankfurt). However, the empirical work (see Amiti 1998 and Brulhart 1998) indicates that falling trade barriers is not leading to "North Dakotas", (i.e. large regions emptied of economic activity and people). A much more subtle pattern is emerging (see Braunerhjelm et al 2000). European industry is, as a whole, getting more concentrated, but much of this concentration seems to be following traditional comparative advantage patterns, such as textiles, clothing and footwear concentrating in Spain and Portugal. More recent theoretical work by Rikard Forslid has integrated comparative advantage in the economic geography models.

In a nutshell, what this means is that if a region is small and remote and has economic activity that is essentially identical to the type of economic activity going on in the big central region, then integration may well make a North Dakota out of the small region. If the small region, however, has a natural advantage in a type of economic activity that the core does not, then further integration may result in increased economic activity in the small region (freer access to the big market allows the small region to concentrate on its comparative advantage).

One of the most interesting aspects of Widgrén is to show that the revealed comparative advantage of the NDCs is mostly independent of that of the core nation's. This suggests that the NDCs have little to fear from rampant delocation to the core EU nations.

I would also like to contribute to the topic Widgrén is addressing by reporting some of my own recent research into the topic. One branch of the economic geography literature looks at the locational effects of preferential liberalisation -- a topic that obviously applies to the NDCs. The main theory piece on this topic is Puga and Venables (1997). Using a very simple two-sector, three-nation model, Puga and Venables

predict that agglomeration forces may foster regional disparity within the preferential trading bloc. In particular, production in both members will rise with the margin of preference, but only up to a point. Beyond this point, the so-called break point, industry in the bloc agglomerates mainly or entirely in one of the two member nations. This catastrophic agglomeration initially harms the outsiders, but further raising the preference margin actually increases outsider's production before decreasing it again.

Baldwin, Haaland, Forslid and Knarvik (2000) use a computable general equilibrium model to study this sort of thing in a much more realistic model. Our main experiment consists of successive lowering of trade costs within the EEA and the main question is: "What happens to economic activity in non-EEA nations". What we find is the Europe's preferential liberalisation clearly has very little impact on production in China and South Asia (CSA), the US and Canada (UC), South East Asia, and the rest of the world (RoW, basically Africa, South America, and the Middle East).

The big effect occurs in the leather sector. The dominant impact in this sector is a spectacular rise in Europe South's production and an important drop in the leather output of Europe Central and Europe West. When it comes to the impact on Europe East (EE) and the Former Soviet Republics (FS), we find that the impact on the Former Soviet Republics is quite limited, apart from the idiosyncratic leather sector. The reason follows from the fact that, for the most part, FS industry sells in the FS, so the EEA's internal trade cost adjustments have little impact on FS output.

The one region that is significantly affected is Central and Eastern Europe (EE). Again, this result follows naturally from the fact that EE industry depends heavily on the West European markets for exports. Almost a fifth of EE manufactured goods are sold in the EEA markets, with Europe Central (German, France, Benelux, and Italy) being a particularly important customer. We find that the EE volume of production drops in every sector. Moreover, the drop is largest in transport equipment, a sector marked by both a high intermediate input share and significant scale economies.

It is also noteworthy that the textile sector displays very non-monotonic behaviour. More precisely, EE textile production generally falls as EEA discriminatory liberalisation proceeds (as expected), however when the trade costs move from 40% of the base case level to 30%, EE experiences a large increase in textile production. This increase can be thought of as the external "echo" of the internal catas-

trophic collapse of textile production in Europe Central. As textile production in Europe Central – EE’s major Western European trading partner – declines, Europe East producers suddenly find themselves faced with many fewer competitors in the Europe Central market. Since Europe Central accounts for more than a third of the EEA GDP this significantly benefits production in nearby East European producers. This finding broadly confirms the Puga-Venables emphasis on agglomeration effects. It illustrates how an agglomeration process causing regional disparity and catastrophic agglomeration within a CU, might lead to gains for outsiders.

What does this all mean? My work with Haaland, Forslid and Knarvik supports the point that Widgren makes. Deeper European integration will not lead to massive delocation of industry from the NDCs. It will lead to an increasing specialisation in the industries they excel at.

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## 6 The Baltic Economic Potential – Competence Blocs, Firm Strategies and Industrial Policy

*Gunnar Eliasson*

### 1 The Problem of the Northern Dimension

Historically a number of economic and technological circumstances have contributed to unifying the Baltic and North Sea area through industrial specialization and trade. While the *Northern Dimension* was originally conceived in the Finnish Government as a political concept,<sup>1</sup> notably to institute some economic order in Russia, the real problems are still economic and economic political. The economic political problem is the first order one of getting the institutions right in the formerly planned economies around the Baltic.

The second, economic problem is that of identifying the cohesion that ties the Baltic and the North Sea region together naturally and economically. As in the ages of the Vikings and the Hanseatic cities the unifying link will have to be an efficient sea transport system across the two seas. My argument in this paper is that this catalyst will click in endogenously, and without government intervention, once the institutional problem has been solved and the still extreme risks of political opportunism in some of the formerly planned economies have been eliminated. This institutional problem will, however, not be solved within a reasonable and socially acceptable time of disruptive transition without an innovative *insurance scheme* that covers the western investors in the formerly planned economies for political opportunism and corruption there (Eliasson 1998b). Such an insurance system is probably a necessary condition for Russia to get out of its current economic chaos within reasonable time and get anywhere near an orderly exploitation of its enormous natural resources. For this, large scale corruption has to be eliminated and a transition to Western standards of jurisprudence engineered. *It would thus benefit the formerly planned economies if all aid to them from the West was directed to this insurance scheme, and kept beyond the reach of their politicians* (see Section 6). This will unlock western resources for investments in raw material exploration and, above all, shift strategic foreign direct engineering invest-

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<sup>1</sup> See, for instance, *Newsweek*, Nov. 8, 1999, p. 52.

ments into the formerly planned economies. New and vigorous trade on the old sea-lanes will be revived. The Baltic and North Sea countries may even become an attractor for new investment from all over the world.

### *The Northern Challenges*

The economies surrounding the Baltic and the North Sea represent an interesting, and a potentially very prosperous economic area featuring several pockets of industrial excellence, great opportunities, extreme contrast and a challenge to the local policy makers. Above all, the region also exhibits an impressive base of competent customers capable of significant contributions of user knowledge. The efficient exploitation of that knowledge base may be helped along by a cautious low risk industrial policy program aimed at deliberately reducing the heavy dependence of the rich Baltic and North Sea economies on raw materials and engineering industries. By encouraging firms in basic and mature industries in the already rich economies to direct their strategic investments into the formerly planned economies, resources in the rich economies will be freed for a necessary expansion there into radically new, high value added production.

Again, this won't come about spontaneously if the institutional problem is not solved and some of the formerly planned economies may not be able to solve their institutional problem, for instance Russia. If a substitute institutional solution cannot be arranged these unsuccessful countries then won't be part of the optimistically defined Northern Dimension. The rich economies around the Baltic/North Sea area can, however, be helpful on a low cost/risk basis and the rationale for this is that it is in their long term interest to see the formerly planned economies in their neighborhood get out of their poverty lock-in as soon as possible. To that end I propose the commercially based insurance scheme mentioned above to protect Western investors in the formerly planned economies from political opportunism there to substitute for aid of other kinds. The same scheme would also be a healthy destimulus for corruption.

The real risk takers will, however, be the rich Baltic and North Sea states. They may not possess, in their industries, the competence needed to venture successfully into radically new industry investments. However, this is only a matter of risking to fail now, or fail for sure to remain among the wealthy nations in the longer run. I discuss the possibilities of succeeding in terms of the theory of the experimentally organized economy and competence bloc theory.

The Baltic and North Sea area is capable of spontaneous economic progress which will, however, be unevenly distributed. A smooth, steady and evenly distributed development in the whole area is unlikely. There may, in fact, even be a conflict between the efficient exploitation of opportunities and a stable development in the area. Even the national policy cooperation needed for efficient exploitation of the industrial potential will probably be difficult to achieve. To judge from historic evidence of similar attempts, it will require generosity on the part of the rich member countries in terms of allowing and encouraging the local job change and reallocation of resources over the entire region needed to achieve stable and evenly distributed growth. There will probably be a conflict between the employment and distributional priorities of the wealthy countries around the Baltic and the North Seas and the emphasizing of reindustrialization and growth in the formerly planned economies. The variety, the many pockets of excellence, the sophisticated customer bases and the contrasts, nevertheless, offer a promising case for policy cooperation.

To stay at the welfare top the rich Baltic economies will all need a faster flow of innovative entry in the “new, high value added domain” than has so far been achieved. This won’t occur if a faster Schumpeterian creative destruction, or exit flow in the low end of their mature industries cannot be policy engineered. The other side of the same process is to convert this exit flow into a new and upgraded foreign investment (entry) flow in the formerly planned Baltic economies, which in turn requires a more attractive institutional (property rights, incentives etc) local environment than is currently in place there.

An improved institutional environment for new innovative entry and competent venture financing is even necessary among the rich Baltic economies. But the general problem of transforming their economies successfully is not linked to the Baltic policy problem discussed here, except that if not successful, policy support for the rest of the policy package we discuss may not be forthcoming.

There is, however, a rational case for inducing and enforcing a reallocation of resources within the (heavy) engineering industries over the entire Baltic area through competent technology advancing purchasing, induced strategic investment on the part of the advanced firms in the area and enforced Schumpeterian destruction of obsolete production.

### *Will Policy Help?*

Historical experience favors incentive based policy schemes and spontaneous investments over planned solutions. The Nordic countries

have a long history of considered economic political cooperation, and some cases of realized economic cooperation. Economic success, however, is predominantly associated with periods of spontaneous commercial cooperation and competition where the institutional problem of uncertainty reduction was solved privately and collectively in the market by the traders themselves, through being armed (the Vikings) and/or through forming a statelike but privately enforced jurisprudence (the Lübsk jurisprudence of the Hansa League of cities). Today, however, it is not appealing to rely on large private firms (like ABB) to take responsibility for critical functions of legal security, and absorb the large costs of political uncertainty and/or, in the absence of a viable government, rely on private mafia protection. Above all, such arrangement reduces the private economic incentives for investment in the formerly planned economies. Unfortunately, history shows that the state has contributed more to political repression than to the establishment of the viable legal order that contributes to trade and welfare. There is a long history of centralist military hegemony over the Baltic Sea region, notably by Sweden. An interesting question, therefore, is what has bound the countries around the Baltic Sea together; culturally, economically, militarily or politically?

In the very old days there were no national boundaries, only temporarily powerful territories, so market forces and market induced institutions, rather than political forces and interests were the active agents in trade and “industrial ” cooperation.

The Vikings produced and traded extensively across the Baltic, over the North Sea and far into Russia, and the Hanseatic cities established a strong economic, military and political presence in the entire Baltic area (see Figures 1A,B). So the question of today is well established in historical practice. What is it that distinguishes the Northern (Baltic/North Sea) region as an economically interesting geographical area from other areas or other combinations of local economies in the area? What is the case for the future?

Soviet political and military repression destroyed, for many years, a natural specialization of inter Baltic production and trade. Trade is now being reestablished. The reemergence of once fairly advanced economies in the midst of prosperous, albeit in places (Sweden in particular) somewhat anemic welfare economies, more concerned with distribution and unemployment than with long term prosperity poses particularly interesting and challenging *problems of contrast*.

Are the once rich Baltic economies lagging behind in the new industrial world emerging, notably across the Atlantic? Can something be done to reestablish their previous place in industrial leadership, or has



nothing really changed? Who shall assume leadership? Will a coordinated policy, involving the entire Baltic region contribute to the welfare of all? Is there something from above to be done? Is there (today) a natural industrial cohesion in the region that has not been exploited?

The questions asked are particularly interesting in view of the currently ongoing rapid organizational and technological change in the industrial world with new industries emerging, incumbent industries struggling to survive, facing new competition and failing industries exiting. During such phases of positive Schumpeterian creative destruction, how is entrepreneurial mentality in the region facing up to the opportunities, how are the labor markets (or rather the markets for competence) in the region performing when it comes to facilitating change and how do the new distributions of income and wealth in the emerging digitized world look?

Clusters of industrial competence and development, like Silicon Valley have always fascinated local and national governments, and inspired industrial policy measures that have rarely been successful (Eliasson 1998c). Industrial parks amply supplied with physical attributes have been established in places where it has been considered desirable that industries be started, and spontaneous industrial competence formation in other places has rather been looked at as less desirable competition for political attention. Infrastructures of various sorts have been shown to matter, but then intangible industrial competence formation rather than physical facilities.

On the other hand we know that what mattered in the old days for trade and industry and warfare in the Baltic region was the economic interaction made possible by excellent maritime transport possibilities.

I study the Baltic industrial development through the glasses of the theory of the *experimentally organized economy* (EOE; Eliasson 1991a), and notably its ingredient part, *competence bloc theory* (Eliasson - Eliasson 1996). What is needed to make the Northern Economic Lights flash brightly and lastingly and widely?

The organization of my presentation will be as follows. I begin with a historic background, outlining the economic historic forces tying the Baltic/North Sea region together. The starting point for my analysis will then be that the region wants fast long term economic growth, but that there might be a political division among the countries about the trade-offs between growth, on the one side, and the rate of structural change and the distributional consequences, on the other.

I will establish that very long-term growth in the already rich economies in the region will require innovative new industry forma-

tion, and continue to discuss how new industry is created and developed under the heading of competence bloc theory. I will be more specific about the current ongoing transition and upgrading of industrial production broadly defined, but without making predictions. I then continue to discuss the Baltic potential as I see it, and conclude with discussing the industrial policy issues.

## 2 Economic Historic Background

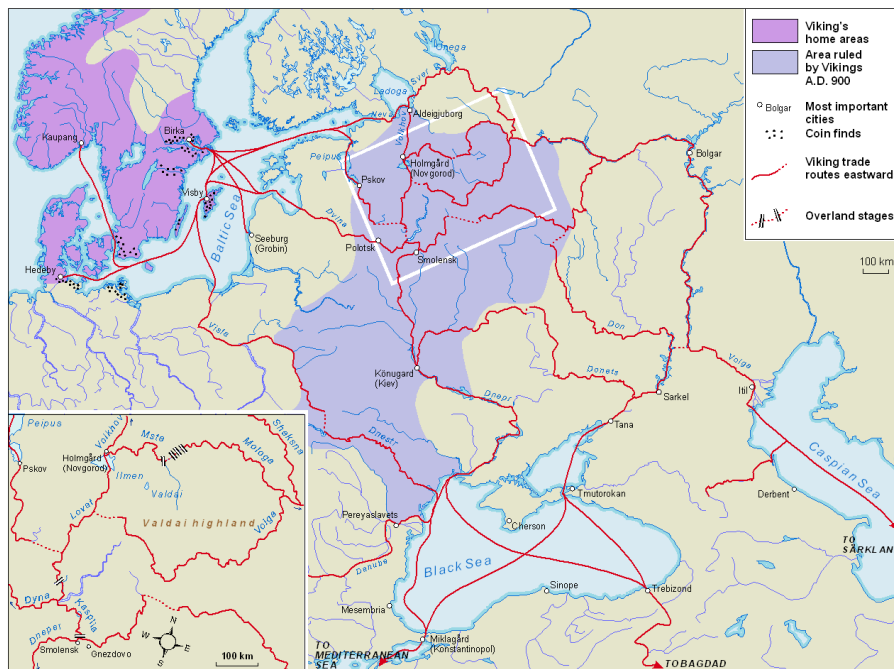
Northern Europe has a long and interesting economic and political history, beginning already with the early vikings. Some historians (Wax & Wax, 1955) have even gone so far as to place the cradle of the no nonsense and crass capitalist culture in the Scandinavian Viking age. But besides the early development of "capitalist thought and action" (to use the words of Wax & Wax, 1955) an early urban culture also (see Clarke - Ambrosiani 1991) contributed to making the vikings into adventurous entrepreneurs, competent industrialists and efficient traders. This is in contrast to the picture of brutal warriors and pirates, as history until recently has recorded the vikings through existing documents, notably by the only few who could write, the men of the church.

After the collapse of the Roman empire and the almost complete disappearance of viable urban centers in England a new type of cities based on industry and trade rather than centralist political and religious administration began to develop in Scandinavia, being more or less untouched by the political and religious powers in Rome. The restoration of this new type of commercial urban centers occurred on the British isles under the influence of Viking pirates and traders. Contrary to the remaining Roman urban centers in north and middle Europe, which were administrative and religious centres that only parasited on the surrounding countryside, and contributed little, the new northern European cities created to support Viking age trade built on a symbiosis with their environments, serving as (1) centers (market places) for the surrounding countryside, as (2) trading and storage places for the raw materials from the northern parts of the Baltic and as (3) transit centers for trade between Western Europe, on the one hand side, and the Russians, the Greek and the muslims of the East, on the other (Clarke - Ambrosiani 1991, p.114). *Birka*, in the (now) Lake Mälaren of Sweden<sup>2</sup>, was one of the very first modern urban centers of Northern

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<sup>2</sup> Then a bay in the Baltic.

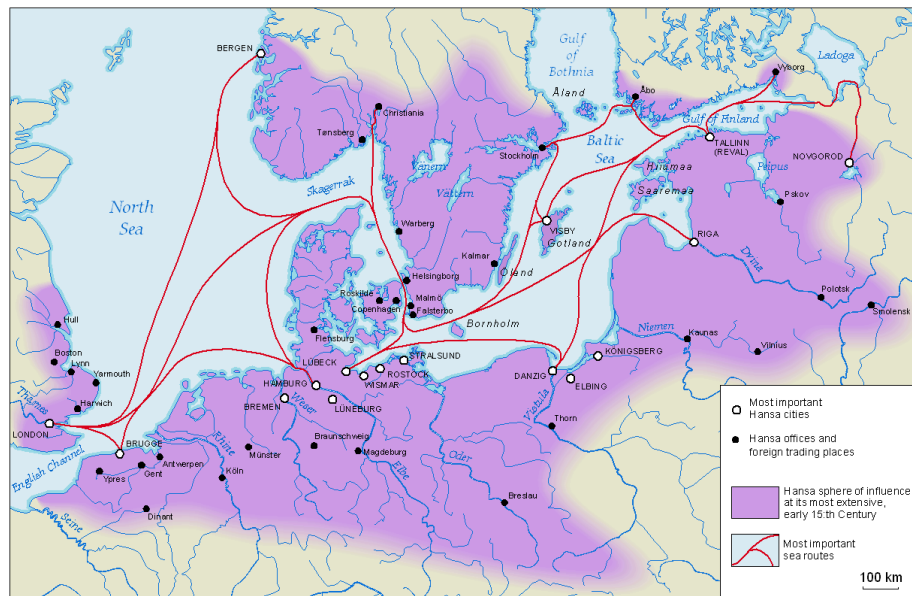
**Figure 1A. The eastern part of the Viking trading area around 900**



Originally printed in *Mare Balticum – 2000 years of Baltic Sea History*, kindly provided by The John Nurminen Foundation.

Europe (Clarke - Ambrosiani 1991, p. 67) with a spontaneously established specialist production settlement in the 7<sup>th</sup> (perhaps already 6<sup>th</sup>) century, based on maritime transports and trade. Other such centres were Hedeby (in Schleswig), Ribe (in Denmark), Århus (in Skåne, now in Sweden), Paviken (on Gotland), Wolin (in Poland), Grobin (in Lettland) and Staraja Ladoga (in Finland) with trading extensions to Novgorod, Gnezdovo (now probably Smolensk) and Kiev (see Figure 1A). The whole Baltic area already then defined a fairly specialized production and trading area with these cities as nodes for maritime transports and commercial exchange of goods.

Already then urban centers tended to be spontaneously established at the estuaries of big rivers where inland river transports had to be shifted over to larger sea going vessels. Already at that time maritime transport technology was critical for the early industrial development and commercial superiority of the Baltic region.

**Figure 1B. The Hanseatic trading area around 1400**

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### *What Happened to the Viking Infrastructure?*

For a long time Denmark was the commercially and politically strong “country” in the Baltic. This situation began to change during the 13<sup>th</sup> century and power gradually concentrated among a group of Northern German cities with common commercial interests, the Hanseatic Cities or the Hanseatic League, with Lübeck at the helm. The Hanseatic cities took over where the Vikings left (Ehrensward - Kokkonen - Nurminen 1995, p. 48).

During its period of dominant influence in Northern Europe the Hansa cities came to include (besides seven North German cities)<sup>3</sup>, from the north east Tallinn, Novgorod, Visby, Riga, Königsberg, Elbin, Danzig, Bergen, Brugge and London (see Figure 1B). Besides the Hansa cities, the league maintained a large number of subsidiary offices and controlled places of trading, all knitted together by an efficient high technology sea transport network. One important aspect of this conglomerate of rich cities was their role as competent customers or sophisticated purchasers of ships contributing to the user knowledge of

<sup>3</sup> Lübeck, Bremen, Lüneburg, Hamburg, Rostock, Stralsund and Wismar.

shipyards in the Baltic and North Sea areas, many of these shipyards being important elements of the industrial structure of the Hansa cities. This is an instance of competent private purchasing that together with the growing inter Baltic and North Sea production specialization and trade moved economic development in the whole area.

#### *Development of Efficient Institutions*

Another important aspect of the efficiency of this commercial merging of city states was that a common “Lubsk” jurisprudence was established within the cities, a jurisprudence that was designed to support urban trade and wealth creation to a large extent through markets and often put the cities in conflict with their rural and more feudal environments. Efficient institutions to support commercialization of society, hence, established the Baltic and the North Sea countries as a coherent area of industrial specialization and trade held together by efficient sea transport technology. This is in contrast to the long cultural tradition of lawlessness in Russia where power rather than legal rights has ruled (Alsheimer 1999). This tradition was naturally taken over by the Soviet power structure and will not easily be changed in a year or two. The western legal rights tradition is, however, probably as old. It is to be noted that many of the Hanseatic cities and their legal traditions were established already during the age of the vikings and that many of them still exist, some as viable commercial centers. It is furthermore to be observed that nothing is more important for the transition of the entire Baltic economy into the industrial structures of the future than efficient institutions supporting market organization, including an efficient jurisprudence (see below, and Eliasson 1998a).

The economic rationale for this formidable agglomeration of commercial and political power was industry and trade and the transfer and distribution of goods from the uplands of the great rivers, over the Baltic and the North Sea to the increasingly wealthy customers and consumers of the growing urban centers. The existing sophisticated customer base was critical, as was the control of the river estuaries the goods had to pass through (transit trade) and/or where it had to be reloaded to larger sea going vessels.

#### *What Happened to the Hansa Infrastructure?*

The long reign of the Hanseatic League was eventually ceded to an increasingly powerful centralistic and imperialistic Sweden, beginning with Gustavus Wasa in the mid 1550s, that became expansive during

the officially religious warfare of Gustavus Adolphus II during the 30 years' war and culminated and collapsed under the reign of the much admired Charles XII.

Again, control of the profitable transit trade at the river estuaries was key to wealth, but as Swedish imperialist ambitions grew, less and less attention was being paid to the industrial and commercial base and industrial competence was gradually replaced by military warring competence and technology. When military ambition was all that remained the whole power structure collapsed.

Relative peace, the abolition of the craft system of restrictive commercial practices and relative economic freedom throughout the Baltic region paved the way for a successful participation in the industrial revolution of most nations in the Baltic Area. The technology of the industrial revolution was that of economies of scale, a circumstance that for a long time favored the areas rich in (military) technology, large scale organization of standardized work and leadership competence, notably Sweden and Northern Germany. It has in fact been argued (Glete 1998) that when peace was established in Sweden, military leaders had no other profitable outlets for their competence and ambitions than to enter, first railroad construction and operations and then larger and larger scale business. The 200 year old technology of the industrial revolution (i.e. engineering production organized around more and more sophisticated machine tools in increasingly efficient configurations) still dominates manufacturing production in all advanced industrial economies, except the US (see Eliasson 1998c).

The Soviet take over of the Baltic states combined with its anti commercial culture and deep rooted centralist power policy put the lid on a significant part of the earlier prosperous Baltic area, suppressed innovative entrepreneurship altogether and conserved these economies in their still largely obsolete industrial structures. A 50 year long period of stagnation and decline followed.

The free and rich countries in the area, however, have all had a parallel soft experience of centralism with the development of more or less ideological welfare economies in which critical and important service functions (not manufacturing industry) like health care, education, social insurance etc were socialized. Together this service production accounts for a significant share of total resource use, in most of the economies much larger than that of manufacturing. Some of these socialized service industries (notably education) are becoming increasingly important as infrastructure service providers for the future and their efficiency is currently subjected to debate.

*What Lessons Can Be Learned from This Stylized Historical Summary?*

Historically, the technology of efficient sea transports has allowed specialization and trade and compacted the whole Baltic and North Sea trading area into a coherent region.

*First*, endogenous solutions in the market substituted for the lack of legal institutions that protected property rights and supported a market economy. The Vikings carried weapons to protect their goods. The Hanseatic cities developed and enforced, through power a uniform legal code (The Lübsk Jurisprudence) that was very supportive of production and trade. Agreements or contracts as voluntary and mutual commitments between people (Wihlborg 1998a,b) were honored, supported and enforced by the legal rights system developed. In some eastern areas, however, notably in Russia, a different repressive “jurisprudence” based on central power developed and Sweden had a lapse into this mentality during its long imperialistic period, a centralist mentality that can still be traced in its political system.

*Second*, and despite these alterations, the culture of the entire area reflected a mentality positive to production and individualist endeavor, to the extent that Wax - Wax (1955) even referred to the Scandinavian Viking culture as the “cradle of capitalist thought and action”.

*Third*, all this contributed to the exploitation of economies of scale through entrepreneurship and decentralized distribution of production over the entire area.

*Do We Have a Similar Case Today?*

I think we have. Any economic case for the Baltic/North Sea area to be a viable economic region has to build on the endogenous and spontaneous development of efficient inter Baltic/North Sea maritime transports linking the area together, and this requires that efficient institutions are in place. There is little support for the argument that a sustainable economic outcome can be achieved through industrial policy aimed at that particular result, for instance through supporting (through subsidies) sea transport.<sup>4</sup> The endogenous development of an efficient Baltic/North Sea transport system supporting industrial specialization and trade in the area is a necessary condition.

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<sup>4</sup> This is why we need the following two sections on theory to get out of the intellectual lock-in in centralist neoclassical or new growth theory.

We have also documented an interesting historic support for the importance of competent private or public purchasing of sophisticated products for commercial use in economic development. The conclusions so far, furthermore, demonstrate the arbitrariness by which national borders separate national/optimal areas for industrial specialization and trade. The vikings did not have to bother. The Hansa League made sure that its power ranged over an optimal production and trading area. The military power politics to follow was not in the interest of production and trade. While the formation of the EU will move England, Denmark, Sweden and Finland closer, it cuts out Norway and Iceland on the one hand, and may increase the differences to the formerly planned economies.

To deal with all this we need some theory. Thus, and also for other reasons than historic I will choose the old Viking and Hanseatic production and trading area as the optimal geographic platform for my policy discussion.

### **3 How Does Economic Growth Occur? – The Experimentally Organized Economy (EOE)**

More than a thousand years have passed from the age of the adventurous and entrepreneurial vikings to the modern industrial age with its foundation in economies of scale and big business leadership. The innovative, entrepreneurial and competitive spirit of the Vikings is, however, the bottom line of the EOE which we need to present an economic case for a viable Baltic/North Sea region, or the Northern Dimension, or the spontaneous evolution of a “new economy”.

All of industrial Europe (but not the US economy) is still, in year 2000, locked into the 200 year old basic technology of the industrial revolution. This industrial backbone is based on the machine tools invented, notably in England at the end of the 18<sup>th</sup> century (Woodbury 1972). They are (now) faster, more precise and reliable and are flexibly organized in increasingly complex configurations with other technologies. But they still perform the same basic metal forming functions as 200 years ago.

Competitiveness of this industry builds on experience based organizing competence and economies of scale. This still represents a formidable industrial competence base, but the 200 year old competence monopoly is now being eroded by competition from a host of rapidly learning economies, not least the Baltic states. It would be outright stupid of the formerly planned economies not to grasp this opportu-



nity to cut in where they have a competitive advantage and attempt instead to leap frog the western industrial nations into the radically new technologies. Let the rich economies venture the first steps into the “new economy” and perhaps fail. They have to!

For the rich western nations the engineering industry competence monopoly won't last forever as a guarantor of Western welfare. To stay ahead they have to leap frog themselves and develop radically new high value added production on a significant scale. This is a high risk venture and it can only be done by encouraging new entry, and enforcing the faster exit of low end traditional production.

In order not to get my message wrong, I am not necessarily talking about high tech industry, even though what we call high tech (read R&D intensive production) like computer and communications, bio-tech etc. technology will have to make up the lion's share of the radically new production. The rich countries have a temporary knowledge monopoly in science and they had better make it industrially useful before somebody else does it. The essence of my argument, however, is that it is necessary for the rich economies to keep developing temporary industrial monopolies capable of carrying (temporarily) a high rate of return to capital and internationally high real wages, i.e. if they want to stay rich.

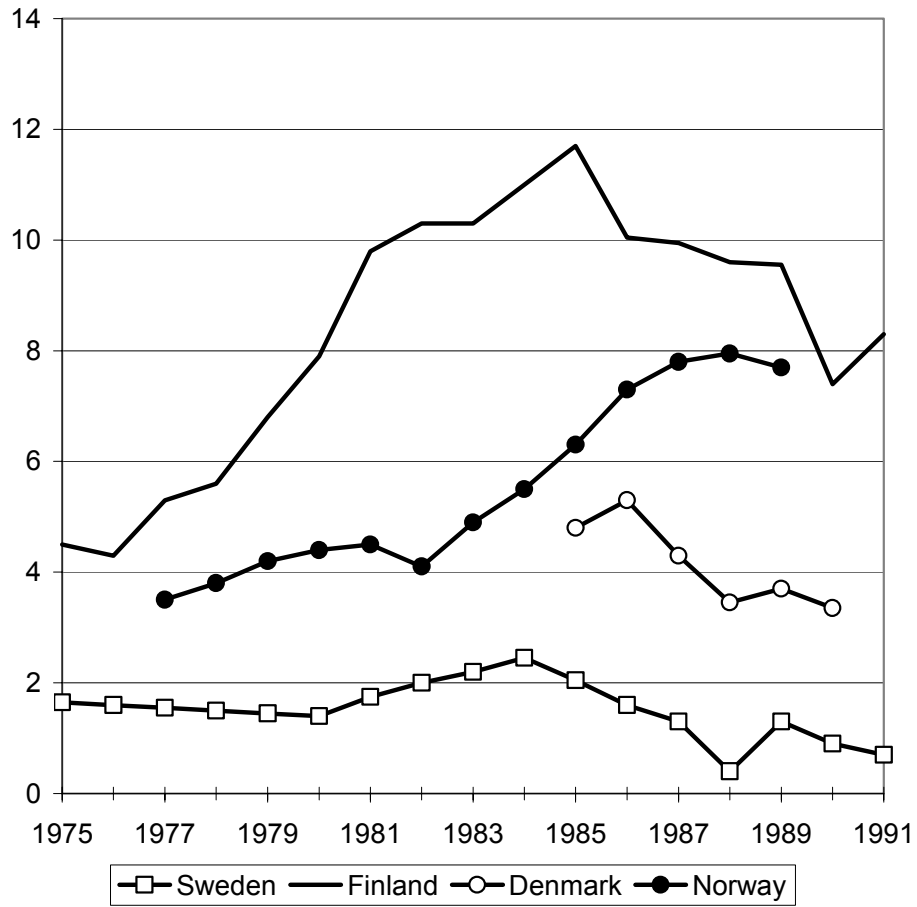
There are, however, many rapidly growing and profitable low tech firms in the rich economies, with little R&D investment and a labor force with very little formal education, for instance the world leader in heavy duty anchor chains (Swedish Ramnäs; see Laestadius 1994, 1995). What is important is that the wealthy Baltic economies somehow manage to shift their production structure towards its high value end, i.e. towards sophisticated new industry and high tech engineering, closer to the structure of US private industry.

This is not easy. It has to be based on very competence demanding new entry and socially disruptive rapid exit. This cannot be ordered to happen (it is no policy task), but will have to be based on the enhanced entrepreneurial spirit and competence among the people and improved institutions and incentives that encourage rather than hinder entry.

With the exception of Finland the wealthy Baltic economies have a bad record here (see Figure 2). This is why we need the next section on competence bloc theory to explain how growth through competitive selection can be efficiently organized.

The notion of an experimentally organized economy (EOE), in contrast to the plannable economy of standard neoclassical economics (Eliasson 1991, 1992) rests on what you assume about the set of op-

**Figure 2. Entry in manufacturing in the four Nordic countries, 1975-1991**  
 Number of firms started in the year in percent of stock of incumbent firms



Note: Self employed not included. Only firms with more than one employee included in Swedish and Norwegian data.

Source: Andersson, Thomas et al. (1993, Ch 4, figures 4.2, 4.7, 4.8 and 4.9)

portunities (or state space) of your policy model. If sufficiently large and non-transparent, behavior becomes experimental and economic growth is moved through competitive selection of winning business experiments. At the firm level this selection occurs through exit and entry and enforced (through competition) *reorganization* and *rationalization* of incumbent firms (Eliasson 1996a, pp. 44f, and Table 1). The EOE (including competence bloc theory, next section) explains how

an economy and its institutions are efficiently organized for a positive outcome. Neoclassical economic theory, including new growth theory, on the other hand, is formulated narrowly by prior design to make it possible for policy makers to move the economy theoretically to a particular outcome, including the distributional results. The EOE theoretically demonstrates such planning to be at best futile, but often disastrous.

The notion of the EOE emphasizes the profound unpredictability of industrial development and the increased risks associated with, and the reduced role of ambitious policy action. The important role for policy makers that can be derived theoretically from the model of the EOE is (Eliasson 1992, 1996a, 1998c) to organize society socially such that business mistakes become accepted as a normal cost of economic development and that ambitious policy experiments are politically rejected because they fail on such a grand scale. The main role of politicians is to support the development of efficient institutions and to organize society such that it socially and politically accepts the consequences of an experimentally organized economy.

The model of the EOE emphasizes flexibility of production. Within that model the most important form of flexibility refers to the entry and exit processes and the mobility of people with competence, not to physical investment (Eliasson - Taymaz 1999). The importance of the exit process cannot be exaggerated. The economic costs of mistaken physical plant investments for society are fairly small and often worth the learning experience. The really large costs are incurred when production is continued in failed investments and people with competence are locked-up in the facilities (Eliasson - Lindberg 1981).

The contrasts and the diversity of the Baltic/North Sea economies will make this economic and social flexibility a critical ingredient of long-term economic success of/or in the Northern Dimension. At the same time the industrial backbone of almost the entire region is a wide spectrum of differently aged vintages of engineering technology - the 200 year old technology on which the industrial revolution was once founded. The stage is thus set for interesting industrial dynamics.

#### *New Entering and Struggling, Reorganizing or Exiting Industries*

New industrial technology may suggest a case for the “new economy” in the sense that a new industrial revolution is in the works for these economies that can mobilize the competencies needed to take advantage of the opportunities offered by new computer and communications,

**Table 1. The four mechanisms of economic growth**

1.	Entry
2.	Reorganization
3.	Rationalization
4.	Exit (shut down)

Source: G. Eliasson (1993a) and (1996a, p. 45)

budding biotech and other technologies (Eliasson 1998c). Parts of the ushering in of new technology and the forcing out of underperforming industries are moved by radical new financial technology (Eliasson 1995b). Since this has occurred already to a much greater extent in the US than in Europe the discussion of a new economy began there (Kelly 1998). And the task of a rational policy strategy in the Baltic/North Sea area must be to make the US transformation occur in the entire area, and not only in isolated pockets of success. Key to this is

- (1) *that* all areas to a greater or larger extent create the entrepreneurial climate and institutions needed for the successful, spontaneous introduction of new production, accepting the fall-out of frequent business failure as a natural part of this necessarily experimental activity and
- (2) *that* the rich economies contribute to a transfer of both advanced and less advanced engineering technology through direct strategic investments into the formerly planned economies, exploiting their temporarily low wages.

#### *From Economies of Scale to Distributed Production*

The new engineering industry is rapidly moving from a base in traditional economies of scale to distributed production reaping their profits from spillovers and networking economies (Eliasson 1996b).

The Baltic/North Sea area with a widely distributed competence base in heavy engineering industry and a potential for efficient, reliable and stable sea transport has particular competitive advantages in the advanced end of the future development of this industry if it can efficiently exploit (1) its heavy competence base in large scale industrial organization and leadership and (2) the rapidly developing virtual design technology that is capable of overcoming geographical distance in product development and production. In fact, the already rich countries in the area have to succeed here to move up into the high value

added end of engineering production. And this requires extensive outsourcing of production. The outcome of this extremely complex experimental process cannot be predicted, but if the necessary institutions are in place and efficiently organized a positive long-term outcome has been supported by policy.

*The Diffusion of New Industrial Technology*

New industry creation requires more than innovations. It also depends on the diffusion of new innovations and the capacity of firms in the area to adopt and implement the new industrial methods (*receiver competence*; Eliasson 1990). The diffusion process is part of the EOE and follows particular paths, notably the five in Table 2. The *mobility* of people with competence, *new establishment* based on new ideas developed in firms and in university labs and outright *imitation* are diffusion mechanisms discussed in standard text books. In this context I want to emphasize two other diffusion channels that may be particularly important for the establishment of an expansive growth process in the Baltic/North Sea region, namely the introduction of new technology through *strategic acquisitions* and through participation in a dynamic infrastructure of *competent subcontractors*.

Engineering industry, the dominant industry in the region, thrives on organizational competence, the creation of spillovers and the exploitation of positive network systems effects (Eliasson 1996b, 1998c, 1999). The richer and more varied in competence the infrastructure of subcontractors the greater the potential for growth in the area

**Table 2. New technology is diffused**

1.	When people with competence move (internal and external labor markets)
2.	Through new establishment by people who leave other firms (innovation and entrepreneurship)
3.	Through the purchasing of new technology through <i>strategic acquisitions</i> of firms with new technology and through re-combinations of firms.
4.	When subcontractors learn and vice versa (competent purchasing)
5.	When competitors learn from technological leaders ( <i>imitation</i> )

Source: G. Eliasson (1995).

through subcontracting arrangements and through strategic acquisitions. The competence endowment of the Baltic/North Sea region is very rich and varied, but unevenly and geographically distributed over a large area.

Pavitt (1979) and Pavitt - Soete (1981) showed the very broad and diversified industrial competence base of Sweden up through the 1960s and Pratten (1976) supported their results through comparative studies of Swedish and English engineering firms. A particular problem is that this competence base, to a large extent supported by a diversified structure of subcontractors, has been significantly diluted during the 1980s and 1990s. For the entire region, however, the richness of the same competence base in engineering is formidable. Its activation is a matter of overcoming geographical distance through technology and catalyzing innovative entrepreneurship. Industrial diversity, furthermore, is much less a matter of having many different technologies represented within the region than of having more than one very competent producer competing head on in a local market segment. The consolidation of such competing actors into larger companies, therefore, means a reduction in the competence base of the region and a higher risk. For instance, Volvo Truck and Scania represent differently structured competitive advantages in the same market. It is an interesting question which of the two approaches, or both, will survive. Therefore the merger of the two individually successful companies, Volvo Truck and Scania, will require internal compromising of a kind that will not contribute to the long term economic development in the region. Even though the merger may be economically rational for the two companies it will raise the risk for Sweden, or the region we are discussing, of having no surviving, independent and world leading producer of heavy trucks in the long run. One reason for the merger probably is the reluctance of the Swedish financial system to fund aggressive competitive expansion of both firms, risking that one will fail. On the whole, deficient supplies of competent venture capital is, and will be a decisive handicap for the regions and notably for the creation of radically new production in the wealthy parts of the area (Eliasson 1997). Since this deficiency of competent money supply has been engineered by the policy makers themselves when building high tax, equalitarian oriented welfare economies, the task of restoring viable entrepreneurship unfortunately rests with the creators of the problem in the first place (see next section).

A similar problem relates to the wishes, often expressed by authorities in the formerly planned economies, that they do not want to take over the low-end production of the rich countries, but rather move directly into the "new economy". Some lucky entrepreneurs will certainly

be able to, but there is no case for a policy drive of large scale leap-frogging even though Müller (1999) believes there is a possibility in telecom. Let the rich economies gamble on this. They have to, and they will find it very difficult, and not only because they have an old industrial base (see next section).

#### 4 Competence Bloc Theory Applied

Efficient selection of investments is critical for an economic region in radical transition to enjoy macroeconomic success. Hence, the *organization of industrial competence* selection for that task becomes decisive. But competence is something very intangible that cannot be scientifically ordered up and allocated on tasks.<sup>5</sup> *Competence bloc theory* explains how tacit incommunicable competence that nobody understands more than fractionally is developed and efficiently allocated in an economy.<sup>6</sup>

Competence bloc theory (see Eliasson - Eliasson 1996, and Table 3) lists the minimum of interacting actors with competence needed to initiate and develop an industry. It is defined in market demand categories, not as technology or competence inputs in production. Customers then do not appear as a Keynesian demand factor but as a user competence contributor to product development. In competence bloc theory sophisticated customers matter critically for the creation of markets of excellence and of new technology.<sup>7</sup> When state space is introduced into eco-

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<sup>5</sup> *Competence* is a difficult word to define, since its typical characteristics are "embodiness" and "tacitness", i.e. difficult to communicate. I prove the existence of "tacit" knowledge capital – as distinct from communicable information – by lack of "receiver competence", i.e. inability to interpret and use the knowledge (Eliasson 1990a, p. 277). A useful definition of (economic) competence is the ability to use one's own (tacit) knowledge and externally available information for economically beneficial purposes.

<sup>6</sup> *Neoclassical* and *new* growth theories do not recognize competence or knowledge as distinct from tradable information, and especially not tacit knowledge. As a consequence such theories have no room for experimental behavior and business failure. The mathematics within which those theories have been compressed, furthermore, makes it almost impossible to incorporate selection phenomena like entry and exit. Hence, neoclassical and new growth theories capture almost nothing of the dynamics I need for a credible policy story. I prefer to begin with Marshall's (1890, 1919) story of "industrial districts" and add a touch of Austrian/Schumpeterian reasoning on innovation and "creative destruction". This becomes the EOE and competence bloc theory. If you impose static equilibrium market clearing conditions on Marshall's industrial districts you obtain a micro based version of Romer (1986) and Lucas (1988), even though these authors do not seem to be aware of this.

<sup>7</sup> In a sense this builds on Burenstam-Linder's (1961) argument for the importance for comparative advantage of national demand structures.

nomics as an enormous investment opportunity set economic behavior becomes experimental, and business mistakes a normal cost for economic development (in the EOE). Then it becomes important to ask the question: how are firms and the whole economy organized for efficient selection of projects in terms of minimizing the economic loss of two types of errors; to keep losers on for too long (type I) and to lose the winners (type II). We have to understand the efficiency characteristics of the business choice and experimental selection process. For this we need the intellectual support of competence bloc theory.

**Table 3. Actors in the competence bloc**

1.	Competent and active customers
2.	Innovators that integrate technologies in new ways
3.	Entrepreneurs that identify profitable innovations
4.	Competent venture capitalists that recognize and finance the entrepreneurs
5.	Exit markets that facilitate ownership change
6.	Industrialists that take successful innovations to industrial scale production.

Source: G. Eliasson - Å. Eliasson, 1996. The Biotechnological Competence Bloc, *Revue d'Economie Industrielle*, No. 78, 4, Trimestre.

#### *Selection and Business Choice - Competence Bloc Theory*

Experimental selection is principally different from the analytic choices in planning. Here tacit entrepreneurial competence enters and the main resource use under this item is business mistakes.

The competence bloc is end user (functionally), not input defined (G. Eliasson – Å. Eliasson 1996). The efficiency of selection in terms of minimizing the two errors depends on the organization and completeness of the competence bloc. Completeness is critical for efficient incentives.

The actor that establishes himself in the competence bloc both benefits from, and contributes to the competence bloc which thus abounds with industrial spillovers. To achieve that degree of attraction critical mass has to be achieved. But when critical mass has been achieved competition is also ferocious and less than able actors (that do not contribute) repelled.



Competence bloc analysis dealing with the efficiency of selection thus takes you outside the traditional production function approach and into the obscure domain of tacit and difficult to communicate knowledge. It has been used to analyze Swedish aircraft, health care and house building industries. A highly illuminating competence bloc analysis of 15<sup>th</sup> century art production in Florence, emphasizing the critical role for development of the competence contribution of customers has recently been published.

*Customer Choice and Marketing in the Experimentally Organized Economy*

The customer comes first and the customer of competence bloc theory is much more than a demand agent. The customer determines what price the producer will get for quality supply and thus sets the upper limits for product quality. A sophisticated industry requires a sophisticated customer base and in the long run the products will never get better than what customers are willing to pay for. If you are a sophisticated producer you don't adjust quality down to your current customer base. You may attempt to improve your customer, but since competent customers contribute to technology development by supplying product and user knowhow, the *marketing strategy of an advanced firm must be to actively look for competent customers to avoid getting locked into inferior technologies* (Eliasson 1998d). The contribution of sophisticated customers to technological development, and the active search by artists for competent customers that were both able to appreciate the art and willing and capable of paying for it are very manifest in the markets for art in renaissance Italy (G. Eliasson - U. Eliasson 1997). The situation is very similar in aircraft production (Eliasson 1995a) and in the business of the developer in US home building (Psilander 1999). But in the EOE there are more things to attend to for the producer. High quality products have to be developed and there are significant both technological and market risks. Above all, data from the past tell very little about the future demand for the new product. The satisfaction of the final customer can never be ascertained until the product has been developed, marketed, sold and used, i.e. tested in the market. When the competent customer actively enters development work these risks are often shared between producer and customer. But the main thing is that in the EOE also marketing becomes an experimental activity and efficient marketing method is not a matter of analysis but of (a) actively identifying competence and technology contributing customers and (b) engaging them in product development.

*The Innovator and the Entrepreneur*

The innovator integrates new and old technologies into new product technologies. The greater, easier and more varied the availability of technology supply, the more efficient the innovation process. The availability of a deep and varied technology supplying subcontracting industry is becoming increasingly important for future industrial development in the advanced industrial countries when outsourcing of both production and development work in the market is beginning to dominate both new and old industries.<sup>8</sup> In an advanced environment innovative technology development will be a risky activity and the supply of technological solutions for the same problems will be many. The role of the entrepreneur will be to contribute commercial competence to help select commercially viable technological solutions. The entrepreneur introduces the economic and industrial dimensions in the industrialization process.

*Competent Money*

But the entrepreneur rarely has the financial resources to take innovations one step further. For that competent money (item 4 in Table 3) is needed, that is *venture capitalists sufficiently competent to understand what the entrepreneur is offering to be willing to contribute financial resources at reasonable terms* (Eliasson - Eliasson 1996), i.e. with a reasonable risk premium in his or her project evaluation. The terms of this risk valuation will also be influenced by the availability and competence of secondary exit markets (item 5 in Table 3).

The main and most important task of the (financial) resource provider - almost always forgotten in financing literature - is a sufficient understanding of the business idea of the entrepreneur to dare to use a sufficiently low risk premium in the project evaluation for the investment to take place. Such conditions are needed to keep the competent innovators and entrepreneurs in business. Without such an understanding the terms by which venture financing is supplied will be unreasonable to the innovator/entrepreneur. This competence or capacity to understand is extremely rare when it comes to the new entering industries and it is a complete mistake to believe that the banks, the large investment institutions or the large companies in mature industries have

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<sup>8</sup> The so-called "technology system" (Carlsson 1995, pp. 7, 23, 49) is defined from the technology input side and enters the competence bloc under the innovation item, since its "purpose" is to create and diffuse one generic technology for multiple applications in many industries.

that competence. Only second and much further down in importance comes the routine business knowhow in financial control, marketing, management etc. that the venture capitalists also supply or demand to be recruited from their network (Eliasson 1997, 1998c).

#### *Upgrading to Industrial Scale*

If a real winner has been identified and properly established it remains to bring it up to industrial scale production and distribution. In many new industries this last step has to be taken fast to secure the potential cash flow needed for fast internal growth, before imitators or new and better technologies have hit the market.

Industrial skills learned in mature industries, however, rarely suffice as a competence base in radically new industries. Large scale industrial management is increasingly concerned with organization in new industry like biotech and C&C production and increasingly with managing innovation and efficient manufacturing simultaneously. To get managers from large scale engineering focused on operational efficiency into such firms normally spells failure. Hence, markets for differentiated management competence are becoming increasingly important for economic progress in the wealthy Western economies (Eliasson 1991b).

#### *The Necessity of a Complete Competence Bloc for Effective Incentives (Completeness)*

There is a common saying among bankers that there is plenty of money, but no good projects. The problem may be the reverse; there are plenty of good projects, but the bankers don't understand them (Eliasson 1997). It follows that the lack of entrepreneurship that we believe we have, for instance in Sweden, may rather reflect a lack of competence in the so-called venture capital industry. Without competent venture capitalists there will be few live entrepreneurs to observe. Completeness (of the competence bloc) is key and should be the prime concern of the policy maker (Eliasson 1998c). Without competent industrialists and venture capital, incentives for entrepreneurship will be lacking, and without competent entrepreneurs incentives for innovators will be lacking. Very rarely will the situation be as good as in the market for new fine art in 15<sup>th</sup> century Florence - lacking financial markets almost altogether - that the sophisticated customers fund the projects.

*Institutions, Incentives and Growth through Competitive Selection*

The complete competence bloc is necessary, but not sufficient for effective incentives, i.e. incentives that move the competitive selection of winners. For economic wealth to be created there must be property rights to that wealth established for the creators, i.e. to manage the assets, access the profits from, and to trade freely in the assets. The property rights issue runs right through the entire *transfer chain* in the competence bloc. If the innovation can be made 100 percent proprietary and exploited through the industrialization phase within one firm hierarchy and then locked onto the customer the system may work without legal property rights protection. This is an extreme example of the hands on protection of the secrecy of the coca cola recipe.

History offers several examples of such protection, for instance early European porcelain manufacturing (Gleeson 1998), but this is not a viable option in the current decentralized world. When innovators, entrepreneurs, venture capitalists and industrialists are different persons or (rather) different judicial persons, the efficient transfer of knowledge between the actors of the competence bloc requires that it can take place safely without loss of value to the contributor of the knowledge. The efficient use of knowledge and the establishment of competition and efficient allocation of knowledge through markets require that it can be done. The innovator gives up *management* rights (to the knowledge asset) to the entrepreneur. The entrepreneur gives up *access to profits* rights to the venture capitalist, who in turn needs the *tradability* of knowledge assets that is secured through efficient exit markets. Jonasson (1999b) explains how, in fact, property rights to intangible software ideas can be established through their (inevitable) hardware embodiment. This same fact, however, creates instead a privacy or integrity problem.

## **5 The Northern Industrial Potential**

The Baltic/North Sea area features a highly diversified production structure, being dominated by raw materials extraction, basic industries and heavy engineering. The industrial landscape is, however, enriched with fragments of highly advanced high tech firms ranging from very sophisticated engineering production to two (still) world leaders in mobile telephony, an advanced medical instrument industry and a few advanced biotech and pharmaceutical companies. Scandinavian engineering industry has also excelled in using new information technology very early, notably in their products (Eliasson 1980, 1995a). The area, furthermore,

exhibits several pockets of excellence when it comes to the design, development, manufacturing, distribution and use of complex engineering products, requiring a diversified subcontracting infrastructure (for instance in off shore and sub sea oil and gas production, sophisticated shipbuilding, heavy truck manufacturing and aircraft production). For the size of the economies, the region also includes (notably Sweden and Finland) an exceptional concentration of very large global companies in mature production with most CHQs still remaining in the region, together exhibiting an impressive competence in large scale and innovative production systems organization. Sophisticated firms over the entire area, together with a well educated and, at places, wealthy population constitutes an impressive base of customer competence that has contributed to economic development in the past, and will in the future.

In the midst of this “excellence” we also have a fairly large concentration of not so advanced production sites in the formerly planned economies of the former Soviet Union and an increasing presence of production, notably in Sweden that has survived thanks to generous subsidies and an accommodating exchange rate policy. This has to be recognized even though economic growth in Scandinavia is currently faster than it has been for many years. Even though “industrial welfare programs” to temporarily protect employment may belong to the past the restructuring of the Baltic/North Sea region still leaves a lot to be done across the entire area. Here the formerly planned economies of the region may, in fact, have an advantage. They are forced by circumstances to allow a rapid structural change to occur and to absorb the social distress that follows. Furthermore, they all have their “political minds” focused on getting everything right for rapid restructuring into prosperous and growing market economies and these countries are not burdened by an excessive egalitarian welfare tradition. In many areas the restructuring into new industrial technologies, furthermore, begins from scratch, not being encumbered by the existence of old physical structures and obsolete knowledge, notably among technical and administrative staff.

The contrasts between the rich Baltic/North Sea economies and the formerly planned Baltic economies are, therefore, striking and constitute both a challenging opportunity and a problem for both groups of economies.

The industrial backbone of the rich economies of the region is, however, still dominated by raw materials and heavy engineering industries that are very sophisticated but that will not be sufficient to support the same kind of industrial wealth in the future. These kinds of mature industries will also have to constitute the transition path for the

formerly planned economies on their way to become advanced industrial economies, or to use the jargon of today, to enter the “paradigms of the new economy”. In fact, Denmark, South Sweden, Norway and Finland and Northern Germany feature an impressive concentration of competence in heavy engineering and large scale organizing competence supported by an infrastructure of advanced subcontractors that could all be further “concentrated geographically” by more developed maritime transports over the Baltic and the North Sea. The use of new virtual design technology, furthermore, promises additional support in diminishing the handicap of geographic distance (Eliasson 1999). This is the reason why my policy discussion will cover the wider area of economies bordering on both the Baltic and the North Sea – i.e. the old production and trading area of the Vikings and the Hanseatic cities.

The rich economies of the region, to stay relatively as rich as before, have to size up significantly on radically new, high value added production, featuring radically new and innovative entrepreneurship on a scale that has so far only been fragmentarily seen, and refocusing resources on the sophisticated end of incumbent engineering production. For a successful execution of this transition the stage has to be set for radical restructuring. On this it has to be recognized that the phasing out of old and low quality production will lead to temporary social distress and political resistance, and that the worst threat to new establishment is the presence, in the local area, of large (physical) capital intensive and not sophisticated high wage production.

The area thus has four characteristics to take note of for the policy discussion.

- a. A strong competence base in heavy engineering that has to be exploited, but also radically restructured, and in a generous way,
- b. such that the formerly planned economies be allowed to catch up, which means a tough, policy induced “creative destruction” of its low end in the wealthy parts of the area.
- c. Activation of a promising but tiny technology base in the new type of industries that will have to move the future and that must not be allowed to be suppressed by the heavy presence of mature raw materials and engineering industries. This is not a traditional policy issue but a matter of a changed economic culture. Will it be capable of mobilizing entrepreneurial new establishment on an order of magnitude that has not been seen in the area for a long time?
- d. A deep and varied base of customer competence over the entire area, that constitutes a necessary ingredient for indigenous long term growth.

Success under c will not occur spontaneously in the market, at least not fast enough, and has to be pushed by enlightened industrial policy aimed at making the competence bloc complete, notably improving conditions for entrepreneurship and venture capitalists. This policy is similar to the institutional improvement needed in the formerly planned economies.

Seizing up on the opportunities under a, furthermore, has to recognize the problem of overcoming geographical distance and exploiting the excellent opportunities of efficient maritime transports of heavy industrial components and goods that link the economies around the Baltic. Virtual design is a new promising technology within the area of distributed production, notably engineering production. It is the only area where I venture a precise policy suggestion for reasons to be given in the next section.

Item b is the most problematic item because it involves deliberate policy action to eliminate low level jobs in the rich economies to make some of them available in the formerly planned economies of the region. For this to succeed across the whole region functioning labor markets with flexible pricing is a must, as is the creation of a local institutional environment (notably supporting property rights, Eliasson 1998a) that makes it attractive for firms in the wealthy economies to shift production strategically into the formerly planned economies of the region.

The formerly planned economies will probably find their best opportunities in allocating resources in the medium run to the sophisticated ends of heavy engineering, only later to come on par with the wealthy group of industrial economies. I do not rule out the possibility of some competent entrepreneurs being able to leap frog the rest in some areas, only that this should not be part of any industrial policy program. Müller (1999), in fact, suggests that such leapfrogging should be a possibility in telecom.

The already rich members of the region face much higher risks. To achieve growth they have to get out of their dependence on mature industries, but they are not forced by circumstances to take the social adjustment stress always associated with structural change as the formerly planned economies are. And to enter unchartered entrepreneurial territory successfully is far more difficult and risky than for the less developed members to catch up on the technology of their richer compatriots. I have, therefore, suggested (Eliasson 1998a) that among the couple of dozen new economies that have emerged from the rubble of the Soviet Collapse at least a couple will pass the Western European average in per capita economic well being in one or two generations.

In fact, this simple evaluation of the situation gives rise to three policy stories, two fairly straightforward and one more complex, all together having a pronounced Austrian/Schumpeterian flavor. One has to do with the seizing of the opportunities, the second with pushing the restructuring process and the third with reducing the political uncertainty in a large part of the formerly planned economies to activate the potentially very large economic incentives for Western and local investors.

## 6 Industrial Policy Conclusions

Economic development has to be largely spontaneous and market based to be sustainable. But spontaneous, sustained and prospering industrial activity in any geographic area requires that the proper supporting institutions and infrastructures be in place. This is what collective bodies like Government are supposed to provide, and this is generally true except for two considerations. *First*, modern Governments have an impressive record of stretching their ambitions far beyond their competence, and failing on a grand, often catastrophic scale, rather than improving on circumstances. Several member countries of the region discussed in this document have that in vivid memory. *Second*, the modern emphasis on the important role of Government as infrastructure builder and institutional supervisor tends to downplay the role of the market in providing the same services, often more efficiently.

### *A Three-Pack Schumpeterian Policy Program*

Despite these concerns I will suggest a low risk industrial policy cooperation program. It all derives from the theory of the EOE (Sections 3 and 4 above) where the realistic ambition to lay a foundation for a positive economic development is emphasized and contrasted to the conventional policy approach of targeting or planning for particular, often detailed outcomes.

The critical *first* task, therefore, will be to get the institutions right, to reduce political uncertainty such that viable spontaneous entry into the new industries occur across the region. The institutional problem is shared by the entire region (Eliasson 1998a) although different aspects are important in different places.

*Second*, direct foreign investments by the firms in mature industries into the formerly planned economies should be encouraged from both sides to speed up the restructuring there from the active, new establish-



ment end. But such methods won't come about in sufficient volume until the institutional or political uncertainty problem has been solved.

*Third*, an active Schumpeterian *creative destruction* policy should be enacted across the region, deliberately aimed at pushing out the low end of mature industries in all economies, opening up resources for expansion and new establishment in new production. What is old and low end in the wealthy part of the region, however, may be high tech or very sophisticated in the formerly planned economies, a circumstance that should open up possibilities for efficient exchange of structures rather than create problems.

This three item policy package aims at achieving a more efficient allocation of resources, and notably competence, in the entire Baltic/North Sea region. The first policy task is tricky and requires significant policy competence. The second and third straightforward policy measures carry a Schumpeterian message, encouraging both competitive, innovative entry and exit of low end producers (creative destruction) to free resources.

- (1) *Innovative entry support*: the formerly planned economies would benefit from (a) strategic investments in engineering production from the rich economies of the region, that should be encouraged by the policy authorities of these countries to free resources (and attention) there for (b) critical new establishment in radically new production.<sup>9</sup> The latter encouragement task is the most difficult, and requires for success that the entrepreneurial climate and all the competence bloc actors are in place. On this score, there is, however, no other choice for the rich economies of the region.

As has been discussed in the previous section the existing strong and quite varied competence base in heavy engineering industry across the region, a significant *receiver competence* in that industry in computing and communications industry and a potential in sea transport offers a promising case for the entire industry. This is especially the case when it comes to achieving efficient decentralization of production through geographically distributed or integrated production (Eliasson 1996b) that compacts the subcontracting industry of this vast region geographically. Virtual design and production is a fast upcoming technology with a vast potential in this particular setting (Eliasson 1999). This development could be supported by public purchasing of sophisticated products in the advanced end of the industry. For such policy to be successful and also to free resources for the spontaneous development of new industries "creative destruction" has to be promoted.

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<sup>9</sup> This was, in fact, a proposal for Sweden in Andersson, Thomas et al. (1993, Ch. 1).

- (2) *Creative destruction (exit) support*; encouraging foreign direct investments on the part of its traditional industries in an exit promoting policy for the rich countries in the region. The poor formerly planned economies, however, also need to get rid of their backlog of economically impossible production sites and despite the social distress such a policy will create during an interim period. Such policies are necessary to free resources for positive results under (1). But more is needed.
- (3) *Insurance for political opportunism*; key to success for the whole region, however, is a strong positive flow of fairly traditional investments into the formerly planned economies and in sufficient volume to click in a synergistic development across the entire region, including the spontaneous development of a flourishing sea transport system that links the entire region together. This, however, won't happen if the foreign investors in particular, but also the incumbent investors cannot count on capturing the profits from their long-term commitments. This is largely a matter of political uncertainty, and notably in Russia, but to some extent the problem remains serious in all the former Soviet republics.

Without a significant and immediate reduction in the political uncertainty associated with property rights no synergistic expansion involving the entire region will come about. To reduce political uncertainty, and protect investors from political opportunism in the formerly planned economies I propose an insurance scheme.

#### *Insurance Protection from Political Opportunism*

The insurance system proposed (Eliasson 1998b) is simple in principle but probably difficult to realize in the tangled logics of international political practice. The basic rationale is to *eliminate the political risks for the foreign direct investors in the formerly planned economies* to put the investment climate there on an equal footing to that in a modern market economy, or even make it more attractive. The system also has to be moral hazard proof to work in the corruption minded politics of the formerly planned economies. Without an effective political uncertainty reduction foreign direct investments in the formerly planned economies will be a trickle rather than a flow. The problem of deficient institutions is still as large as it was several years ago<sup>10</sup>, and the formerly planned economies *need* the

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<sup>10</sup> See the two cases in Eliasson (1998), Jack (1999), Hedlund (1999), Alsheimer (1999), *Business Week*, Dec. 13, 1999, pp. 20f., and so on.

help of foreign investors to shorten the transition period to a reasonably wealthy market economy sufficiently to overcome unacceptable social distress and political unrest (Eliasson 1993). This is also in the interest of their rich neighbors. Besides, with the system proposed no further aid to these countries will be needed and it will effectively eliminate the corruption associated with aid and loans to these countries.

The insurance system requires (Eliasson 1998b) that the rich “donor” economies set up an insurance fund appropriately sized for each insurance receiving economy. The portfolio of that fund will be managed by the donor country, or all donor countries together in the international market. The receiving country shall have no influence on the management of that portfolio or its use. Foreign investors in the formerly planned economies will be insured against that fund. It is, of course, important to draft the conditions for coverage carefully, such that an efficient insurance with a minimum of moral hazard can be offered. A contract may have to be negotiated, but it may also be sufficient with simple registration. The main point, however, is to offer direct investors high quality protection from political opportunism and keep the money away from local political distribution. The charter of the fund identifies the kind of political risks for which insurance is extended. The foreign investor can apply for compensation if suffering a loss due to political manipulation. Settlement will be made *in a western court*. Compensation will be drawn from the fund. The underlying rationale for this arrangement is that the wealth remaining in the insurance fund after a *very* long period, well beyond any human or political horizon will be made available to the receiving countries. The countries that behave well politically will then receive double bonus and become wealthy much faster than those which do not. Incentives to behave will, therefore, be great. And the costs to the donor countries will probably be lower and at least not higher than under the aid and loan arrangements we see extended today.

#### *A Cautious Private and Public Industrial Policy Program*

The theory of the experimentally organized economy and competence bloc theory give no theoretical support for direct industrial policy involvement in production, only for improving the general institutional conditions for economic progress. We know, however, from competence bloc theory that advanced customers engaged in competent purchasing contribute to industrial technology development. Advanced customers and competitive purchasing, therefore, are necessary ingredients in a positive economic scenario for the Baltic/North Sea area. A large share of the advanced customers happens to be in the public do-

main, and until they have become private, active competent private and public purchasing in the region has to be looked at as an important element of positive economic development, and in the type of production of this area in particular.

Modern engineering industry builds on the innovative integration of several technologies through organizing competence and the increased distribution of production (through outsourcing) over markets. This is particularly true of large producers of sophisticated systems products, where England, Finland, Germany and Sweden in particular have excelled in large scale organizing competence. The existence of a deep and varied infrastructure in the area is key to continued development and success of that industry. Historically Government has figured as a competent purchaser, supporting useful systems products that require integrated production. Even though the world situation is going to mean a reduction in defense spending, which has been the classical supporter of advanced systems products, there are many more advanced products of the kind that will use modern virtual design technology that will also be needed by both Government and (increasingly) private users. The formerly planned economies, furthermore, are in great need of investments in areas where such products are used. A policy program in the entire area of sophisticated purchasing would be an important complement to the other measures suggested. And competent public purchasing is far more efficient a policy than building science parks or supporting technology without application context.<sup>11</sup> Economies with advanced customers always have a competitive advantage. Advanced purchasing works as an industrial policy if it is oriented towards achieving higher functional (product) performance. Subsidizing technological inputs does not work. Advanced private purchasing for commercial, industrial applications is best because the usefulness of the products has then been tested in the market, but public purchasing of advanced product functions comes in as second best (Eliasson 1998c).

The interesting thing is that advanced private purchasing is increasing as new sophisticated producers enter the market (e.g. telecom, entertainment) and as previously big public purchasers get privatized. A particular aspect is that the advanced firms in the rich economies will operate as advanced and competent purchasers contributing technology when they use firms in the formerly planned economies as subcontractors.

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<sup>11</sup> Lazerson - Lorenzoni (1999) in fact conclude that "no industrial district" in Italy "has ever emerged from a set of industrial policy initiatives".

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## Discussion

*Wolfram Schrettl*

The Northern Dimension of the European Union, a Finnish-inspired concept, is discussed by Gunnar Eliasson in the light of both history and his own theory of the experimentally organized economy *cum* competence bloc theory. Not well versed in history, I cannot venture to pass a judgement on his respective account. However, I did find the narrative fascinating and convincing. From the history of the Vikings, the Lübsk jurisprudence, the Hansa, Swedish imperialism and Soviet repression, Eliasson extracts conclusions on the importance of (i) entrepreneurship, (ii) institutions for the protection of property rights, and (iii) maritime and river transport. What I consider particularly encouraging are the findings on the redirection of military ambition, once peace has arrived, towards business activities. - "make money, not war," sort of.

Eliasson also sketches his theory of the experimentally organized economy (EOE) and his competence bloc theory (CBT). Let me confess right away that my knowledge of EOE etc. is solely based on the account given in the paper under discussion. Therefore, I may not be able to do full justice to a body of theorizing which, for whatever reason, has escaped my attention so far. Quite surprisingly, EOE builds directly on the historical sketch: "The innovative entrepreneurial and competitive spirit of the Vikings is ... the bottom line of EOE". Less surprisingly, EOE emphasizes topics like entry, exit, entrepreneurial spirit, competence, institutions, incentives, and risk. Competence bloc theory says that just about everything has to be competent ("completeness of the competence bloc is key"). Thus, the list includes competent producers, competent customers, competent venture capital, competent money supply (*sic*, meaning competent bankers), competent venture capital, etc. According to Eliasson, not all of that competence seems to be available in desirable quantities. Bankers in particular are singled out as being rather inept when it comes to understanding business ideas.

Competence bloc theory, the author argues, "takes you into the obscure domain of tacit incommunicable competence". Eliasson seems to have qualms about neoclassical as well as new growth theory. Both are in his view "formulated narrowly by prior design to make it possible for policy makers to move the economy theoretically to a particular outcome, including the distributional results". This description leaves me rather puzzled, i.e. unwilling to accept that my own understanding of growth theory over all those years might have been wrong. In any case,

Eliasson prefers "creative destruction" as a theoretical concept, though without making any reference to the work either of Aghion and Howitt<sup>1</sup> or of Nelson and Winter. It is not clear to me in what sense EOE and CBT are meant to be theories in a strict sense, rather than bundles of – quite plausible, for that matter – statements. The material as it is presented, reflecting the author's infatuation with the notion of competence, is irritatingly reminiscent of the kind of stuff companies feed to middle management in order to keep it entertained ("excellence").

Both the historical and the theoretical perspective are taken by Eliasson as supporting pretty much the same kind of conclusions and policy prescriptions. Along the way, the narrative is intertwined with a few diagnostic remarks. Given that Russia is at the center of the Northern Dimension, it is of some importance to get the respective facts right. Eliasson seems to suggest that Russia is in urgent need of foreign direct investment. This means that foreign savings should be used to finance investment in Russia. In view of the fact that, at present at least, Russian savings to the tune of at least \$10 billion annually, and possibly a multiple of that, are leaving the country to finance investment in the rest of the world, the need for directing foreign savings and investment into Russia appears questionable to me. It may well be argued instead that, on purely financial grounds, Russia is not at all in need of foreign direct investment. The full use of Russian savings<sup>2</sup> for investment in Russia, rather than abroad, could be considered as quite sufficient. Of course, other reasons in favor of FDI are conceivable.

Another questionable claim made by Eliasson is that the formerly planned economies of the Baltic region "may, in fact, have an advantage, they have all their 'political minds' focussed on getting everything right for rapid restructuring (and) are not burdened by an excessive egalitarian welfare tradition". At least in the case of Russia, it seems to me that it is precisely the absence of political minds focussed on restructuring together with the presence of an excessive egalitarian tradition that have contributed to the Russian transitional agony.

As to the policy conclusions, no-one would argue with the call for a sound institutional framework, in particular with an eye towards reducing the uncertainty prevailing with regard to property rights. It is less obvious why the theory of the experimentally organized economy is needed to derive that

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<sup>1</sup> Philippe Aghion and Peter Howitt, *Endogenous Growth Theory*, MIT Press, Cambridge Mass., 1998, and the work quoted there, in particular that on "creative destruction."

<sup>2</sup> On the segment of private house savings, cf. Paul Gregory, Mitch Mokhtari, and Wolfram Schrettl, "Do the Russian Really Save That Much?" In: *The Review of Economics and Statistics*, Vol. 81, No. 4, 1999.

conclusion. But of course it is reassuring to learn that yet another theory emphasizes the crucial importance of getting the rules of the game right.

The second major element of Eliasson's policy program aims at transplanting the mature industries of the rich Baltic economies into the formerly planned economies. It is suggested that the future of the rich Baltic economies lies in more advanced economic activities and, at the same time, that the formerly planned economies will not be able to leapfrog into that same future, which Eliasson sees in high-tech production. This proposition is clearly a matter of much controversy and Eliasson takes his own view for granted without much discussion. The actual developments in the area of structural change are indeed moving into the direction envisaged by Eliasson, although without much political interference, if any at all. I am not in a position to judge whether sea and river transport, so much emphasized by Eliasson, is indeed playing the key role in that context. Whatever the actual developments may eventually turn out to be, however, the ambitions of policy makers in the formerly planned economies are unlikely to let them abandon the idea of technological leapfrogging quite so easily. In the minimum, some efforts towards high-tech will remain - despite the already considerable downsizing of previous activities in the area of high-tech production that have not managed to find a niche in the global economy.

While Eliasson's recommendation to policy makers in the former planned economies is to moderate their ambitions, he calls upon policy makers in the rich Baltic economies to actually strengthen their support for sophisticated production at the technological edge. Virtual design in particular seems to have captured the imagination of Eliasson and he calls for supporting it by "public purchasing of sophisticated products in the advanced end of the industry". Although, in general, Eliasson appears to be radically opposed to anything that smacks of government intervention, he displays a surprising amount of pragmatism when it comes to pushing advanced technology. "A large share of the advanced customers happens to be in the public domain". He admits that "the world situation is going to mean a reduction in defense spending, which has been the classical supporter of advanced system products", but notes quite happily that "there are many more advanced products of the kind that will use modern virtual design technology that will also be needed". Thus, a policy program of public spending ("competent public purchasing") is called for. In short, the government again plays a key role in the innovation process. Unfortunately, Eliasson has chosen to ignore a large part of the literature that is devoted to precisely that issue. For example, the already mentioned work of Aghion and Howitt<sup>3</sup> ad-

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<sup>3</sup> Cf. footnote 1.

dresses questions such as Should government intervention be centralized or decentralized? Should it be targeted or non-discriminatory? What form should public funding take? What is the impact of uncertainty, informational asymmetries and spill-overs? Certainly, Eliasson's general prescription that governments should not artificially prolong the lives of declining industries (i.e. give exit support) and pave the way for innovative entry, will not run into much opposition.

This may be different when it comes to his proposal of an "innovative insurance scheme," which is meant to reduce the risk of investing in the formerly planned economies. The need for such a scheme results from the assumed impossibility, in Russia at least, of solving the institutional problem within a reasonable time-span. While the latter assumption, I am afraid, may well be correct, it is much less clear why the insurance scheme should be of significant use in overcoming the problem. Eliasson abstains from conveying his views on the already existing insurance schemes and their merits. The precise construction of his own proposal is also left in the dark. Thus, at one point he describes it as a "commercially operated" scheme, elsewhere he apparently appeals to the generosity of rich "donor" countries.

On the whole, I found the historical background very interesting and the emphasis on institutions well taken. The Nordic-Baltic economies, both for the reasons discussed in the paper and for other reasons, are quite likely to go through exactly the kind of structural changes deemed appropriate by Eliasson. I am not so sure, however, whether the paper has turned me into an *aficionado* of the theory of the experimentally organized economy or of competence bloc theory. In the U.S. economy, apparently the role model of much of Eliasson's thinking, the emphasis is obviously put on the factors prominent in his analysis, but without neglecting physical investment which has experienced an amazing boom there throughout the nineties. The disregard for important work on "creative destruction", a favorite topic of Eliasson's, is irritating, as is the missing reference to Hayek in the discussion of intangible, incommunicable knowledge. A reference to the late Fritz Machlup is not really missing, but, while reading the paper, I was constantly reminded of him. He occasionally used to lecture very fast. When students were complaining that it was impossible to take notes at that speed, he would ask them not to worry because he would repeat everything several times over in the course of his lecture. Well, Eliasson must have assumed that his would be very fast readers indeed.

# Part Two

Sectoral and Regional Studies



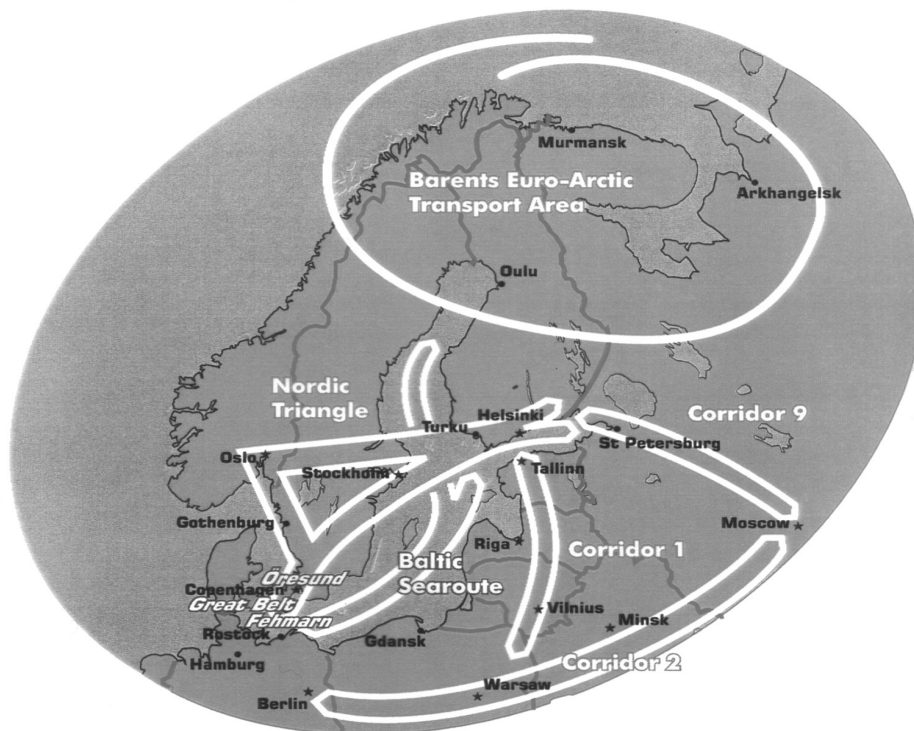
## 7 Transport and the Northern Dimension

*Kaj-Peter Mattsson*

Let me start by saying that transport and border crossing are strategic focuses of the Northern Dimension, together with energy and the environment.

Let me then underline that the priority areas for transport mentioned in the Commission's report and the guidelines of the Council are neither new nor radical. Actually, there has been successful regional and bilateral cooperation in this Northern Dimension area already since the beginning of the 90's related to different transport corridors and transport areas.

In a nutshell one could say that the Northern Dimension in the transport sector is what appears in this figure.



The main Pan-European transport corridors and areas in the Northern Dimension region are the following:

Corridor 9 (Turku-Helsinki-St.Petersburg-Moscow) / east  
The Nordic Triangle (Copenhagen-Oslo-Stockholm-Helsinki) / west  
Via Baltica (Helsinki-Tallinn-Riga-Kaunas-Warsaw) / south  
Barents Euro-Arctic Transport Area / north

I am not going to take up your time by describing the corridors to you. You can find very detailed information on the corridors in annexes to my presentation. I just want to emphasize that in my opinion this figure reveals better than one thousand words to you what it is all about; the aim is to create an efficient and sustainable transport system in Northern Europe for individuals and for the business world.

Mr Scherbanin, who unfortunately was not able to attend this conference would probably have referred in his introduction and remarks to a long list of transport-related projects in the North-Western part of Russia he wished would have been implemented and financed. And I know from similar lists presented by colleagues from Estonia or Latvia in their national position papers on the Northern Dimension that there is a lot of creative and wishful thinking floating around.

Let me emphasize and let me also be very realistic that the real obstacle is the lack of funding - money - that could be devoted to upgrading the infrastructure. Essential improvements will cost about 80-100 billion euros by 2015, and will unfortunately take years, not to speak about decades. EU funding for transport and northern areas is available through the Phare, ISPA, Tacis, Interreg and Structural Fund programmes. The EU financial instruments, along with the IFIs and bilateral assistance, are spending considerable sums of money for transport development in the Northern Dimension region. But these sources can only provide a fraction of the money that will be needed, however. The fact is, in the final analysis each individual state must itself finance improvements in its infrastructure through the national budget or by borrowing from, for instance, the World Bank, EBRD, or NIB.

The EU recommends that 1.5 % of national GDP should be used for development of TEN networks. Not many EU member countries live up to these high expectations, not to mention the applicant countries around the Baltic Rim or Russia.

During recent years a debate on the so-called private-public partnership (PPP) has been discussed as a solution or as an alternative to state financing of infrastructure. In Finland, a part of the Lahti motorway has, for example, been financed by the private sector. But frankly, here in the northern area of Europe with long distances, low traffic flow and scarce population, private financing will never be a realistic alternative.



The Northern Dimension as such does not bring into this region any new fresh money. I don't want to sound pessimistic, but there are anyhow clear needs to strengthen co-operation in the transport sector in the Baltic Sea Region. Let me mention a few:

1. Economic growth. National economies are becoming increasingly interdependent in the world as well as in the region. Transport is fundamental both for growth and economic integration.
2. Environment and sustainable development. The growth of transport and transit in the Baltic Sea Basin poses a threat to the environment.
3. Spatial development. Today, the Baltic Sea Basin is divided between the already developed west and the emerging east.
4. Harmonising of transport regulations in applicant countries must be expedited. The on-going harmonising process has to be completed by the time of accession.
5. Strengthening the integration of the transport networks and supporting the harmonising of transport regulations of Russia, Ukraine and Belarus with those of the Baltic Sea countries and the EU.

## **1 A Key Question**

What is the key question, then? Where does the added value of the Northern Dimension lie? Is there in fact any added value to be had?

In my opinion, the key question is how the Northern Dimension concept can be utilized to achieve the aims taking place for the completion of the on-going process in the transport sector as described above.

Can the Northern Dimension concept speed up the establishment of an efficient, sustainable and intelligent transport network in the region? The answer is a positive one, because first of all, the Northern Dimension puts political focus on northern Europe. It draws the attention of the Commission, the Council of Ministers, the EU member states and the European Parliament to transport policy issues in the area and the need for funding of transport systems there.

In a way, it zooms in on features specific to northern regions - for instance, the long distances, the climatic conditions, the size of the population, the housing density, the structure of business life and of imports and exports, the importance of transit and traffic flow and the intermodal structure.

But why is that important? Because the EU - as we all know - has not only a northern dimension, it also has many other dimensions and policy and economic priorities. For instance, the 'southern dimension' of the EU is the Mediterranean Transport Area. The EU also has an 'eastern dimension' - that is, the eastern Black Sea area - and a 'western dimension' - that is, its transatlantic relations.

As we also know, the EU's financial resources and programmes are very limited, and there is competition between different EU dimensions regarding the allocation and amount of EU money. Competition for transport-related project financing will increase still further in the future. The re-construction of the infrastructure in Western Balkan will need a lot of resources from the EU. Neither is the enlargement of the EU inexpensive.

The Northern Dimension is therefore a way of angling the EU's transport policy decision-making process in a direction that favours northern Europe.

## **2 What Should Now Be Done?**

Before I try to answer the question, I should briefly analyse the transport challenges of the new millennium. During the 90's, this area has gradually changed over to a Pan-European approach in national transport policy. The TEN Northern Triangle, the Pan-European transport conference in Helsinki and its transport corridors 1, 2 and 9a, the Barents Euro-Arctic Transport and the TINA process are all examples of the new approach. These all form part of the Northern Dimension as far as transport is concerned.

In the 21st century, the focus of transport policy will shift increasingly from development of the infrastructure to efficient and environmentally-friendly use of transport systems. During this new phase, the key terms will be "intelligent" transport systems, logistics, telematics and innovation, intermodality and safety. Ensuring sustainable development and integrating environment into transport policy in Northern Europe is another major challenge. Its significance will grow still further, especially in the far north and Arctic areas where the environment is particularly vulnerable. The explosive expansion of transport and transit traffic by road will cause huge problems everywhere. Public opinion will gain additional weight in the formulation of environmentally friendly transport policies. The Northern Dimension of EU transport policy should specifically work to further these developments.

In close cooperation with the EU and all other operators and stakeholders in the area, a transport system should be created in accordance with these requirements of the Northern Dimension. This would serve both business and industry and the people of the area reliably and competitively.

In turn, this will mean that all the operators in the transport sector - the transport industry, suppliers of logistical services, regional planners, and chambers of commerce - must find a common transport policy 'language'. As we are entering the new millennium, we could ask whether the old institutional structures created in the past will continue to serve the region in the future. Even if the answer is not self-evident, the institutional framework should be looked upon critically.

Our goal is to reach a common point of departure for making transport policies in the Baltic Sea countries in the future. In general, the questions to look into are as follows: What is the existing structure for developing the international transport system and how does it function in the Baltic Sea region?

What are the real needs of transport users and the expectations of other stakeholders? What lessons should be learned from the past and from the above?

What proposals could be made for improvements and further steps, including a possible outline for a new co-operation structure?

In Finland, an idea has been floated for the organization of an informal brainstorming session at some point. It might be even better if a small transport forum in connection with the CBSS could be set up to study the issues of a new Baltic Sea Transport Agenda beyond the year 2000. Perhaps ETLA could arrange such a Transport Forum in the future.

## **Annex**

### **1 Corridor 9 (Turku-Helsinki-St.Petersburg-Moscow)**

#### *Background*

The Pan-European Transport Conferences in Crete identified and in Helsinki confirmed Corridor 9 as a priority Pan-European transport connection. In March 1995, a Memorandum of Understanding was signed and a Sub-Committee was set up to co-ordinate the development of the section Helsinki-St.Petersburg-Moscow (Corridor 9a). The Sub-Committee is composed of the Ministries of Transport of Finland and Russia and the Ministry of Railways of Russia. The Commission (DGVII) is co-chairing the Sub-Committee.

There are a number of joint projects completed or currently underway between Finland and Russia in the Corridor. The EU assists several projects through its Tacis and Interreg programs. One of them is the North West Russian Transport Development Study, in which several projects are being identified also in the Russian section of Corridor 9a.

#### *Objectives*

The future projects having a particular importance in the development of Corridor 9a are the following:

- |               |   |   |
|---------------|---|---|
| Finland:      | 1 | Continuation of motorway construction east of Helsinki  |
|               | 2 | Construction of a new bypass road in Hamina   |
| Russia:       | 3 | Completion of the Vyborg bypass   |
|               | 4 | Design and construction of the St. Petersburg ring road                                       |
|               | 5 | Upgrading the Vyborg - Svetogorsk road  |
| CBC projects: | 6 | Building a double track between the railway border stations.                                  |
|               | 7 | Improving the railway infrastructure in Finland and Russia                                    |
|               | 8 | Relocating the road between the Nuijamaa (Finland) and Brushnitsnoje (Russia) border stations |

In the Steering Sub-Committee meeting in Helsinki, June 8, 1999, the Parties stressed the need for continuing cooperation in the projects mentioned above. There is also a need to prepare further the projects identified in the NW Russian Transport Study of Tacis.

The expansion of the Corridor scope to include also logistics and transport telematics is warranted. The concept of the Northern Dimension is very useful as it brings a wider Baltic Sea basin and the EU member state perspective to the future work.

### *Implementation and Financing*

The Finnish part of the program will be funded through the Finnish national budget with some assistance from the EU/TEN budget. In Finland the EIB has increasingly provided financing for Corridor 9 construction projects.

In Russia, the World Bank has provided project finance for road rehabilitation projects, while the EU/Tacis has given technical assistance. The cost of performing necessary studies and preparations of future investment projects in Russia are estimated at EUR 5 million. Funding from the Russian side should mostly be sought from the Tacis and CBC programmes.

## **2 The Nordic Triangle**

### *Background*

The Nordic Triangle is the most important transport corridor of the Nordic countries. It joins the capitals of Denmark, Finland, Norway and Sweden together with a system of roads, railway lines, ferry connections, ports and airports.

The multimodal corridor of the Nordic Triangle can be divided into five sections: the ground transport links (1) Malmö-Stockholm, (2) Malmö-Gothenburg-Oslo and (3) Oslo-Stockholm, (4) the ferry links between Stockholm and Finland and (5) the ground transport link Turku-Helsinki. The network comprises 1300 km of roads and 2000 km of railway lines.

The parties involved in the Nordic Triangle Development are several, but they include, first of all, the Ministries of Transport of Finland, Norway and Sweden, and the EU Commission.

Due to its wide geographical reach, the Nordic Triangle is the largest and among the most expensive of the Essen priority projects. Partly for these reasons, some concern has been raised about the viability of the Nordic Triangle as a single priority project.

#### *Objectives*

The mutually agreed goal of the Nordic Triangle concept is the creation of a high-class transport infrastructure for goods and passengers in the region. From the standpoint of the Nordic Ministries of Transport, the Triangle should be seen as a priority transport project in the EU.

Thus, the objective of the next phase is to create a single, transparent and realistic development program for the Nordic Triangle using the time horizon of 2010. The measures include, but are not limited, to the following:

- identification and scheduling individual projects for implementation by mode of transport
- initiating a study of land-use impacts
- developing a unified system of transport telematics along the route
- exploring new methods of project financing

#### *Implementation and Financing*

The formulation of a new program including all the supporting studies will be performed in years 2000-2001.

The Ministries of Transport of Finland, Norway and Sweden create a working group, which is supported by the EU Commission.

Each party will cover its own costs. Support for the joint studies from the EU financing sources is expected, particularly from TEN and Interreg budgets.

It is estimated that the cost of program preparations and supporting studies amounts to EUR 1 million.

### **3 Via Baltica**

#### *Background*

The Via Baltica road is part of the Pan-European Transport Corridor I, as defined in the Pan-European Transport Conferences in Crete and in Helsinki, as well as later in the TINA process. Via Baltica covers the

route Helsinki-Tallinn-Riga-Kaunas-Warsaw, which is approximately 1000 km long.

In 1996, Estonia, Latvia, Lithuania and Poland adopted a Five-Year Investment Program of Via Baltica road improvements for the years 1996-2000. The Program, that originally encompassed investments amounting to EUR 150 million, has grown to EUR 230 million. In spring 1999, 75 % of the Program financing was secured and over 50 % of the work contracted. About half of the financing is domestic and another half is foreign loans or grants, which have been received from international financing institutions (EIB, EBRD, IBRD, NIB) and the EU Phare.

The Via Baltica Monitoring Committee (MC) has been set up between the Ministries of Transport of Estonia, Latvia, Lithuania, Poland and Finland. The MC is served by a chair (Stockholm) and a part-time secretariat (Helsinki).

### *Objectives*

The TINA process has identified new investment needs for Via Baltica amounting to EUR 1290 million in the planning horizon up to the year 2015. As the first Via Baltica program is coming to completion, there is a need to formulate a feasible and bankable program for the second investment phase of Via Baltica out of the projects identified under TINA. The programming period should be the same as in ISPA, in other words 2000-2006.

The second investment program provides a possibility to consider other than strictly Via Baltica projects, particularly the east-west roads between the Baltic countries and Russia. Under the context of the Northern Dimension, it is possible to include also operational aspects of international transport, such as logistics and telematics in the new program. The wider Baltic Sea region point of view of the Northern Dimension allows to consider the system links with the TEN road network and logistic chains of the neighbouring EU member states.

### *Implementation and Financing*

The work will be carried out in the MC jointly between the countries involved, IFIs and the EU Commission (Phare/ISPA). The first Via Baltica investment program was successfully prepared under a similar set-up and substantial parts of the first program have already been completed without any major problems.

The implementation of the second investment program will be carried out as follows:

- General program preparation in 2000.
- Project studies and documentation for decisions by IFIs and ISPA in 2001-2005.
- Construction 2001-2006.

It is estimated that the cost of programming and project preparation amounts to EUR 5 million in the program years. As of now, there exists no detailed financing plan.

#### **4 Barents Euro-Arctic Transport Area**

##### *Background*

In 1997, the Pan-European Transport Conference in Helsinki created the Barents Euro-Arctic Pan-European Transport Area (BEATA) as a forum of cooperation in transport in Northern Europe. In May 1998, the Transport Ministers of the involved countries (Finland, Norway, Russia and Sweden) and the European Commission signed a Memorandum of Understanding setting up at the same time a Steering Committee for the BEATA.

The BEATA area covers the northern provinces of Finland, Sweden, Norway, as well as the Republic of Karelia and the Murmansk and Archangelsk Regions in Northwest Russia.

After 1995, Finland, Norway and Sweden have also co-operated in implementing Interreg programs, which have included transport connection improvements in border regions.

The EU Tacis program has launched a North West Russia Transport Development Study with an intention to compile information and make recommendations for improvements of the transport system in the Russian part of the BEATA. The study will end in autumn 1999.

##### *Objectives*

The objectives of the Barents Euro-Arctic Transport Area work are as follows:

- Defining the backbone network of the BEATA
- Collection of traffic and network information
- Identifying and preparing projects



The follow-up of the NW Russian Transport Development Study from 2000 onwards in the BEATA region can be considered as an external objective.

The Northern Dimension concept provides a broader socio-economic justification for policy and priority formulation as well as project selection, and at the same time helping align transport needs with other regional development objectives.

#### *Implementation and Financing*

The program years agreed by the parties are 1999-2003.

Each country covers its own costs. Finland also provides a permanent secretariat for the Steering Committee.

It is estimated that an additional EUR 2 million is sufficient for the program set-up, data collection and particularly for project preparation in Russia in the program years. This funding is expected from the new Tacis program.

As regards Finland, Norway and Sweden, project preparation will be done using the countries' domestic financing. Finland and Sweden can also draw on the new Interreg financing, as it becomes available in 2000.



# Discussion

*Hannu Arkonsuo*

## 1 Background and the Present Situation

As a consequence of the disintegration of the Soviet Union there remained only 47 per cent of former port capacity and less than one half of sea transport fleet tonnage in the territory of Russia. Therefore Russia lost several modern grain, oil and container terminals and tonnage, which had been built during the Soviet era.

At the present time most of Russia's foreign trade cargo is transported via 10 ports of first category (capacity over 4 million tons per year): Archangel and Murmansk on the Barents Sea, St. Petersburg and Kaliningrad on the Baltic Sea, Novorossiysk and Tuapse on the Black Sea, Vladivostok, Nahodka, Vostochniy and Vanino in the Far East. The total capacity of these 10 ports was according to Russian sources 123 million tons in 1997. Due to the poor condition of Russian road network the role of rail and waterways and pipelines is emphasised in transporting large quantities. For instance in January-September 1998 the statistical distribution of freight turnover (ton kilometres) in Russia's inland transport was: railways 32.5 per cent, pipelines 59.6 per cent, waterways 7.2 per cent and roads 0.7 per cent. The greatest cargo flows of Russia's foreign trade go to directions: West-Europe-Minsk-Moscow-Niznij Novgorod-Siberia and St.Petersburg-Moscow-the Black Sea-the Caspian Sea (Figure 1).

Same railway gauge links Russian transport system with the transport systems of the Baltic States and Finland, oil pipelines with transport systems of Latvia, Lithuania and Poland. Natural gas pipelines connect Russian gas deposits with transmission and delivery systems of Finland, the Baltic States and Central Europe.

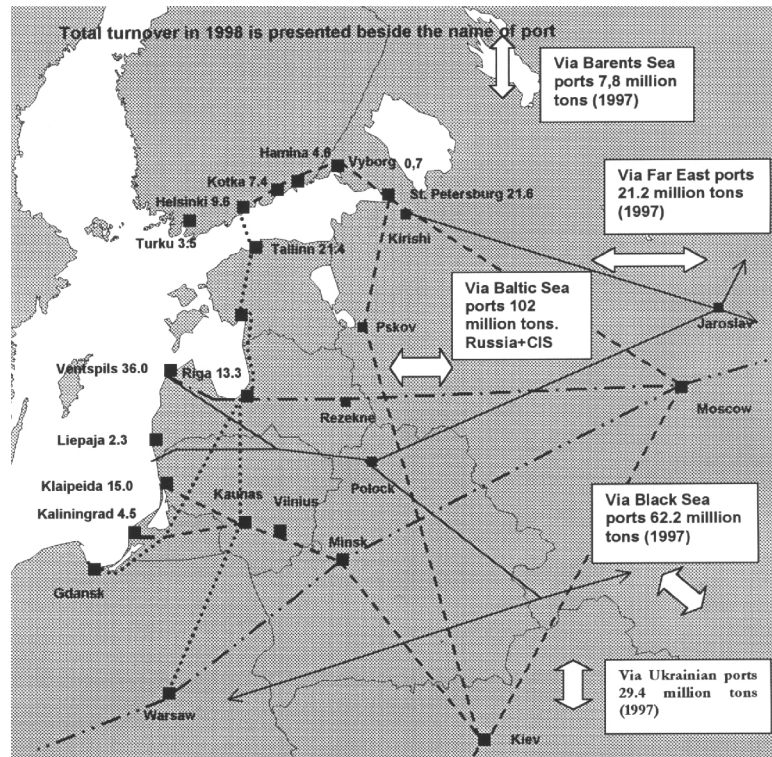
The European Union is planning and implementing Pan-European transport corridors aiming to develop transport networks covering the needs of European markets (TEN and TINA networks)<sup>1</sup>. The most interesting transport corridors from the Baltic States', Finland's and Russia's

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<sup>1</sup> So-called Crete or Helsinki corridors, TEN 'Trans European Networks', TINA 'Transport Infrastructure Needs Assessment'

**Figure 1. Transport system of Russia's foreign trade in Europe in 1998<sup>2</sup>**

Crete corridor I and IA: Helsinki-Tallinn-Riga-Kaunas-Warzew/Riga-Kaliningrad-Gdansk .....  
 Crete corridor II: Berlin-Warsaw-Minsk-Moscow-Nizhnij Novgorod - - - - -  
 Crete corridor IX, IXB: Helsinki-St.Petersburg-Moscow/Pskov-Kiev-Ljubasevka, IXB: Kiev-Minsk-Vilnius-Kaunas-Klaipeida/Kaliningrad - - - - -  
 Railway and road connection: Ventspils-Riga-Rezekne-Moscow - - - - -  
 Oil pipelines: ↔



point of view are corridor I (Via Baltica): Helsinki-Tallinn-Riga-Kaunas-Warzew, Via Baltica's branch IA (Via Hansatica): Riga-Kaliningrad-Gdansk, corridor II: Berlin - Warsaw- Minsk-Moscow-Nizhnij Novgorod, corridor IX: Helsinki-St. Petersburg-Moscow/Pskov-Kiev-Ljubasevka-Chisinau-

<sup>2</sup> Towards a Pan-European Transport Network. European Commission. Helsinki 1997. Ministry of Transport and Communication Republic of Latvia, Ministry of Transport and Communication Republic of Lithuania. Statistics of Finnish Maritime Administration.

Bucharest-Dmitrovgrad-Alexandroupoli/Ljubasevka-Odessa and its branches IXB and IXC: Kiev-Minsk-Vilnius-Kaunas-Klaipeida/Kaliningrad. Railway and road components Riga/Ventspils-Krustpils-Rezekne-Moscow connect corridors I and IX (Figure 1).

**Table 1. Cargo turnover of some ports on the Baltic Sea in 1993-1998<sup>3</sup>**

Cargo turnover in ports of the Baltic Sea 1993-1998 million tons and the share of transit, % of total turnover												
	1993	%	1994	%	1995	%	1996	%	1997	%	1998	%
<b>Estonia</b>												
Tallinn	12,8		11,7	71,3	13,0	67,9	14,1	66,0	17,1	68,5	21,4	72,6
<b>Latvia</b>	Average share of transit in Latvian ports is 90% of total turnover											
Riga	2,8		5,8		7,5		7,5		11,2		13,3	
Ventspils	22,4		27,9		29,6		35,7		37,0		36,0	
Liepaja	0,4		1,1		1,4		1,6		2,3		2,3	
<b>Lithuania</b>												
Klaipeida	15,9		14,5	76,6	12,7	65,4	14,8	70,9	16,1	67,6	15,0	
<b>Finland</b>												
Helsinki	7,6	0,2	8,9	3,2	9,3	3,6	9,6	4,9	10,1	5,3	9,6	4,5
Kotka	7,1	31,7	8,0	32,1	7,8	33,3	7,1	33,8	7,9	31,4	7,4	31,3
Hamina	4,2	33,2	4,2	25,7	4,0	18,7	3,8	21,1	4,7	28,1	4,8	19,9
Turku											3,5	1,9
<b>Russia</b>												
St. Petersburg	9,0		14,0		10,5		16,0		20,6		21,6	
Kaliningrad	2,0		5,2		4,7		5,4		6,2		4,5	
<b>Total</b>	<b>84,2</b>		<b>101,3</b>		<b>100,5</b>		<b>115,6</b>		<b>133,2</b>		<b>139,4</b>	
<b>Sweden</b>												
Stockholm	5		x		6		6		7,1		x	
Göteborg	27,1		28,6		26,7		26		30,4		x	
Norrköping	2,9		x		3		3,3		3,7		x	
<b>Poland</b>												
Gdansk	23		22,1		18,3		16,5		17,4		x	
Szczecin	14,6		x		15,6		16,3		15,5		x	
Gdynia	7,7		8		7,6		8,6		8,8		x	
<b>Denmark</b>												
Copenhagen	x		x		10,9		10,5		10,8		x	

In 1998 Russia's own Baltic Sea ports St. Petersburg and Kaliningrad, ports of the Baltic States and Finland and the port of Gdansk in Poland handled together 102 million tons of Russia's and other CIS-

<sup>3</sup> Statistics of Finnish Maritime Administration. Port of Tallinn web site <http://www.ts.ee>. Ministry of Transport and Communication of Republic of Latvia and web site <http://www.transport.lv>. Ministry of Transport and Communication of Republic of Lithuania. Port of Klaipėda web site <http://www.spk.lt>.

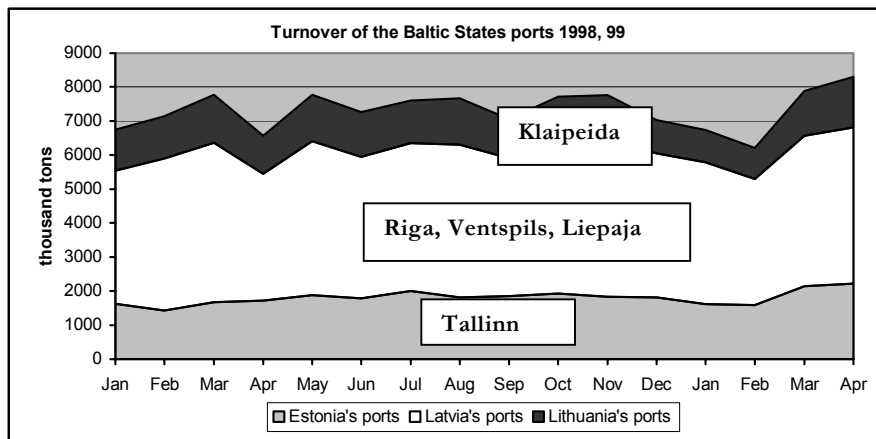
countries foreign trade cargo. Turnover of the port of St.Petersburg was 21.6 million tons and Kaliningrad's 4.5 million tons. The port of Tallinn handled 21.4 million tons of cargo (share of transit was 72.6 per cent), Riga 13.5 million tons, Ventspils 36 million tons and Liepaja 2.3 million tons. The average share of transit in the Latvian ports was 90 per cent. The port of Klaipėda in Lithuania handled 15 million tons of cargo (share of transit 72 per cent). Ports of Finland handled transit cargo 4.1 million tons and port of Gdansk 2.5 million tons in 1998 (Table 1). Due to the great volume of Russia's main export products: crude oil and oil products, metals, chemicals and timber the east-west direction is dominating in maritime transport of Russia's foreign trade. Share of loaded cargo is 80-99 per cent in the Russian and Baltic ports. The biggest figure 99 per cent is of the port of Ventspils, which is alongside the port of Novorossiysk on the Black Sea, the most important port of oil transshipment from Russia. To the west-east direction the transported Russia's and other CIS-countries import products are mainly food products, machinery and equipment and other consumer goods.

## **2 Competitive Situation and Future Development Plans**

The competitive situation and future development of the transit industry on the eastern coast of the Baltic Sea are dependent on many external and internal factors. E.g. the future development of Russia's economy and foreign trade, implementation of Russia's new port projects and related infrastructure, completion and implementation of development and enlargement projects in the existing ports and development of cost level and productivity in the countries participating in maritime transport of Russia's foreign trade. The variations of world market prices and possible restrictions and duties imposed by Russian authorities have also their effect on the volume of transit.

Based on experiences until now, the raw material dominated east-west cargo flows of Russia's exports have not reacted significantly to the variations of the economic situation in Russia. E.g. the turnover of the Baltic States ports has developed smoothly and even positively since the beginning of 1998 (Figure 2). The west-east transit has diminished as a consequence of declined imports of Russia. In the case that Russian economy will eventually recover, a possible long-term consequence can be increased use of domestic raw materials and increase of the processing degree of export products. This may change the structure of Russia's exports.

**Figure 2. Turnover of the Baltic States ports in 1998 and 1999**



On the eastern coast of the Baltic Sea there are many maritime transport related plans and projects of different time and size scales under consideration. In the long term Russia plans to construct new ports in Ust-Luga on the southern coast of the Gulf of Finland, on the Gulf of Batareynaja near St.Petersburg and in Primorsk near the city of Vyborg. In Primorsk there are plans to build terminals for crude oil and oil products. Operation of the Primorsk port requires construction of oil pipeline from the Kirishi refinery 130 km Southeast from St.Petersburg. The implementation and construction schedules of beforementioned port projects are mostly dependent on financing. Presented cost estimates have been several billion USD. In principle the implementation of a large port project takes approximately 5 years after the investment decision.

On the western coast of Lithuania close to the Latvian border the Butinge oil terminal which is connected with oil pipeline to the Mazeikiai refinery in inland is near completion. The Butinge oil terminal enables the refinery's crude oil supply via the Baltic Sea and also oil transit from Russia to the West. For increasing the oil handling capacity of the port of Ventspils a plan of constructing parallel oil pipeline from Polock in Belorussia to Ventspils has been presented. Between Finland and Russia there have been negotiations of constructing an oil pipeline from the Kirishi refinery via Primorsk to Finnish Porvoo refinery on the northern coast of the Gulf of Finland. This oil pipeline would enable crude oil supply of the Porvoo refinery straight from Russia. In the frames of existing port capacity the pipeline would also enable crude oil transshipments via the Baltic Sea. The time schedule

for implementing a new oil pipeline in the Baltic Sea area is estimated as 2 years after the investment decision. In the existing ports of the Baltic Sea the most enlargement and development plans contain increasing the container and oil product handling capacity, deepening the harbour water areas, improving the railway access to the ports and eliminating the bottlenecks of railway transport in the inland.

The time schedules for implementation the development plans of the ports and related infrastructure are difficult to estimate. However we can suppose that in a few years the port capacity on the eastern coast of the Baltic Sea will increase by 20-30 million tons. The ports of the Baltic States, and in special cargo handling also Finland, which at the present time handle together approximately 70 million tons of Russia's and other CIS countries foreign trade cargo, will have an important role in the transit transport also in the future.



# 8 The Northern Dimension and the Future of European Energy Markets

*Matti Vuoria*

## 1 The Development of the Markets

Fundamental changes are taking place on the European, Nordic and North European energy markets. The markets and the mechanisms for the production, transfer and trade in energy and energy products are opening up towards efficient competition in the whole of Europe. The EU rules for the opening up of the electricity and natural gas markets have finally been set. The markets for oil and oil products have been open and under efficient competition for a longer period.

From a global and horizontal point of view it is a kind of a paradox that capital, companies and people can move practically freely within the EU, but certain forms of energy not. National interests and security and self-sufficiency considerations have traditionally, and for good reasons, played a major role in these considerations. The availability of various sources of primary energy vary greatly from a country to another. We are still far away from harmonized levels of taxation in energy, not to speak about the country specific differences deriving from environmental considerations and restraints.

The role of the public authorities and public sectors is also changing fundamentally. The Governments may set the map through deregulation and opening up of the competition but the driver's seat is reserved for the industry. The Governments in individual countries are responsible for the general conditions and frameworks for the energy businesses and they create either opportunities or obstacles for the industries to operate and develop their businesses. But even if the degree of Government interventions vary at least visibly from a country to another, the public sectors do not possess the decisive roles they previously had in the creation of the infrastructure for the transfer or availability of energy. This infrastructure will be financed on market terms and conditions. This development necessitates new concepts from the industries. It is no longer valid to approach these challenges from the narrow national perspectives only. One of the challenges in this development is the increasing role of national regulators which have been established in connection with the liberalisation of the individual European national markets. This role is further complicated due

to the fact that the relevant market from the industries and competition point of view is larger than the scope or competence of the national regulators.

In the Northern Europe the picture is even more challenging and complex due to the fact that in parallel with the internal EU development the Eastern shore of the Baltic Rim, i.e. the Baltic Republics and Poland, are in the process of fully integrating themselves to the EU market and thereby to the European energy markets. These countries lack the type of energy infrastructure that has been developed in the Western European countries during the post war decades.

## **2 The Northern Dimension**

There are two basic features of particular importance in the energy framework of the Northern Dimension of Europe. Firstly, based on both the choices of individual European governments and the endeavour of the EU as a whole, the external dependness on primary energy to be imported will increase dramatically in Western Europe. Secondly, the new markets of energy will and have to develop particularly fast in the Baltic Rim. The challenges will consist of environmental, technological and competition related issues.

It is not merely a coincidence that at the same time as the motion of the Northern Dimension was created the U.S. administration published a programme called the Northern European Initiative. Both of these initiatives do emphasize the role of energy within these frameworks.

The co-operation between the EU and Russia is one of the core elements of the Northern Dimension. The challenge is based on positive mutual interdependence. But it is not at all self evident that the gains of the Northern Dimension can be achieved in the foreseeable future. The Northern dimension will give us a structured frame, but is not sufficient to provide us with practical steps. Practical steps can and will only be taken by industries, i.e. individual economic operators.

This means that first of all, the Governments of Northern Europe, including Russia, have to recognize and accept this mutual positive interdependence. Western Europe is the most natural external market of Russian gas and oil, and integration of electricity markets should be welcomed as soon as true conditions for reciprocity also in the field of market access will prevail.

The Baltic Sea region, both the Western and the Eastern shores of the sea have to be efficiently integrated in the European energy net-

works. The investments which are needed for the creation of the necessary infrastructures can only be achieved through careful risk management and large consortia which will cover the interests of both the producers, transferers and customers.

The ongoing parallel deregulation, opening up of the individual markets, new regulatory and environmental obligations together with the turmoil in supply and demand, will increase the role of the market operators to take the lead in this development.

The future of the North European energy markets can not be based on any single source of primary energy. Nor should it be acceptable for us northerners that we would be excluded or cut out from the Western European energy infrastructure. The targets for economic growth, environmentally sustainable development and the continuous success of the diversified energy intensive industries in the Northern Europe can not be achieved through limiting or closing options for the use of individual forms of primary energy. It would be extremely shortsighted to further limit the future options for nuclear, or to accept that the Nordic market would remain a white spot on the the European gas map, or that the Baltic Rim countries would remain disconnected from each other or continental Europe.

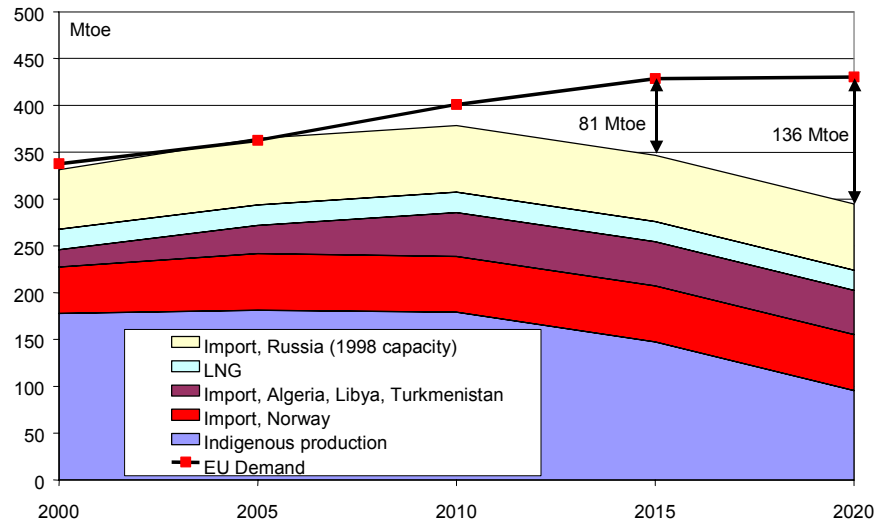
The Baltic will become an Inland Sea of the EU and the Baltic Sea Region also marks the only direction where the limit of EU expansion can be made out. The challenge posed by Russia is nowhere more clearly illustrated than in the North-East of Europe. The past confrontation has been replaced by a veritable European pattern of mutual interdependence.

Russia remains an exporter of energy and its most important market continues to be the EU. Fundamental changes have to take place inside Russia. Important steps have been taken, as an example, the approval of the production sharing agreements in oil and gas by the Russian parliament last spring. But a structured, systematic work in creating the necessary preconditions for a real increase in the industrialization of the energy sector will take time and continuous effort in Russia.

### **3 Natural Gas**

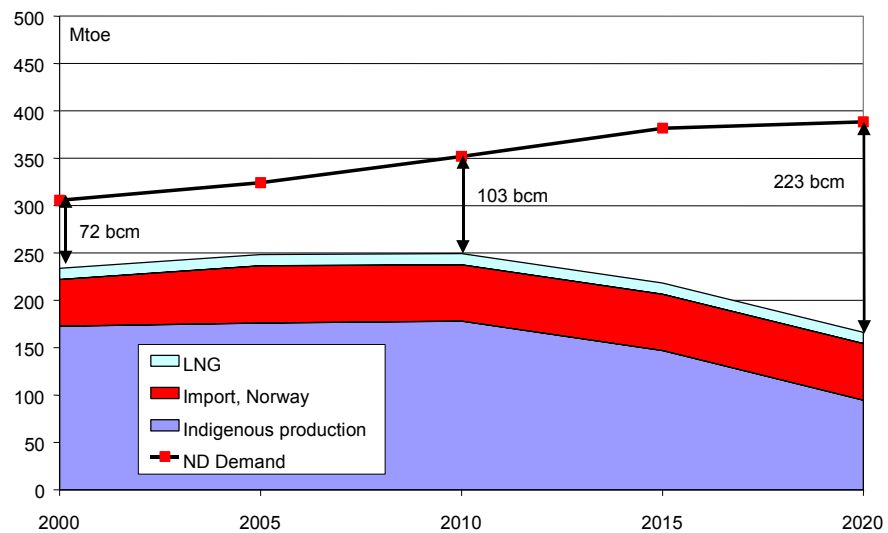
One of the practical projects implementing the EU initiative on the Northern Dimension are the studies carried out for the Baltic energy Task Force, which will be discussed in the next Baltic Sea ministerial meeting in Helsinki in October. One of the studies will deal with natural gas.

**Figure 1. EU gas supply gap over 2000-2020**



The EU gas supply gap over the years 2000-2020 and the role of the Northern Dimension gas supply is illustrated in the enclosed graphs (Figures 1 and 2). By the years 2000–2010 new fields and additional transmission capacity is required to fulfil the EU and the Northern Dimension related gas demand.

**Figure 2. Northern Dimension gas supply gap to be filled by Russian gas**



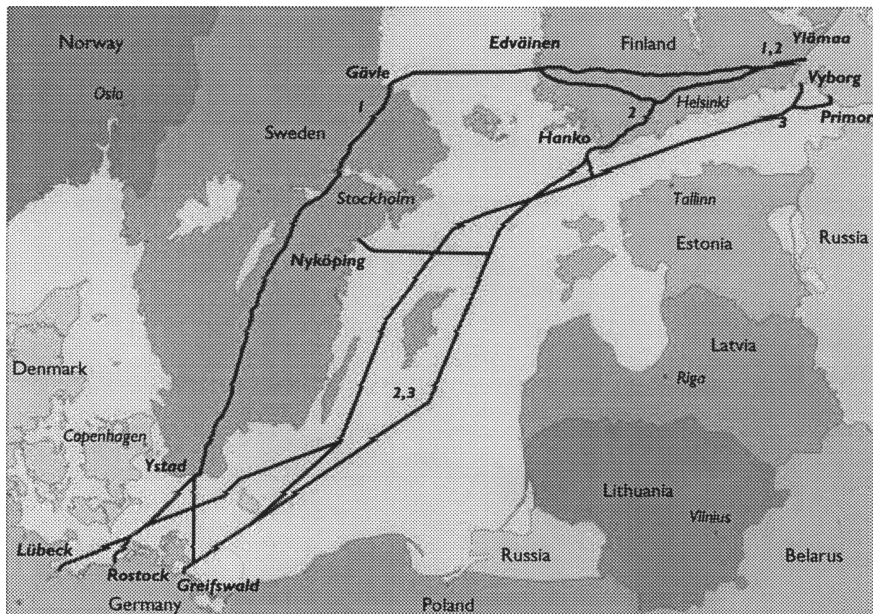
Additional import facilities and capacity for the EU becomes necessary, due to a fall in the indigenous EU gas production, together with a steady increase in the overall demand for gas. By 2020 the total demand for Russian supplies will according to the EU and Eurogas demand forecasts grow from current 75 Mtoe level to 223 Mtoe. This necessitates the construction of 5-6 new major pipelines.

The company I am representing, Fortum Corporation, is committed to be an active player in the adventure of developing the Northern Dimension of the European energy markets. We are committed to use the opportunities opening up in the Baltic Sea area. Fortum is not the only corporation having this commitment. But we have demonstrated our willingness to be in the forefront of this development.

#### 4 North Transgas – A Practical Example

As a practical example I would like to refer to our Joint Venture North Transgas Oy, which we own together with the Russian Gazprom.

Figure 3. The North Transgas Project



We have just recently completed a Feasibility Study on a pipeline connecting the Russian gas routing to Germany through the Baltic Sea (Figure 3). The Study covered three alternative pipeline routings from

Russia to Germany. It comprised of technical, economic, financial, legal and environmental studies. The project touches all the nine countries around the Baltic Sea. The gas volume transported would be between 35.5 BCM and 21.6 BCM annually, depending on the route alternatives.

One of the advantages of the NTG pipeline is the 1000 km shorter distance from West Siberia to Germany compared to existing infrastructure. Within this pipeline there would not be any additional economic burdens caused by transit countries when the gas has passed the Russian-EU border. I hope that we would be able to proceed with this project in the coming months and the next step should be a decision of the pipeline route to be selected. Within the next two years a commercial consortium for the implementation of this project should be established. This consortium will be open for companies willing to participate in the development of the Northern Dimension of Europe.

# Discussion

*Einar Hope*

First I would like to thank Mr. Vuoria for an interesting and thought-provoking paper. I would like to concentrate my comments to four aspects or issues discussed in the paper; first on the role of public authorities in the restructuring and reregulation of energy markets, then on the integration of regional markets, and in particular the Baltic Sea energy region with the larger EU energy market, thirdly, on some issues related to the deregulation of European gas markets and the integration of electricity and gas markets, and finally a brief comment on the North Transgas example mentioned by Mr. Vuoria.

## **1 The Role of Public Authorities**

It is important that regulatory authorities understand their proper role in the restructuring and reregulation of the energy sector under the new market conditions and that the regulatory regime is adjusted to the new market environment to stimulate the development of both efficient energy markets and efficient infrastructures for the natural monopoly part of the energy system. This is, in my opinion, not just a matter of performing the traditional tasks of control, surveillance and enforcement by regulatory authorities, but also to contribute to market and regulatory architecture and design to make the energy sector as a whole function efficiently.

This involves, on the national scale, e.g. the cooperation and coordination of the regulatory activities of the sector-specific energy regulator and the general competition authority responsible for competition policy. Generally speaking, this is not done satisfactorily in most countries. In fact, conflicting objectives and an unclear division of labour and responsibility among the regulators seem to be the rule rather than the exception. This creates in turn regulatory uncertainty for the market participants. On the regional scale this uncertainty multiplies as more regulators become involved. Take for example the Nordic electricity market. There are at least two regulators in each of the four Nordic countries - a competition authority and a sector-specific electricity regulator, and then in addition a financial regulator because of the financial futures or options electricity markets - adding up to a total of up to twelve regulators for the integrated Nordic electricity market.

There is an obvious need for the harmonisation of regulatory policies across countries to make the regulatory system function satisfactorily for the integrated market. This is still lacking to a considerable degree. On the EU scale the need for policy harmonisation is even greater. Hopefully, the Electricity and Gas Directives of the EU Commission will contribute to such a policy harmonisation process.

## **2 The Integration of Regional Energy Markets**

I fully agree with Mr. Vuoria that the energy markets of the Baltic Sea region have to be efficiently integrated in the European energy system and networks. With the deregulation and market orientation developments now taking place in the European energy sector it would be a suboptimization to focus too strongly on the regional Baltic energy perspective without taking into consideration the potential for the Baltic region of a wider European energy market integration and the effects on the region of the energy market and policy developments going on in Europe at large. This is not to say, of course, that the potential and implications of the Northern Dimension for the Baltic energy markets should not be worked out and tried out. On the contrary, I think there is considerable scope for market opportunities and efficiency gains from creating a regional integrated energy market for the Baltic Rim countries, but the wider European energy market and policy perspectives should not be lost in this process. It is particularly important to clarify issues and conditions related to market access and network access to the wider European energy market for the Baltic region and to improve such conditions for the benefit of the Baltic Rim countries and for the European energy system at large, particularly through a political process for a rapid and determined implementation of the Electricity and Gas Directives.

## **3 The Integration of Energy Markets – Electricity and Gas**

Inter-fuel convergence and inter-play between gas and electricity markets are important issues which are of strategic interest for actors in the liberalised energy markets in Europe. Convergence between gas and electricity is occurring at all levels. For the gas market, recent estimates indicate a tripling of demand for gas for power generation by 2020. For the electricity markets this means gas driven electricity prices. The implications for such an integration of the electricity and gas markets



should be taken into consideration when discussing the energy market strategy for the Baltic region under the Northern Dimension, and not just considering each energy form taken separately. This can e.g. have implications for the location of energy producing activities in relation to the market, for peaking and ancillary services, and for strategies for horizontal and vertical integration in the energy value chain.

#### **4 North Transgas**

At the end of the paper, Mr. Vuoria refers to the joint venture North Transgas between Fortum and Gazprom. This certainly seems to be an ambitious investment project that would open up new market opportunities for Russian gas into Europe. As a Norwegian I have somewhat mixed feelings for the project in regard to the implications of it for gas to gas competition with gas from the Norwegian continental shelf. From a resource utilization point of view I am more concerned, however, with the organisation and regulation of the Transgas pipeline and the integration of the pipeline in the transportation system for natural gas in Europe, considered in relation to the Gas Directive. With third party access to the transportation system, separation of transportation and market activities, full information on prices and other conditions, equal treatment of shippers and other actors, and so on, plus regulation of pipeline tariffs, how will these new conditions affect the profitability of the project and the willingness for other parties to invest in the project in addition to Gazprom and Fortum? It would be interesting to have some views from Mr. Vuoria on these issues with regard to the feasibility and profitability of the project.



# Discussion

*Grigori Dudarev*

## 1 Introduction

The increasing energy demand in the EU calls for strengthening ties and interconnections with Russia. A strong political support is needed to carry out such a demanding task. The Northern Dimension is a political framework for developing co-operation between the European Union and Russia. Analysis and understanding of the Russian energy sector development is crucial for successful policy making.

## 2 Russian Energy Sector

To discuss responsibly the possibility to increase and to improve co-operation between the EU and Russia one should address the present state of the Russian energy sector as well as look for a feasible ground for its further development. Therefore I suggest that we briefly look through the following issues:

- Energy sector resource base in Russia,
- The present state and trends of development of the energy production,
- Development of the internal consumption and demand for energy,
- The Russian government and political influence on the process of the energy sector development.

### *Resources*

It is a well known fact that approximately 40% of gas, 13% of oil, 30% of solid fuels and 14% of uranium reserves of the world are located in Russia. This sounds too optimistic to be true. Unfortunately these are the most remembered facts. Nevertheless it is important to look at the Russian energy sector from the more critical angle. Here are the problems and drawbacks that must be addressed in a long term performance analysis:

- **The degree of resource exhaustion is rising**

By now majority of oil fields have been exhausted by more than 50%. The degree of exhaustion of gas fields is over 30% of the currently exploited fields.

- **“Take the best first” principle**

In the Soviet era, the best fields with higher discharge flows were exploited in the first place. By now, those fields are mostly exhausted. In the future Russia will face the need to relocate its energy resource exploitation to the new fields.

- **Remote location of the new fields**

Approximately 80% of the fields can be found in West Siberia. Other regions either lack sufficient resources or they are not yet explored. The most promising regions for the future development are the Timano-Pechorsky Region, the Eastern Siberia and the continental shelf of the Arctic Sea. It is estimated, that those remote and undeveloped regions with extremely harsh climate have up to 50% of the virgin oil reserves and up to 80% of the virgin gas reserves of Russia. The start of commercial use of such resources is going on much slower than expected (only exploitation of the Achimov deposits at the Yamburg field has been started recently).

- **Exploration of the new resources**

The lack of investment in the exploration of the new resources has led to a situation where the annual decay of the resources is not compensated. Compensation of the deposits will require large investments in the exploration and preparation for the production of the new fields as well as in the infrastructure and transportation networks development.

Thus, the maintenance of the present volumes of production will require additional investments that are marginally much higher than in the other competing countries. Remoteness of the potential energy producing regions in Russia will increase the length of the pipelines that will also negatively influence the costs of production.

The above said gives a possibility to doubt the availability of the increased volumes of gas for export.

### *Energy Production*

The average energy production has decreased substantially during the period of economic reforms in the 1990's. This has happened not only due to the decrease in the demand for energy domestically but also due to the decrease in production capacity. The persistent shortage of investment and lack of reasonable managerial approach has led to a substantial fall in the production capacity. Dire financial constraints of the energy companies have limited rehabilitation activities, repair and scheduled maintenance of the equipment as well as reduced investments in the on-going and new construction.

The general state of the installed equipment in the energy sector is very critical:

- Approximately 40% of the equipment is worn out completely,
- Over 50% of the coal mining equipment, 30% of gas pumping units, over 50% of equipment in the oil production and over 30% of equipment in the gas production are completely worn out,
- In oil refining this percentage is even higher and is estimated to be around 80%.

It is also estimated, that till 2000 more than 50% of the power plants in the electricity production will be worn out. Over 50% of the oil pipe lines have been in use for 20 to 30 years. More than 50% of the nuclear power plants demand urgent improvement in accordance with the modern safety requirements.

Another big problem of the energy production is its inefficiency. A good example of the saving potential is the gas sector, where approximately 60 Bcm of gas is lost annually in the gas transportation. An average efficiency of a gas pumping unit in Russia is currently 23% - official (18% - the author's estimate), in comparison to 33-36% in the industrialised countries.

There is a tremendous restructuring and investment need for the Russian energy production to be able to provide secure energy supplies and to increase the supplies domestically and for export.

### *Dynamics of the Energy Demand*

The use of fuels in Russia will be driven by the attractive economics of its gas reserves in favour of gas over coal and oil. The trend in electric

power generation is to build smaller, final user oriented power generation units. These trends as well as the expected rise in the electricity shortages domestically, associated with the economic growth assumptions will further decrease the ability of the Russian energy sector to meet the increasing export demand for its products.

#### *Influence of the Politics*

One can not neglect politics in the Russian energy sector discussion. The energy sector is one of the most highly monopolised and regulated sectors of the Russian economy. To succeed, any serious co-operation project will require political commitment on behalf of the Russian decision makers.

The main problem in the Russian politics and legislation is the lack of expertise and understanding that leads to the disagreement and constant bargaining on all major issues relating to the development of the new legislative and institutional framework in Russia. The laws are slowly introduced and in many cases lack the real power and motivation after the endless changes and alterations are made by the competing political forces.

The overwhelming power of the financial and industrial lobbies and interest groups also negatively influences the overall legislation development.

Notwithstanding the above said the much needed operational framework has been to a large extent put in place in the recent years. The framework is sufficient to carry out projects on a much larger scale than presently envisaged. The Northern Dimension may become a catalyst to speed up the process of the EU companies involvement that will justify and facilitate further adjustments in the Russian legislation.

### **3 Prospective Co-operation Areas**

Based on the above listed problems and opportunities the following prospective co-operation areas between the European Union and Russia in energy sector could be identified.

#### *Imports of Gas and Oil from Russia*

Further increase in the imports of gas and oil from Russia is limited at the moment by the capacity of supply network. It is obvious, thus, that

one of the prospective areas for co-operation will be to build more export oriented pipeline capacity in Russia. There are two other important co-operation areas that are closely connected to the above.

The first one is to co-operate in the development of the new fields. Even though building of the additional pipeline capacity will allow technically to export from Russia more oil and gas, the long term sustainability of such supplies is heavily dependent on the successful introduction of the new fields. As it was said before, the existing resources in Russia are largely exhausted and require substantial investments in their further exploitation. Development of the new fields in Russia will be one of the major factors that will undermine the possibility to import oil and gas from Russia in the future.

The other factor that will influence the long term sustainability of oil and gas supplies is an ability to provide the efficient and feasible methods of fields exploitation in the extreme climate conditions. The co-operation in technology transfer, research and development related to the operation and extraction of hydrocarbons in extreme climate conditions is needed and may become one more field of the fruitful co-operation.

#### *Import of Electricity from Russia*

There is a clear demand for the additional Russian electric energy in the European Union. Unfortunately, in practice, these exports are limited by the interconnection capacity. It is obvious that this may become another area of the major co-operation that will be further strengthened by opening of the European electric energy markets and implementation of Kyoto agreement.

Although this co-operation may have bright prospects, it is endangered by the possible instability of supplies in future due to the worn out and out-dated equipment in the Russian energy sector. In the worst case even a shift from imports to exports to Russia might be possible. Under any circumstances a co-operation aimed at joint implementation of rehabilitation projects and emission trade will benefit the both parties.

#### *Export of the Energy Technology to Russia*

Another significant opportunity lies in the possibility to supply the Russian customers the new energy technologies produced in the European Union, as the demand for safe and more efficient energy ones will increase in Russia due to privatisation and opening of markets.

The greatest opportunities in this area will be in exporting the small capacity power generation units segment that were much less developed in Russia due to grandeur approach to power generation in the past. Demand for such units is constantly increasing. The Russian end consumers need safe, reliable and efficient power generation units that can be located close to their premises.

#### *Assistance in Planning and Export of Environmental Protection Systems*

This new dimension will emerge as the problems with the present outdated equipment in Russia will aggravate the environmental issues. The new environmentally friendly technologies will be needed as very few of them are elaborated in Russia due to the present lack of demand.

Joint implementation project possibilities in accordance with the Kyoto Protocol requirements provide a good way to facilitate the exports of environmentally friendly technologies and know-how from the EU.

## **4 Role of the Northern Dimension**

As it was described in the previous clause there are great possibilities both for the Russian and the EU economies to co-operate. The benefits of such co-operation are also political, economic, social and environmental. Analysis of the co-operation possibilities in the energy sector shows that:

1. in the current situation there is a gap in co-operation between the EU and Russia,
2. the Northern Dimension can become an efficient political tool for mutually beneficial co-operation between the EU and Russia,
3. to succeed it must gain the decision makers' commitment in the EU and Russia,
4. efficient legislative and financial tools to maintain and motivate development in this direction should be elaborated, and
5. to provide sustainable development of the co-operation the EU should be prepared to participate in the projects not only in the North-West but also further in Russia.

We could summarise all the above said by stating that the Northern Dimension initiative has a good potential for development if the European Union and Russia will realise the benefits and value of knowledge and expertise in preparing and implementing the joint projects in Russia that exists in Finland today.



## 9 Cleaning Up the Northern Dimension: Pollution Control in the Baltic Sea

*Juha Honkatukia, Outi Honkatukia and  
Markku Ollikainen*

### 1 Introduction

In 1974 the Baltic Sea countries signed an agreement upon marine pollution control in the Baltic Sea. This agreement was historical. For the first time all countries on the same sea area were willing jointly to take care of the quality of the sea. The background for the agreement was a rapid increase of poisonous pollutants like DDT, PCB and PCT, which not only deteriorated the quality of the aquatic system, but also provided a threat for human health.

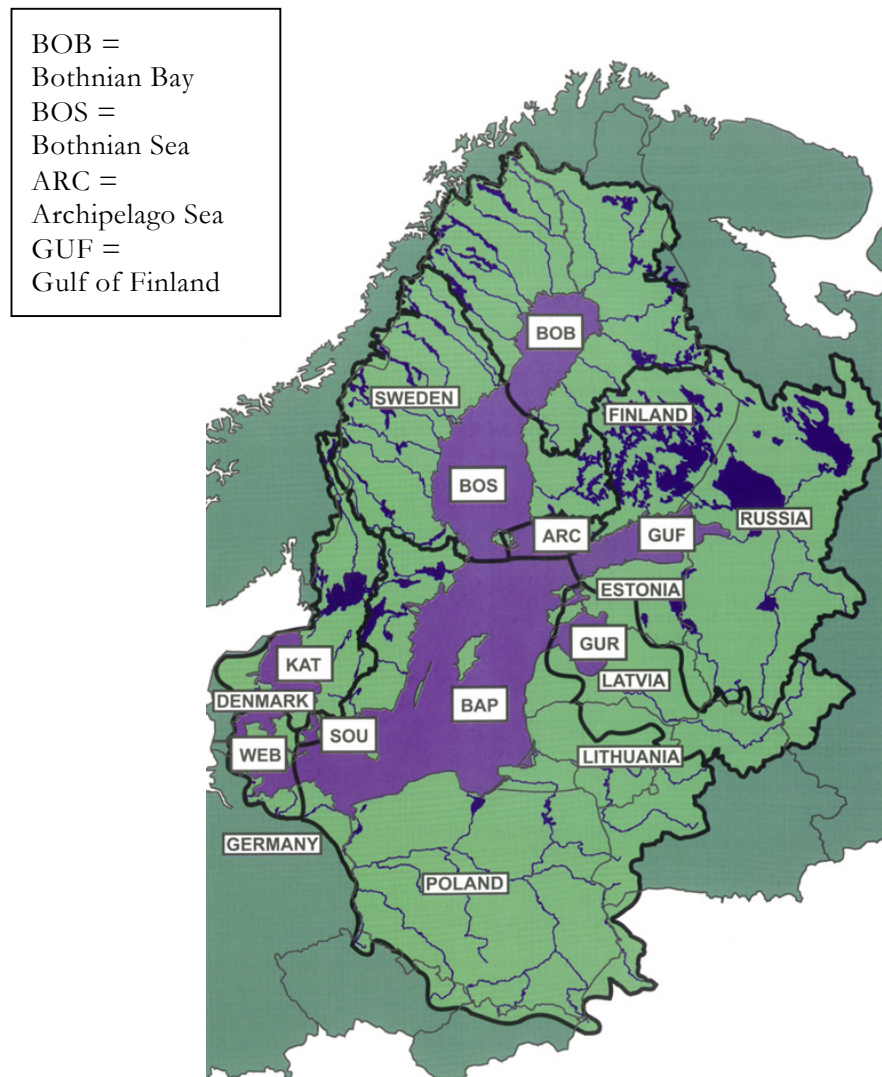
The Baltic Sea agreement turned out to be successful in reducing poisonous pollutants. During this fight, however, a new and increasingly important problem emerged: an increase in nutritive pollution caused jointly by nitrogen and phosphorous. The Baltic Sea countries started to devote attention to this problem in 1988, when all countries promised to reduce their nitrogen and phosphorous effluents by 50%. Since then the problems caused by these nutrient pollutants, especially eutrophication, have become more than a well-known phenomenon mainly due to its yearly summer time occurrence, the algae blooming, a nightmare of every swimmer.

Reading newspapers gives one the impression that the promises of a 50% reduction have not been fulfilled. A look at the statistical information confirms this impression: especially nitrogen pollution has increased during the last ten years. Hence, the previously successful cooperation among Baltic Sea countries has failed for nutritive pollution. This rises a question: why this failure? Economic theory of international environmental cooperation suggests many possible explanations for the shortcomings in the prevention of nutritive pollution. For instance, it indicates that an agreement, where all countries pursue a 50% reduction in pollution irrespective of the costs of benefits of reduction, is usually economically inefficient. Any inefficient agreement may potentially lead to countries not following the agreement, because it is not rational for them. Even an efficient agreement may encounter problems in its implementation. For instance, by the agreement some countries may benefit significantly more than others, while some may

have considerably higher cost burden than others. Without any side-payments that redistribute the benefits of the agreement, incentives to free ride may become too high.

In the case of the Baltic Sea, differences in benefits and costs are closely associated to both abatement technology and the transfer of pollutants in the sea, and hence to the country's location. As obvious, for countries, which already have invested in purification of nitrogen,

**Figure 1. Baltic Sea and its subregions**



an achievement of 50% reduction is more costly than to those which have not done anything. The role of a country's location is more intriguing. Given that nitrogen is transferred by sea streams and winds, a dirty country may count on the fact that even a considerable share of its pollution may transfer to its neighbour's water area.

In this paper we address the problems of controlling nitrogen pollution in the Baltic Sea. For the analysis, we distinguish between various parts of the Baltic Sea, namely Bothnian Bay, Bothnian Sea, Archipelago Sea, Gulf of Finland, Gulf of Riga, Baltic Proper, Western Baltic, The Sound and The Kattegat, and countries locating in each of these (see Figure 1). The costs of reducing nitrogen differ across countries. This holds true also for the benefits resulting from reduction in nitrogen. Based on the description of the pollution process, we will analyze the content of various possible agreements for controlling nutritive pollution. We utilize heavily the Acid Rain model proposed by Mäler (1988) and apply it to aquatic environment with a regional nitrogen pollutant. We solve the cost-efficient, and 50% club agreements in terms of reductions, costs and resulting level of nitrogen pollution within the limits of each country for the base year 1988 for nitrogen. Comparing the time series data of nitrogen up to 1995 to the distribution of benefits and costs in agreements allows us to evaluate how each country has followed the agreement.

The paper is organized as follows. Section 2 develops the theoretical model, which includes a description of pollution process and discussion of non-cooperation and cooperation between Baltic Sea countries. Section 3 is devoted to a simulation model. Results of simulations are given in Section 4, which is followed by a short discussion.

## **2 Theoretical Framework for a Pollution Reduction Agreement**

### **2.1 Nitrogen Pollution in the Baltic Sea**

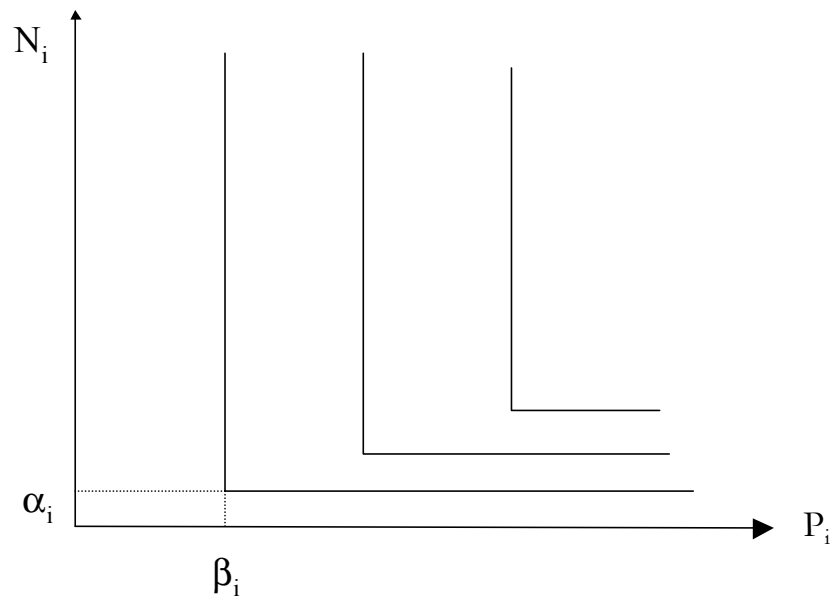
The flow of nutritive pollutants to Baltic Sea comes from all nine Baltic Sea countries, Denmark, Estonia, Germany, Finland, Lithuania, Latvia, Poland, Russia, and Sweden. While phosphorous is merely a local pollutant, nitrogen transfers with sea streams and winds even long distances. Together, nitrogen and phosphorous cause eutrophication, i.e., they both are needed for its development. Based on this information, we can give eutrophication an economically meaningful description.

For each part of the Baltic Sea we can develop the following Leontief type function to describe pollution (eutrophication)

$$[1] \quad e_i = \min(\alpha_i N_i, \beta_i P_i), \quad i = 1 \dots 9,$$

where N and P denote the concentration of nitrogen and phosphorous, respectively, in each country, and parameters  $\alpha$  and  $\beta$  describe the combination in which nitrogen and phosphorous are needed to produce “one unit of eutrophication”. This amounts to saying that the “isopollution curves” are L-shaped describing the fact that these nutrients are needed in fixed amounts to cause eutrophication, as illustrated in Figure 2 below. At the corner of each isopollution curve one has  $\alpha_i N_i = \beta_i P_i$ .

**Figure 2. Eutrophication**



The damage function of eutrophication  $e$  in each country can be described by

$$[2] \quad d_i = d_i(e_i), \quad i = 1 \dots 9.$$

The damage function is assumed to be convex, i.e.,  $d'_i > 0$  and  $d''_i > 0$ , i.e., damages increase with pollution.

While the total amount of phosphorous,  $P_i$ , is given directly by each country's own emissions ( $P_i = p_i$ ), the aggregate amount of nitrogen will depend on the transfer of nitrogen with sea streams and wind. This transfer process can be described with help of the following transfer matrix, where each transfer coefficient  $a_{ij}$  indicates what share of country  $j$ 's nitrogen transfers to country  $i$ 's waterways.

The aggregate concentration of nitrogen accruing to country  $i$  is, thus, given by

$$[3] \quad N_i = \sum_{j=1}^9 a_{ji} n_j, \text{ where}$$

$$A = \begin{pmatrix} a_{11} & \cdot & \cdot & \cdot & a_{91} \\ \cdot & \cdot & & & \cdot \\ \cdot & & a_{55} & & \cdot \\ \cdot & & & \cdot & \cdot \\ a_{19} & \cdot & \cdot & \cdot & a_{99} \end{pmatrix} \text{ and}$$

$n_j$  denotes each country's nitrogen emissions. Given equations [1] – [3] the description of the pollution process is complete.

While nitrogen and phosphorous are both needed for eutrophication to take place, according to the current state of knowledge, phosphorous is the minimum factor of eutrophication only in the Gulf of Bothnia, while in most other parts of the Baltic Sea nitrogen is the minimum factor. Thus, in the absence of reliable data concerning phosphorous abatement costs, we can simplify the analysis with little loss of generality by concentrating on nitrogen only.<sup>1</sup>

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<sup>1</sup> Notice, however, that while nitrogen is regarded as the minimum factor in the Baltic Sea, phosphorous is the minimum factor in lakes and rivers so that there is a strong trade-off for each national environmental policy. The more preference is given to inland quality of water, the more country invests in phosphorous reduction and the less to nitrogen reduction. This issue is, however, out of the analysis of this paper.

## 2.2 Economic Models of Pollution Reduction: Nash Solution and Cooperation by Agreements

Consider any single country in the area of the Baltic Sea. Its total costs of pollution are given by the sum of damage and abatement costs. Let us denote the abatement cost function of nitrogen by  $c_i(n_i)$ . It is natural to assume that the abatement costs increase with higher abatement levels. Then we can say that abatement costs decrease with higher pollution levels. Moreover, we assume that the abatement cost functions are convex, so that  $c'_i(n_i) < 0$  but  $c''_i(n_i) > 0$ . Hence, recalling equation [2], the total costs of pollution for a single country can be expressed as

$$[4] \quad J_i = d_i(N_i) + c_i(n_i),$$

where  $N_i$  is defined by equation [3].

Based on equation [4] and on the description of pollution process, we can characterize the non-cooperative Nash solution and alternative cooperative solutions. We start with the Nash solution.

### 2.2.1 Non-cooperative Solution

Assume that the countries do not cooperate and take the abatement choices of the other countries as given when choosing their own abatement policies. In that case the solution is straightforward: the country simply chooses the abatement levels of nitrogen so as to minimize the domestic costs of pollution

$$[5] \quad \underset{\{n_i\}}{\text{Min}} J_i = d_i(N_i) + c_i(n_i) .$$

Minimizing this target function gives for the national environmental policy the following abatement rule

#### **Abatement Rule 1.** *Non-cooperative Environmental Policy*

*Abate nitrogen pollution up to the point where the marginal damage from pollution in the home country equals the marginal abatement cost.*

The optimal reduction in the nitrogen according to this policy rule is illustrated in Figure 3 in point A, where the domestic marginal abatement curve (MAC) and domestic marginal damage curve (MDC) intersect. The optimal domestic reduction,  $n^{Nash}$ , can be read at the horizontal axis.

This optimum, however, is problematic from the “global viewpoint”, i.e., when the whole Baltic Sea is considered. Here each country takes into account only the resulting domestic damages, not damages caused to other countries. Moreover, the solution is conditional on the other countries’ abatement choice, i.e., on the externalities caused by other countries. Hence, one can conclude that the resulting Nash equilibrium is sub-optimal from the viewpoint of whole Baltic Sea, because none of the countries takes into account the externality it causes to other countries. Consequently, pollution level remains too high. This calls for the international cooperation.

### 2.2.2 Cooperative Solution: An Optimal Agreement

Assume now in conformity with the reality that the countries decide to make an agreement for pollution reduction. By making such an agreement the countries declare that pollution is a severe problem and acknowledge their responsibility for it. There are, however, many possibilities for the type of agreement. In the case of Baltic Sea the actual agreement can be called a *50% club solution*, because each country decided to reduce 50% both phosphorous and nitrogen regardless of the costs and benefits accruing to each of them. Economic theory suggests that a more adequate form of an agreement could be either *optimal* or *cost-efficient solution*. The former refers to the case, where the actual abatement levels of nitrogen are determined by equalizing the benefits (reduction is damages) and costs of abatement, while in the latter case the countries minimize the abatement costs of achieving a predetermined nitrogen abatement level.

#### Optimal Solution

When the countries search for the “globally” optimal solution they minimize the sum of each country’s cost functions by choosing optimal levels of nitrogen reductions.

$$[6] \quad \min_{\{n_1, \dots, n_9\}} J = \sum_{i=1}^9 (d(N_i) + c_i(n_i))$$

subject to [3].

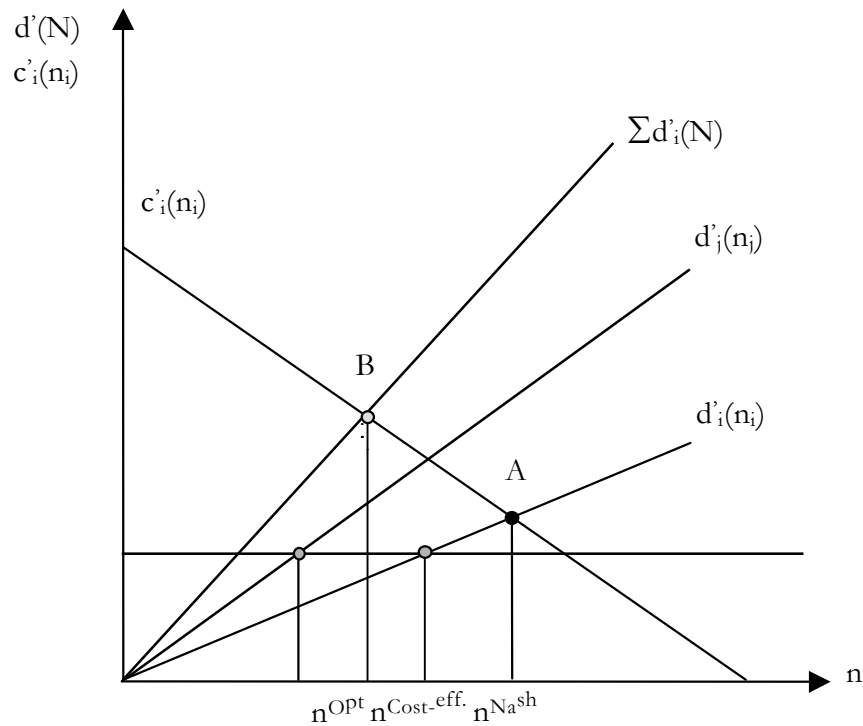
As one can see, equation [6] clearly differs from the respective Nash target function [5]. It takes into account the fact that nitrogen pollutants transfer with sea streams and winds causing externalities to other countries in the Baltic Sea. Choosing national abatement levels by accounting for damages caused by domestic pollution to other countries, one ends up with the following optimal policy rule.

**Abatement Rule 2.** *Optimal Cooperative Environmental Policy*

*Abate nitrogen up to the point where the aggregate marginal damage caused by domestic pollution equals the domestic marginal abatement costs.*

Abatement Rule 2 simply requires each individual country to take into account these externalities when choosing the optimal level of abatement. It can be illustrated graphically as point B in Figure 3. Notice that it implies a higher level of abatement than point A which reflects Abatement Rule 1.

**Figure 3.** Non-cooperative and cooperative solutions





### Cost-Efficient Solution

If it is hard or impossible to identify the economic value of damages, countries have to rely on a second best approach. The desired level of pollution abatement is determined on the basis of all natural scientific and other information available. After the desired level has been decided, the task of environmental authorities is to achieve this goal with the least costs. Hence, the cost-efficient international agreement for nitrogen reduction is obtained by minimizing the sum of abatement costs across countries subject to the predetermined level of abatement irrespective of the concentration of the nitrogen in the sub-regions of the Baltic Sea. In the case of the 50% declaration of Baltic Sea countries as the cost-efficient solution, one has

$$[7] \quad \min_{\{n_1 \dots n_9\}} J = \sum_{i=1}^9 c_i(n_i)$$

subject to

$$\sum_{i=1}^9 n_i \leq \bar{N}$$

where  $\bar{N}$  is defined as 50% of the respective levels in the base year 1990.

The cost-efficient solution to problem [7] yields

### Abatement Rule 3. *Cost-Efficient Cooperative Environmental Policy*

*Allocate the abatement obligation to all countries so that the marginal abatement costs across countries will be equal at the required level of reduction.*

This policy implies that each country contributes equally at the margin so that the countries with low abatement costs will reduce nitrogen more than countries with higher abatement costs. In Figure 3 this solution can be illustrated by a horizontal line defining equal point in all national marginal abatement cost curves at a level which gives the required reduction in pollution as a sum of national reductions. Notice that also in this case those countries abate most for whom marginal abatement costs are the cheapest.

These three solutions will provide the basic cases for the simulations and discussion in the next two sections.

### 3 Emissions and Abatement Costs of Nitrogen

In order to find out the empirical estimates for the costs and resulting pollution of non-cooperative and cooperative abatement solutions, we need first to develop empirical estimates for the abatement cost functions and for the transfer information of nitrogen pollutants. This section is devoted to present the basic data of nitrogen pollution and to modify it into a form suitable for the model we are using.

#### 3.1 Emissions, Transfer and Concentration of Nitrogen Pollution

In the light of current knowledge it seems that the nitrogen transfers in the Baltic Sea regionally relatively short distances. Therefore, we will assume that this pollution transfers only within each subregion of the Baltic Sea. As Figure 1 describing the Baltic Sea indicated, the relevant subregions are the Bothnian Bay, Bothnian Sea, Archipelago Sea, Gulf of Finland, Gulf of Riga, Baltic Proper, Western Baltic, The Sound and The Kattegat. Furthermore, we assume in what follows that half of the nitrogen stays within the limits of the polluter country and the rest transfers to countries in the subregion in question. Aggregating over the subregions adjacent to each country, we obtain an asymmetric pollution transfer matrix. The transfer of nitrogen can be described by a 9x9 matrix, where the polluting country is given in columns and the pollution receiving country in rows. Hence, the diagonal indicates the share of nitrogen staying in the polluter country. Naturally, the sum of transfer coefficient for each polluting country is equal to unity.

**Table 1. The transfer of nitrogen across countries**

#### Country as a polluter

	Den	Est	Fin	Ger	Lat	Lit	Pol	Rus	Swe
Den	<b>0.50</b>	0	0	0.39	0.02	0.08	0.08	0.01	0.21
Est	0	<b>0.50</b>	0.08	0	0.38	0	0	0.22	0
Fin	0	0.18	<b>0.56</b>	0	0	0	0	0.22	0.19
Ger	0.23	0	0	<b>0.51</b>	0.02	0.08	0.08	0.01	0.02
Lat	0	0.14	0	0.02	<b>0.50</b>	0.08	0.08	0.01	0.02
Lit	0	0	0	0.02	0.02	<b>0.52</b>	0.08	0.01	0.02
Pol	0	0	0	0.02	0.02	0.08	<b>0.52</b>	0.01	0.02
Rus	0	0.18	0.08	0.02	0.02	0.08	0.08	<b>0.50</b>	0.02
Swe	0.27	0	0.28	0.02	0.02	0.08	0.08	0.01	<b>0.50</b>

**Table 2. Nitrogen emissions and concentrations in 1990**

Country	National emissions	Aggregate Nitrogen	Nitrogen from other countries	Share of other countries (%)
Denmark	83433	88702	12693	53
Estonia	21132	92485	65849	89
Germany	14400	90365	132996	84
Finland	72270	45366	121270	55
Latvia	138380	88501	91316	22
Lithuania	37390	35572	240	45
Poland	120385	72090	281	13
Russia	107060	81165	17109	34
Sweden	118613	118817	158027	50
In total	713065	713063	599782	-

Given the national emissions of nitrogen, we can solve for the aggregate concentration of nitrogen in the water areas of each country by applying the transfer matrix given in Table 1. Emissions and concentrations are given in Table 2. The first column gives the national levels of nitrogen emissions for the base year of our calculations 1990, which is close enough to the 50% reduction announced in year 1988. The second column gives the country-based concentration for nitrogen. Recall that one country may locate in many subregions of Baltic Sea. For instance, Sweden suffers potentially quite much from nitrogen concentration, but it is distributed in 5 subregions. Third and fourth columns indicate how great the foreign share of emissions in absolute and relative terms for each country is. The ratio of domestic versus foreign pollution in each country seems to vary a lot. While most of the nitrogen concentration to Germany, Estonia, Denmark and Finland comes from abroad, Poland, Latvia and Russia are themselves responsible for their concentration.

### 3.2 Abatement Costs of Nitrogen

We follow the conventional way of approximating abatement costs by postulating a quadratic form for the total abatement costs, and estimate the sizes of relevant parameters from the abatement data available. Hence, the abatement costs of nitrogen are quadratic as follows

$$[8] \quad c_i(n_i) = \gamma_i(n_i^0 - n_i)^2 + \varepsilon_i(n_i^0 - n_i) + \mu_i, \quad i = 1 \dots 9$$

where the superscript 0 refers to the initial level of pollution.

The data of the nitrogen abatement costs is compiled by HELCOM according to cost estimates provided by the national authorities. The data allows us to link emission reductions to abatement costs in each of the Baltic Sea countries. While the data is by no means as reliable as one would like to have, it still is the only one available. Using this data, we can estimate the size of the coefficients for the abatement of nitrogen postulated in equation [8]. Table 3 collects the sizes of estimated parameters.

**Table 3. Parameter estimates of nitrogen abatement cost function, in mill. ECU**

Country	$\gamma_i$	$\varepsilon_i$	$\mu_i$
Denmark	0.30	0.13	0.59
Estonia	10.6	0.19	0.21
Germany	25.25	1.28	-0.37
Finland	3.33	1.3	-0.03
Latvia	10.8	2.13	36.21
Lithuania	0.19	0.01	51.31
Poland	0.34	0.01	0.18
Russia	2.44	0.26	2.13
Sweden	2.08	1.29	-7.97

In the next section we will apply these cost functions together with description of the transfer of nitrogen to sort out the economic consequences of abatement rules developed in the previous section. Then we compare them with the 50% club reduction for all countries in terms of emissions, concentrations and abatement costs.

#### **4 Results of Simulations: Club versus Cost-Efficient Solution for Nitrogen**

Given the information of the emission and concentration of nitrogen we can solve for the non-cooperative and cooperative solutions and for the 50% club solution. They allow us to discuss about the development and country-based abatement strategies since 1990, and then to sketch some possible future lines.

#### **4.1 Alternative Solutions for the Base Year 1990**

Recall that equation [5] defines the noncooperative, national solution for each country, while equation [6] defines the optimal solution for all Baltic Sea countries. An alternative to optimal solution is cost-efficient solution in equation [7], where countries to try find the 50% reduction by least costs. By applying the above-calculated abatement cost and damage estimates, and the concentration of nitrogen, one ends up with the following agreements for the base year 1990.

##### **The Club 50% Solution**

In the club solution all countries reduce 50% of their nitrogen emissions irrespective of the relative efficiency of money used in abatement in the own country versus neighbour country. Table 4 gives the country-based reductions in emissions, the abatement costs required and the resulting concentration of nitrogen.

**Table 4. Club solution: abatement costs and concentration, in mill. ECU**

Country	Emissions in 1990	Aggregate nitrogen in 1990	Emission reduction	Abatement costs	Aggregate nitrogen
Denmark	83433	88702	41717	19501	44351
Estonia	21132	92485	10566	67577	46242
Finland	72270	90365	36135	208358	45182
Germany	14400	45366	7200	78873	22683
Latvia	138380	88501	69190	1002270	44251
Lithuania	37390	35572	18695	948	17786
Poland	120385	72090	60193	13439	36045
Russia	107060	81165	53530	104877	40583
Sweden	118613	118817	59307	302850	59409
In total	713063	713063	356532	1798693	356532

In the club solution, where each country reduces its emissions by 50%, the greatest abatement costs accrue to Latvia, Sweden and Finland, while the benefits in terms of aggregate nitrogen reduction are the same across countries. Hence, one might conclude that Latvia, Sweden and Finland would have incentives not to follow the agreement. To assess how “good” the club-solution is we have to compare

the outcome in Table 4 with the cost-efficient solution, which brings the same overall reduction in nitrogen emissions.

### **The Cost-Efficient Agreement for 50% Reduction**

Now the countries minimize the total costs of nitrogen pollution subject to the requirement that the aggregate pollution is reduced by 50%. This means that while the reductions may differ across countries, the aggregate reduction will be equal to 50% just as in the club solution. Table 5 offers the results for cost-efficient solution. In addition to those figures reported in Table 4, we indicate in the column of emission reduction also the reduction in per cents (recall that in Table 4 reduction was 50% for every country).

As one can see from Table 5, cost-efficient solution brings the same overall reduction in nitrogen emissions and aggregate concentration as the club solution. The distribution of reduction and abatement costs across countries, however, differs considerably from those of club solution, and so do the overall abatement costs. In the cost-efficient solution the greatest reduction in emissions accrue to Denmark, Lithuania, Poland and Russia. In terms of abatement costs, Russia, Sweden and Finland have to cope with the greatest costs. In terms of aggregate nitrogen concentration, Denmark, Germany, Poland and Russia seem to be the greatest beneficiaries – for all of them the aggregate nitrogen concentration reduces more than 50%.

**Table 5. Cost-efficient solution: abatement costs and concentration, mill. ECU**

Country	Emissions in 1990	Aggregate nitrogen in 1990	Emission reduction	Abatement costs	Aggregate nitrogen
<b>Denmark</b>	83433	88702	66746 (80)	22021	32893
<b>Estonia</b>	21132	92485	14592 (26)	25363	67146
<b>Finland</b>	72270	90365	29784 (13)	68251	48323
<b>Germany</b>	14400	45366	3967 (32)	9053	16209
<b>Latvia</b>	138380	88501	5341 (3)	14492	72033
<b>Lithuania</b>	37390	35572	29912 (80)	1871	10549
<b>Poland</b>	120385	72090	96308 (80)	32446	17853
<b>Russia</b>	107060	81165	61959 (60)	109780	33934
<b>Sweden</b>	118613	118817	47923 (26)	109581	57592
<b>In total</b>	713063	713063	356532	392858	356532

It is also of interest to compare the club solution with the cost-efficient solution. Notably, the club solution has one “democratic” feature: it brings an equal reduction in the aggregate nitrogen concentration for each country, while country-based reductions in aggregate nitrogen vary under and above 50% across countries. This “democratic” outcome is achieved, however, at high costs. The most important finding concerns the overall costs of nitrogen abatement: in the cost-efficient solution, they are 4.5 times smaller than in the club-solution! Hence, club-agreement is an expensive way of achieving the joint reduction target.

Our analysis clearly demonstrates the economic inefficiency of the club-solution and the vague economic content of agreement of the Baltic countries. Based on Tables 4 and 5 we can also hypothesize which countries are likely and unlikely to follow the agreement. Looking directly at the abatement cost information indicates that Latvia, Sweden and Finland (club-solution) or Russia, Sweden and Finland (cost-efficient solution) have the greatest incentives not to follow the agreement. Therefore, we will next ask whether the development of emissions since 1990 indicates the implementation of the agreement.

**4.2 Situation in 1995: Past Development, New Challenges**

The latest public statistics of emissions available is from the year 1995. By keeping base year 1990 as our reference, we take the 1995 data and

**Table 6. Nitrogen emissions: club solution and cost-efficient solutions contrasted to actual emissions**

Country	Emissions in 1990	Club solution	Cost-eff. Solution	Emissions in 1995
Denmark	83433	41717	66746	68680
Estonia	21132	10566	14592	46468
Finland	72270	36135	3967	66073
Germany	14400	7200	29784	21371
Latvia	138380	69190	5341	91064
Lithuania	37390	18695	29912	36824
Poland	120385	60193	96308	214747
Russia	107060	53530	61959	84647
Sweden	118613	59307	47923	130872
In total	713063	356532	356532	760746

ask whether the countries have followed the club agreement or possibly alternative, economically more justified solution. We have collected in Table 6 information of the emissions in 1990, the reduction requirements according to club and cost-efficient solutions and the actual emissions in 1995.

The figures in Table 6 are really striking. Only Denmark, Finland, Latvia, Lithuania and Russia have reduced their emissions. Reductions in Russia and Denmark are the greatest, while for the others reductions have been relatively small. Hence, Denmark's behaviour is just against the hypothesis made on the basis of economic content of the agreement. Severe economic crisis rather than active abatement policy in Russia may be responsible for its reduction. At the same time Sweden, Poland, Germany and Estonia have actually increased their emissions so that the aggregate level of emissions has increased during the five-year period. Overall one must conclude that none of the countries seems to behave according to the 50% club agreement.

## 5 Conclusions

Finally, there is one interesting configuration to be discussed. Recall that Poland has nearly doubled its emissions. The greatest source of emissions is agriculture, which is quite strong and potentially competitive compared to European Union countries. Agriculture is considerable source of nitrogen pollution also in the Baltic countries, Estonia, Latvia and Lithuania. All these four countries have applied membership in the European Union. What if the European Union would take the water pollution in the Baltic Sea as one condition in the membership negotiations? What sort of requirement would be most profitable to the Union in terms of water quality, i.e., on the aggregate concentration in the European Union?

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## Discussion

*Michael Rauscher*

The Northern Dimension consists of a group of heterogeneous countries, a set of mature highly developed market economies on the one hand, and transition countries, that have just implemented the market economy, on the other hand. These countries share common ecological systems into which they discharge a variety of pollutants. The most important transboundary environmental problems in the area include air pollution and a number of problems affecting the Baltic Sea. The most important ones are:

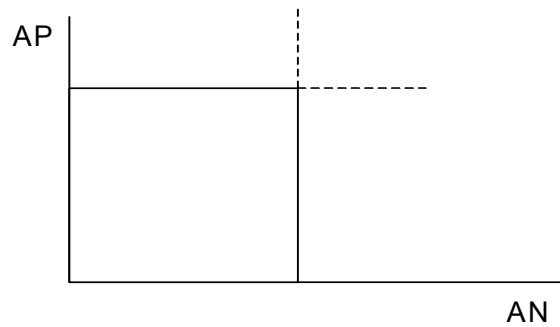
- heavy metals,
- pesticides,
- eutrophication,
- and overfishing.

The paper by Honkatukia, Honkatukia and Ollikainen deals with eutrophication. It looks at a simple model of transfrontier pollution, which is then calibrated and used for policy simulations. The remainder of my comment is divided into four parts. In a first step, I will review the modelling approach. Then, I will raise some critical points related to the approach. Afterwards, I will look at some details and, finally, I will briefly summarise my view on this issue.

According to Honkatukia, Honkatukia and Ollikainen, eutrophication results from the interaction of phosphorus and nitrogen, where the process is linear limitational: one of the pollutants is the limiting factor in the generation of pollution. In Figure 1, this is shown by a rectangular iso-pollution curve in the abatement space where AP is phosphorus abatement and AN is nitrogen abatement. Along the dotted lines, increasing emissions do not generate additional pollution.

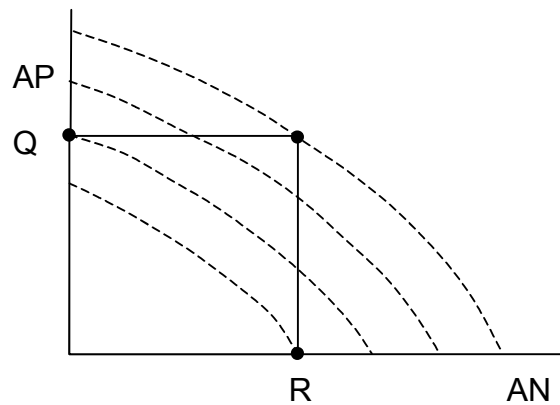
In Figure 2, iso-cost curves for abatement are added to the picture. Under normal circumstances, i.e. increasing marginal abatement costs, they are convex. In the figure, they are represented by dotted lines. Starting from point Q, additional nitrogen abatement raises costs but does not improve the environmental quality. The reason is that, loosely speaking, there is an excess supply of nitrogen. Due to the lack of phosphorus, there is nothing with which phosphorus can interact to generate eutrophication. Nitrogen abatement is a waste of resources. It reduces the excess nitrogen, which has no environmental impact.

**Figure 1.**



Starting from point R, additional phosphorus abatement only raises costs but does not improve the environment. In the paper, a situation similar to R is assumed. Phosphorus abatement is not the issue.

**Figure 2.**



The objective of the paper is to compare different environmental policy scenarios that have been implemented or that are imaginable in the framework of an international environmental agreement. There is, however, a data problem. There exist reasonable estimates of abatement cost functions, but the economic value of environmental damage is unknown. Usually the valuation of damages done to large and complex environmental systems like the Baltic Sea is a formidable task and can only provide very crude estimates of the impact of different degrees of pollution. The authors of this paper take a shortcut and use a Nash equilibrium approach to this international environmental problem.

In a Nash model, one assumes that governments act perfectly rationally and only in the national interest. Using the conjectural assumption that each government takes as given foreign emissions, one can derive an equilibrium of national abatement efforts which depends on abatement costs and national perceptions of environmental damage. In a theoretical model, one determines the equilibrium based on the cost and damage functions. Here, it is assumed that what is observed in the case of uncoordinated environmental policies is a Nash equilibrium and if governments act rationally one can infer the underlying evaluation of environmental damage from observed behaviour.

Having derived parameters of the damage function, the authors proceed by comparing different policy scenarios. As is well-known, a cooperative solution is efficient if marginal abatement cost equals marginal environmental damage. Cooperative solutions that require equal emission reductions based on the status quo are rarely cost-efficient since abatement is not undertaken where it is least costly. Eutrophication in the Baltic is no exception to this rule and the authors of this paper provide quantitative estimates of the inefficiency.

Of course, this modelling approach provokes some critical comments. Missing data are constructed on the basis of some very strong behavioural assumptions, and the question arises as to how good these assumptions are. The first problem is the assumption that nitrogen is always the problem. As the authors themselves admit, this is not the case in at least one of the regions. The second point is the rather simplistic division of a complex environmental system into a limited number of subsystems that do not interact. This approach is defensible as an admissible simplification for the sake of tractability.

The third, and probably central, critique is related to the hypothesis that observed uncoordinated behaviour is a Nash equilibrium. There are several reasons why the Nash assumptions may not be satisfied in reality:

- Regulatory deficits. Governments do not act in the national interest, but they enjoy some discretion that makes them follow their own objectives and/or give hidden subsidies and protection to particular interest groups in society. Environmental policy is one of the vehicles of such subsidisation and protection. Moreover the perception of environmental problems may change if there is a change in government and such a change or at least its magnitude may not always represent the will of the voter. On the whole, this implies that environmental policies tend to be biased. However, the direction and magnitude of this bias are difficult to be assessed.

- Enforcement deficit. Environmental regulation and its enforcement are two distinct issues. If enforcement is lax, emissions are higher than optimal even if the government is benevolent.
- Distorted economies. In the base year, 1990, Poland and the Baltic states, still had the structures of centrally planned economies, characterised by a pricing system which was heavily distorted and a severe neglect of environmental issues. It is to be doubted, that the 1990 emission levels can be viewed as being optimal in any sense.

In the tables, there appears to be a numerical problem. Cost efficient emissions for Finland and Latvia are very low where as neighbouring Lithuania's are much higher. Compared to 1990 levels, emission reductions should be some 95 percent in Finland and Latvia but only around one third in most other Baltic countries. The numbers follow directly from the model and one is led to the question whether these large differences have something to do with the conceptual weaknesses of the theoretical modelling approach or whether they have a simple economically intuitive explanation. Finally, I would like to mention the amazingly small abatement costs in Lithuania that are shown in Table 4. They are less than one tenth of a percent of the Latvian costs. Of course Latvian emissions and abatement levels are higher, but only by a factor of some three-and-a-half. To me this is puzzling.

In spite of all the deficiencies, conceptual and related to data availability and accuracy, the authors have succeeded in deriving interesting and thought-provoking results. Given the limitations that restrict the application of methods of environmental economics to complex ecological and political systems the authors have achieved what can be achieved at the moment. Future research based on better data bases may provide additional and deeper insights into the issue.

## 10 EU Entrants and the Northern Dimension – A Polish View

*Józef Wierjacz*

I would like to thank you for the invitation to present Polish views on the Northern Dimension Initiative. This issue is nowadays indeed of particular importance.

Poland, a 40 mln nation in Central Europe, is a member of NATO, a candidate country to the EU with ongoing negotiations for membership, and an active partner in regional cooperation, especially in the region of the Baltic Sea. These circumstances fully justify Polish interest in the Northern Dimension of the EU. Today I shall limit myself to presenting you some remarks. I don't pretend to present the full Polish position. The studies and work in my country are going on with the aim of presenting the official Polish view at the conference of ministers for foreign affairs in November 1999.

I will start with some historical remarks concerning Poland. First of all, Poland always was a Baltic state that had rich contacts with its neighbours in northern Europe. Since the invention of the first boats, that could cross the sea, at the turn of the era, some 2000 years ago, the Goths and Gepids were regular visitors in the northern part of Poland. A thousand years later, in 997, the city of Gdansk received its city rights. This marked an important step in contacts between Poles and the other neighbouring nations. For the next 1000 years Gdansk has been the main Polish gateway to this part of Europe. Thus a very large part of Polish culture was created on the basis of contacts in the Baltic Sea region. Poland was greatly influenced, especially by Swedish culture and the Hanseatic League. At the same time Poland also exerted strong influence, especially on the territory of the present three Baltic States.

I am very happy to state that again Poland is developing its Baltic policy, which is reflected particularly in the growing of overall and friendly relations with the Nordic countries, including Finland, and with Lithuania, Latvia and Estonia.

Secondly, ever since Russia became a key player in the eastern part of Europe, and in the Baltic Sea region, the relations between Poland and Russia were far from satisfactory. The relations were characterised by:

- political and military dominance of our eastern neighbour,

- suppression of local culture, language and freedom of thought,
- and by large scale deportations to Siberia, or even killing any intellectuals constituting a potential threat to the russification policy.

Such a situation lasted for almost two hundred years, save the brief interval of independence of Poland from 1918 to 1939. The year 1989 was marked by one of the most important political events, not only in contemporary history. On the one hand Poland became a fully sovereign state, while on the other hand communist ideology and the last empire on earth saw a tremendous political and social „earthquake”. Soon this shake-up resulted in a new geo-political situation, which we all well know. Further tremors however continue to jolt that country. They inspire all politicians and researchers to consider how to deal with the situation. The EU common strategy on Russia, as well as the Northern Dimension, are among the best known results of European thinking. No doubt a democratic Russia lies in the interest of the whole Europe, including my country, and of the whole world.

Since 1989 Polish foreign policy is based on three priorities:

- integration with Euro-Atlantic structures,
- good relations with all our neighbours,
- development of regional cooperation.

The aim of these priorities is to create an external environment which would be conducive to economic and social well being of the nation. Economic and social transformation of Poland is widely recognised and often called a great success. We are very satisfied to hear these opinions. However, we are aware that still much is to be done, especially on our road to the EU.

The most important task in the field of security has been achieved. Poland became a member of NATO. Poland's security has increased, while the zone of stability in Europe has been also enlarged. Now Poland is the most important NATO country in the eastern part of Europe, with its all resulting practical and political consequences.

Now integration with the EU has become the key priority in our foreign policy. We expect that EU enlargement in the near future will not only broaden the sphere of prosperity in Europe, but also of stability and security. My government declared that Poland should meet the criteria of membership by the end of 2002.

Good relations with neighbours is an issue which in Western Europe is rarely seen on the front pages in the newspapers. But this is not so in

Eastern Europe. The bitter memories of the past, often suppressed for political reasons, were hidden for a very long time. They reappeared officially only after the year 1989. For Poland this was even more important, since all its former neighbours have ceased to exist and new ones appeared. And this happened with no change of the border!

Polish-Russian relations, as I already stated, were always difficult. However, since 1989 every Polish government was guided by the following principles: equality, learning the truth about the multitude of blank spots in our common history, and development of broad cooperation, especially in the fields of economy and culture. It was not easy to overcome some differences. At times remains of the old imperial foreign policy had cast their shadow on the relations.

Today is a special day for my country. We mark a very tragic anniversary of the Soviet invasion against Poland on September 17, 1939. We are very disappointed with the statement of the Russian Foreign Ministry on that occasion. As you know, on that day the Red Army crossed the Polish Eastern border and occupied half of the Polish territory, as a result of the coordinated action with Germany (the famous pact Molotov-Ribbentrop). The mentioned statement says that this operation was not an aggression. On the other hand Poland and Germany jointly marked the anniversary of the outbreak of the Second World War on the 1<sup>st</sup> September 1939. Such joint celebrations were difficult to imagine some 10 years ago.

One of the key issues in our relations is the position of the Polish minority in Russia. Among other issues are access to Russian archives for Polish researchers, return of Polish cultural goods and archives, and remuneration for forced labour during the Stalinist times.

Relations with the Kaliningrad region are of particular interest, since here is the only Polish-Russian border. Poland is interested in the economic, cultural and social development of this region. We see symptoms of change and readiness to cooperate on the part of the local authorities in Kaliningrad. Poland's membership in NATO is not seen as a barrier to cooperation.

The Polish neighbouring regions, in particular the cities of Gdansk and Olsztyn, are leading the way in the development of the relations with Kaliningrad. In 1998, in spite of the fact that Poland's trade with Russia has fallen by 18 %, the total turnover with the region has in fact increased by 70 %. Today Poland ranks first in terms of joint ventures with foreign capital registered in Kaliningrad. This indicates the potential for cooperation, as well as a certain independence from the situation in Russian mainland. We hope that the trend of coop-

eration will continue, and we are glad that the concept of the Northern Dimension does not forget this particular region.

As regards regional cooperation, Poland is very interested in it. Many leading statesmen, including Finnish ones, have already expressed their satisfaction, that after 1989 Poland again may enjoy the status of a regional power. We wish to cooperate in building democracy, strengthening stability in this important region and develop economic links with all countries in northern Europe. We are not only a member of the Council of the Baltic Sea States, but also an observer in the Barents Sea Council.

I hope that these remarks have given you a certain picture of the state of relations between Poland and the region embraced by the Northern Dimension, in particular Russia.

The Northern Dimension concept is still at an early stage of development. The priorities have been elaborated and approved at the highest political level. They are well known. However, there is still a long way to material implementation of the envisaged projects and ideas. But it is important that we have an idea.

The strategic importance of the initiative is clear, especially in view of the importance of relations between Russia and the EU now and in future. The timing is also good, taking into account the situation in Russia and ongoing integration process in Europe including the enlargement of the EU. The initiative should benefit all EU member states – current and future ones – as well as Russia.

The Initiative, so far, does not foresee any new funding nor institutions. It is good that priority is given to the efficient use of existing funds and programs, as well as to avoidance of bureaucracy. However, in view of the far-reaching long-term ambitious plans it is necessary to consider in the future ways of stimulating the implementation of at least the infrastructure projects, which require very large funds.

Of great interest to Poland in the Initiative are the elements concerning energy, environment protection and transport. Currently the main supplier of oil and gas to Poland is Russia. We are interested both in securing a stable supply of these resources from that direction, as well as finding new sources.

The interest in environmental issues is related to possible crossborder pollution and nuclear safety. I am happy that the Polish „contribution” to the pollution problem in this region has been greatly reduced in recent years. The recent ratification of the Helsinki II Convention by the Polish parliament should speed up the process of reduction of pollution originating in my country.



As regards transport we are very interested in new infrastructure and upgrading existing links, like Via Baltica. However, a very clear distinction must be made between creating corridors, which ring a very unpleasant historical sound in Polish ears, and new roads. Poland will never agree to any corridors of special kind. New roads – yes, but on the basis of widely accepted rules of general use by the public.

Since about a year Russia is openly raising fears about the negative impact of Poland's accession to the EU on bilateral economic relations. We see such fears as clearly unfounded. The case of Finland has proven that EU membership has in fact been a stimulus, or at least a beneficial factor, for developing bilateral economic relations. We believe that the same effect will operate in the case of Poland. The goal of the Northern Dimension is to create long term cooperation links between the economies of Europe and Russia. Links that would not be affected by current political or social crisis.

In conclusion, let me thank ETLA for the publication, prepared by Anssi Partanen and Mika Widgrén on Poland and her integration with the European Union. The book presents Poland and her economy in a very professional and objective way, showing many successes in the economic transformation but also problems and difficulties which exist and which have to be solved in the coming years.



## 11 Economic Relations within the Northern Dimension from a Russian Perspective

*Valery Yaroshenko*

First of all, I would like to thank the organizers of the conference for their choosing an up to date and very interesting theme for this event.

The Russian side welcomes the initiative concerning the Northern Dimension which has been put forward by Finland and approved by the European Union.

As you know, Russia's President Boris Eltsin gave the political support to the initiative at the EU and Russia's summit in Moscow on the 18th of February this year. We have actually started the preliminary work and established rather good contacts with our Finnish colleagues concerning these problems. We are ready to continue joint activities further on.

The forming of the strategic partnership between Russia and the European Union is the major component of the European and international development on the eve of a new millennium.

As our co-operation strengthens, the significance of the northern region is increasing. First, because the Northern region is the Union's only direct geographical link with the Russian Federation as it is marked in the EU's Vienna summit's documents. Secondly, main energy, one third of wood and great fish resources of Europe are located in the Northern region. The shortest transport communications between Europe and Asia go through the North. The Northern region is the area of strategic interests of Russia. It is conditioned by the unique geopolitical and geographical location, the existence of non-freezing deep-water seaports, the Northern Sea Way, cross-border transport corridors and border control crossings, oil and gas fields and pipelines, and telecommunications. The region has a great number of major minerals, among them oil and gas, coal, gold, silver, diamonds, non-ferrous and rare metals (copper, nickel and so on). Practically we can speak about all Mendeleev's table. Russia's North is the lungs of the Earth.

Thus, the Northern Dimension has an objective economic and social basis in Russia's economy. The economy of the Northern region is naturally intertwined with the economy of the whole country. Therefore problems of North are, first of all, national problems. "Northern Dimension" of Russia is tied together as with the stabilization of the

current crisis situation and the strategy of the economic growth, as with the development of international co-operation. Under such circumstances the appearance of the "Northern Dimension" initiative made by Finland is quite natural.

It is obvious that the European Union's turn about to the North in the direction of Russia answers the interests of whole Europe.

It is of primary interest for Russia to ensure its role as the main supplier of energy resources to Europe, to prevent the degeneration of nature, to modernize transport corridors and border crossing facilities. But our interests are not limited only to that. Our main purpose is to develop the real sector of our economy to promote the solution of Russia's social and economic problems on this basis. It is important to provide common activities regarding industry and investment, the creation of joint-venture enterprises producing competitive goods, the conversion of military industry, to promote the development of trade, transport logistics and informatics, social and public health system.

The major aspect of interaction within the framework of the Northern Dimension is the EU's increasing dependence on imported energy and the fact that the share of gas in energy consumption is expected to increase. Russia's potential for this kind of resources is rather higher than other alternative sources. The co-operation should be based on development of high technologies, science-based productions in the partner-countries and observance of their national interests.

Russia and the EU are in such a situation, when there are mutual interests and it is possible to find common benefits. For example, the steady use of energy resources, located in the North of Russia, assumes that an energy distributing network, which covers all Europe and can ensure the deliveries and competition in the markets, is to be constructed. The use of energy resources and other minerals of the North, in accordance with the principles of steady development, assumes that long-term investments concerning the development of energy, transport, innovation networks and the improvement of ecological systems should be made.

The environment is also such a field where Europe's and Russia's interests meet each other, as pollution and nuclear waste have no borders and they are threatening the environment both in Russia and in Europe.

Thus, the future program of actions within the framework of the "Northern Dimension" should cover all the spectrum of the relations between Russia and the European Union based on the Partnership and Cooperation Agreement (PCA). We are to come to a balanced complex decision which covers all the main aspects of our co-operation. I mean

economic activity (both the exploitation of raw materials and the development of industry and investment), science and technology, environment protection activities.

Having approved the Northern Dimension initiative, the EU has admitted that Finland managed to find the reasonable balance. Russian highest authorities repeatedly confirm, when meeting Finland's state officials, that it is possible and necessary to combine the interests of Russia, Finland and the EU.

We see it necessary that from the Russian side regions, the concerned state departments and industrial associations should take part in the work on concrete activities.

Nowadays their offers on the cooperation projects are being collected and analyzed. After that they will be discussed with the EU partners. I would like to stress that cooperation within the framework of the "Northern Dimension" should not be limited only by raw material's sector. The majority of the projects financed by the EU is aimed at the moment at collecting the information about the situation in North West Russia. From our point of view, the key point is not in simple gathering the information and project offers, but in moving from reasoning to financing projects and practical work.

We believe that we should use good experience which is gained in our bilateral relations with Finland. We should take into account the geographical factor, the extent of the Russian-Finnish border, the accumulated experience of interaction. It is important because the basic channels of co-operation within the "Northern Dimension" will be built right here.

From our point of view, a program of long-term trade and economic co-operation between Russia and Finland could be our answer and contribution to the development of co-operation in the North of Europe. This program should be coordinated with the "Northern Dimension".

Differing from the majority of other countries, Russia and Finland nowadays have serious advantages. They do not lack a deficit of ideas and concrete, including large-scale, projects in the most perspective areas of mutual interest. I mean the projects in the field of energy including the second gas-pipe and its extending to the European ring. I mean the construction of the Baltic pipe-line system. I mean the "EuroRussia" project which is now being under discussion. I would like to mention that a memorandum between the concerned authorities of Russia and Finland on this item was signed in St. Petersburg on September 8, 1999.

We are interested in the Finnish electricity market and in all possible ways of expanding the cooperation in the forest sector.

The development of mutual trade requires the constant improvement and expansion of road and railway connections. The networks include the road E-18 (route Helsinki-St.Petersburg-Moscow), roads going around Vyborg and St.Petersburg, the development of automobile, water and air transport, the reconstruction of old and opening new border crossings.

The ecological projects are nowadays, as never before, up to date in Russia. We believe that the cooperation between Russia and Finland in this field has very good prospects. It concerns an ecological situation in Kola Peninsula, St.Petersburg and Leningrad region.

All mentioned projects belong to the "Northern Dimension" concept.

The realization of the "Northern Dimension" program will mainly depend on financing and investment possibilities. It is necessary to maintain the close interaction, first of all, with such international financial institutions as EBRD and the World Bank, which should take part in the preliminary work on the projects and ensure further investments. The activities of the Nordic Investment Bank in this region should be intensified and the possibilities of the European Investment Bank taken into account. The certain work in this field is being conducted and we have all the reasons to think that it will be successfully developed. We keep in mind also the fact that Finland is now presiding the EU.

From their own side, the Government and Federative Assembly of Russian Federation are nowadays carrying out a complex of measures which are aimed at the stimulation of foreign investors, maintenance of a favorable investment climate in the country, liquidation of barriers on the way of international investments and acceptance of generally approved standards regarding foreign investors.

In conclusion I would like to state that the concrete filling and implementation of the "Northern Dimension" concept will allow the European Union to consider the Russian market, in the long term, not as a potential one but as the most perspective and profitable.

The initiative of Finland concerning the development of the "Northern Dimension" deserves a high appraisal and demands prompt practical implementation. At the same time I would say that such large-scale projects as the Northern Dimension can not be realized very quickly.

We need time. And we still have it.

# 12 Macroeconomic Development in Post-Crisis Russia

*Peter Westin*

## 1 Introduction

Russia is of great strategic importance in the Northern Dimension. Although the countries around the Baltic Sea have become less dependent on its eastern neighbour economic and political developments continues to have a strong influence on these countries. The three Baltic countries were negatively affected by the crisis that struck Russia in August 1998 especially with regards to trade as exports to Russia suffered in 1998. Financial contagion differed due to the level of exposure to Russia. Latvia had the largest financial exposure with around 8% of banking assets invested in Russian securities. As a result of this domino effect the three Baltic countries experienced a slow-down in economic growth in 1998. In the same way these countries will benefit from a prosperous Russia. The devaluation created an excellent opportunity for Russian companies, which gained increased competitiveness. Industrial output started to grow and in March 1999 the OPEC countries struck a deal which led to a rapid increase in world oil prices. Although at first sight the story told in this paper will seem optimistic it cannot be emphasised enough that this recovery is based on a very weak foundation, and that the lack of institutional and structural reforms still prevents Russia from establishing a long-term sustainable growth path.

This paper presents an overview of Russia's economic progress up to the end of 1999. Russia has gone through a parliamentary and presidential election. The political centre has been somewhat strengthened by these two events. However, it still remains to be seen if it can make the right decisions in order to bring Russia back on the path of reforms towards a market economy. Powerful economic interests are still dominating politics and the pace of the recovery has recently slowed. Thus, Russia could remain stuck in transit.

## 2 Devaluation: A Window of Opportunity for Industry?

Despite very negative forecasts made in the beginning of 1999 (on average a GDP decline of 4.8% in 1999 was forecast by 12 major institu-

tions) Russia's GDP grew 3.2% in 1999, but real GDP in 1999 was still about 2% lower than in 1997. Quarterly rates of growth of GDP (Figure 1) slowed down through the year in seasonally adjusted terms. According to our estimates, quarter-to-quarter growth in GDP was 2.5% in the first quarter of 1999, 2.3% in the second, 1.8% in the third, and only 0.5% in the fourth quarter. However, GDP grew by 1.5% in the first quarter of 2000 according to preliminary estimates. The main reason behind this development has been a strong recovery in industrial production, especially in import competing sectors, which after the August crisis for the first time got a real chance to compete. Of course, this has not been caused by active and appropriate government policy but rather an effect of the devaluation and continued depreciation of the rouble, plus an increase in world oil prices, caused by the OPEC agreement made in March this year.

Industrial production increased by 8.1% in 1999 compared with 1998, after a 5.2% decline in the previous year. The highest rates of yearly growth were observed in the chemicals industry (21%), textiles & footwear (20%), wood & paper (17%), machinery (16%) and ferrous metallurgy (14%). Production of electricity remained unchanged to 1998, and output of fuels increased by 2%.

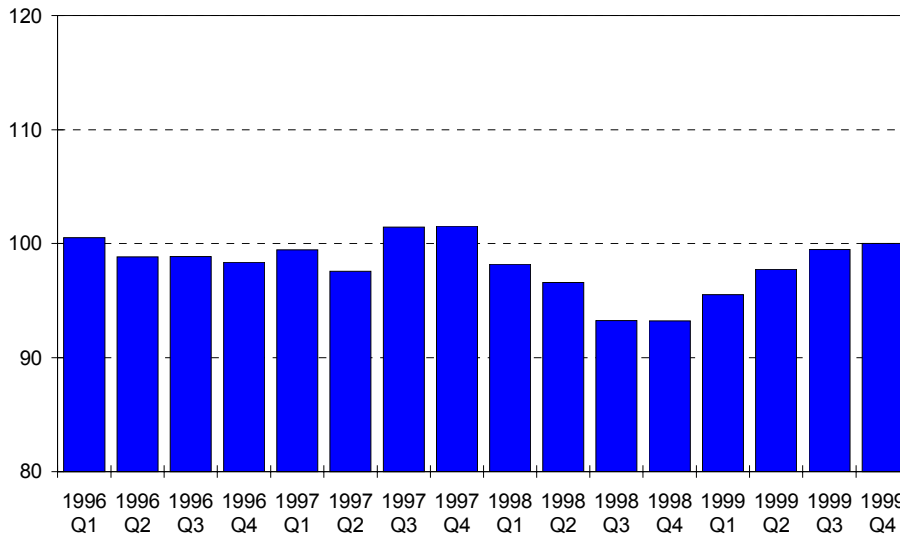
Putting aside post-recession recovery effects and comparing the level of industrial output with pre-recession 1997, we can see that in 1999 total industrial output was only 2% above its 1997 level. Substantial growth compared with 1997 was achieved in production of wood & paper products (17%) and chemicals (13%). Output in ferrous metallurgy, machinery, textiles & footwear and food processing in 1999 was 5-7% above the 1997 level. Production of non-ferrous metals increased by 3% compared with 1997, output of fuels and construction materials remained unchanged, and production of electricity was 2% below the 1997 level.

In the course of 1999 quarterly rates of growth of industrial output declined from 5% in the first quarter to about 3.5% in the third quarter. In Q4 1999 industrial production dropped by 1% on a quarterly basis. Quarterly decline of output was registered in the majority of industries: production of electricity, non-ferrous metals, chemicals, building materials, textiles & footwear and food processing. The future will show whether this decline was a temporary setback in output growth, or marked a return to stagnation.

Production of some services also increased in 1999. For example, freight transportation turnover increased by 5.2% compared to 1998, which means 1.6% above the 1997 average level. Passenger turnover grew by 3.7% compared to June but was 5% below the 1997 average



**Figure 1. Real Gross Domestic Product (1997 = 100, seasonally adjusted)**

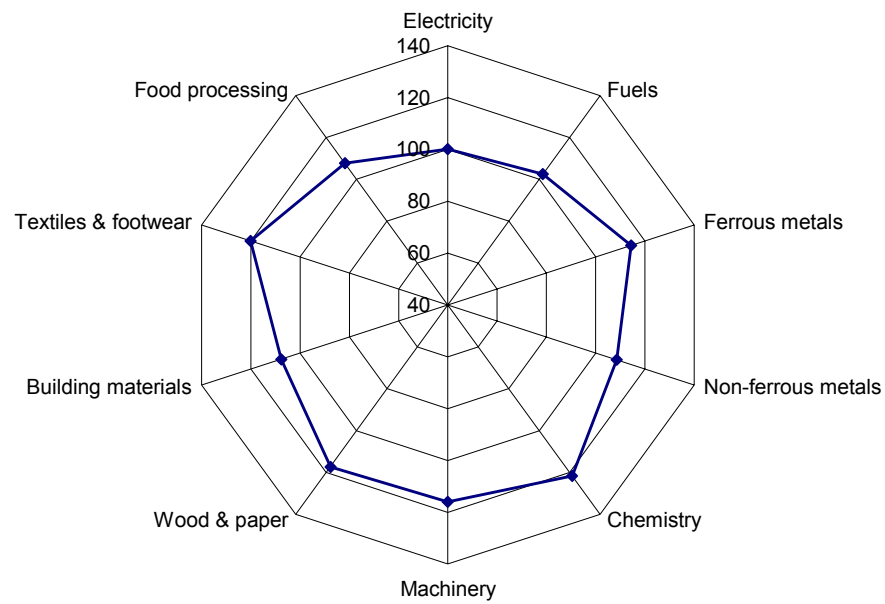


Source: Gostkomstat and RECEP estimates

level. Equally, the volume of wholesale trade grew by 1.2% in 1999, and was 1% below the 1997 average. At the same time the real volume of retail trade was 9,5% lower than in 1998 and 12% below its 1997 level.

Figure 2 shows the growth pattern by sector. It is clear that the 30% fall in imports in 1999 compared to 1998 has had a positive effect on the import competing sectors, while the export oriented sectors, especially fuel and electricity have performed poorly due to tight capital constraints, and thus need investments to support further growth.

Further disaggregation of industries confirms this hypothesis. A breakdown of industrial production into 49 individual shows that growth has been product specific. More or less consistent growth has been experienced in the production of synthetics and plastics, fertilisers, pig iron, compressed wood, paper, cement, vegetable oil, flour, clothing, socks and stockings, sawing machines (although the latter because of very small numbers produced pre-crisis), vans and trucks, tractors, and busses. Although food processing has been one of the major winners of the crisis commodities such as meat and canned meat, dairy products, butter, fish, and cereals have experienced a large decline. This highlights the problem of investments into agriculture, which most certainly would have a huge positive impact on the food processing industry.

**Figure 2. Growth in industry by sectors (1999/1998)**

Source: Goskomstat

From May 1999 Russian car manufacturing (personal vehicles) picked up. Russian car manufacturers are now faced with a much better competitive environment, but they have not been able to take full advantage of the situation. The increase in the production of vans and trucks are almost completely due to the production of the Gazell (produced by Gaz) Heavy vehicles, such as busses and bulldozers are still largely dependent on state orders.

The growth has also had positive labour market effects. Unemployment figures have improved. Although the rouble has started to appreciate in real terms, a catch-up to the pre-crisis level should not be expected, thus domestic producers could continue to benefit from the current market situation for some time. The effect of the devaluation and the continued depreciation does not yet seem to be over. However, it cannot be emphasised enough that long-term sustainable growth has to be accompanied by institutional reforms and enterprise restructuring.

### **3 Macroeconomic Management Rather Than Policy**

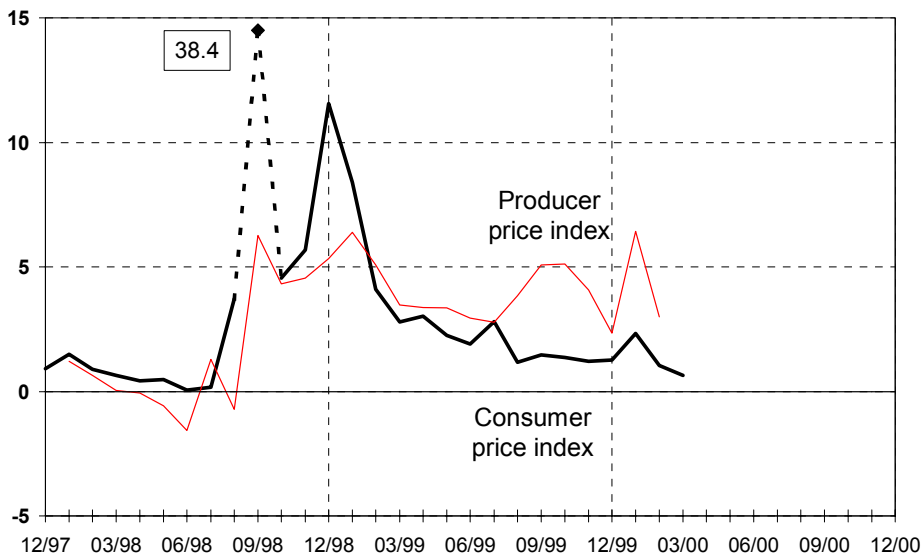
In light of the aftermath of the crisis it does make little sense to talk about macroeconomic policy, but rather macroeconomic management.

Monetary policy has remained relatively tight. In 1999 the monetary base (MB) grew by 54.1% and equalled R324.3 bn at the end of the year. While this growth was twice as high as in 1996-1998, it should be noted that half of last year's MB increase (21.9%) occurred in December. This was partly due to the traditional relaxation in monetary policy at the end of each year, when wage arrears and bonuses are paid. However, the main reason for money creation in December 1999 was extensive dollar buying by the CBR, which caused gross international reserves (GIR) to increase by almost \$1 bn. The bulk of the money printed has been used to pay external debt obligations but also to pay off budgetary wage arrears. Large-scale indexation of wages and pensions has been avoided with a positive effect on inflation.

The consumer price index increased by 36.5% in 1999, much less than in 1998, when it rose by 84.4%. Rates of CPI growth slowed progressively through 1999 from 5.1% per month in Q1 1999 to 1.3% per month in Q4 1999. Major components of CPI rose at about the same rate in 1999, so that the relative structure of consumer prices remained practically unchanged. This is an impressive record, considering the predictions made a year ago when 13 major institutions on average predicted inflation for 1999 to exceed 100%.

Producer price dynamics showed a quite different picture. Composite PPI increased by 60% in 1999, significantly more than in 1998,

**Figure 3. Monthly rise of price indices, %**



Source: Goskomstat

**Table 1. Evolution of the 2000 Federal Budget (% of GDP)**

Item	1999	2000	2000	2000
	Law	Finance Ministry Draft	Draft Law	Law, Final Version
<i>Revenues:</i>				
Tax revenue	10.0	12.2	12.9	12.6
Profits tax	0.9	0.9	0.9	1.2
Personal income tax	0.6	0.6	0.6	0.4
VAT	3.6	4.6	5.1	5.2
Excises	2.2	2.7	2.6	2.2
Foreign trade taxes	2.3	2.8	3.3	3.2
Other tax	0.4	0.4	0.4	0.3
Earmarked budget funds	1.0	0.2	0.5	1.1
Other revenue	0.8	1.1	1.2	1.2
Total revenue*	11.8	13.5	14.6	14.9
<i>Expenditures:</i>				
Defence	2.3	2.1	2.3	2.6
Law enforcement	1.3	1.2	1.5	1.5
Grants to regions	1.1	1.2	1.3	1.3
Subsidies (‘national economy’)	1.0	0.9	0.9	0.7
Social spending (health, education, etc)	2.0	2.2	2.3	2.3
Interest payments	4.2	4.3	4.3	4.1
o/w: - domestic debt	1.7	1.2	1.2	1.2
- foreign debt	2.5	3.1	3.1	2.9
Earmarked budget funds (roads, etc)	1.1	0.3	0.5	1.1
Other spending	1.5	2.8	2.6	2.4
Total expenditure (Minfin definition)	14.4	15.0	15.7	16.0
<i>Deficit (-):</i>	-2.5	-1.5	-1.1	-1.1
<i>Primary Balance:</i>	1.6	2.8	3.2	3.0
Memo: GDP, R bn	4000	5100	5100	5350

\* Revenue from privatisation is not included

Source: Ministry of Finance, Goskomstat, Federal Law

when it rose by 24.6%. Average monthly rates of PPI growth remained about the same over the year: 4% per month in the first half of the year and 3.9% per month in H2 1999. The rates of change of the PPI in different sectors and industries differed substantially, causing changes in relative price structure. Changes in producer prices in 1999 mainly reflected continuing adjustment of price structure to world prices under the conditions of the post-crisis rouble exchange rate. Thus agricultural prices increased by 120% in 1999, while industry prices for fuels rose by 135%, and for non-ferrous metals by 116%.

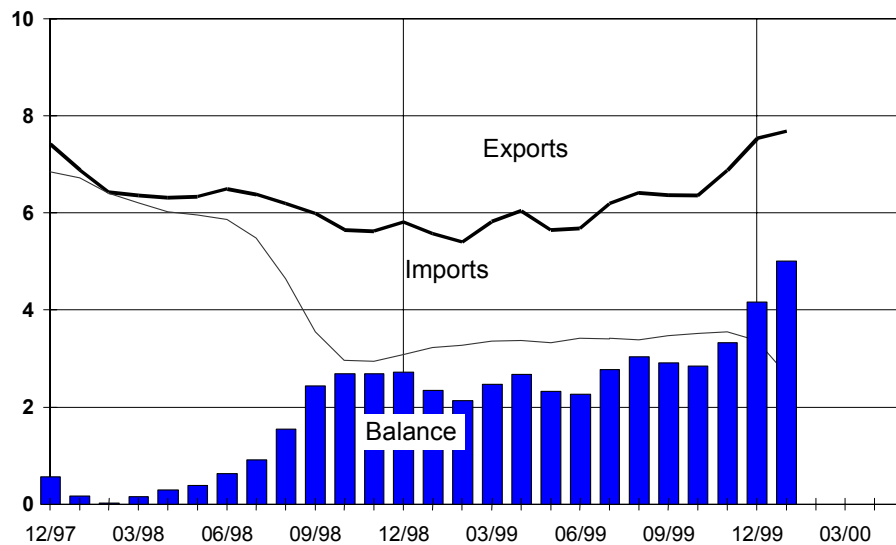
One of the underlying factors of the August 1998 crisis was the dire state of Russia's budget. Years of large federal deficits financed by an unsustainable high-yielding pyramid-type treasury bills market brought Russia to the brink of financial collapse. One consequence of the crisis was the disappearance of securities markets as investor confidence dwindled, thus limiting the government's ability to finance the deficit. Deprived of the main source of funding, the government was finally faced with no other alternative than to come up with a much tighter budget for 1999, foreseeing a primary surplus of 1.6% and a deficit after interest payments of 2.5%. The government struggled to fulfil its revenue target in previous years, but 1999 proved to be different. Not only did the government manage to collect tax revenues of 30% above target, but more importantly, the bulk was paid in cash. The factors behind this development is first the general economic upturn; taxes revenues being correlated with growth. Second, taxes on foreign economic relations are denominated in hard currency and thus a weaker rouble means more income to the state. Third, a higher oil price coupled with federal agreements between the state and large taxpayers (mainly export oriented) who since the crisis have seen their financial situation improve.

The government draft of the 2000 federal budget was submitted to the Duma on August 26 and was initially rejected in the first reading on September 28 (See previous RET for discussion of the government draft). A reconciliation committee of government and parliament representatives suggested higher targets for GDP, revenues and expenditure. The revised document was passed in the first reading on October 26, fixing revenues and expenditures for the next year at R797.2 bn and R855.1 bn instead of R743.6 bn and R801.4 bn envisaged by the government draft. Second and third readings took place on November 5 and November 30. On December 3, 1999 the federal budget for 2000 was passed by the Duma in the fourth and final reading.

#### 4 Weaker Currency: Stronger Exports

The devaluation has had a positive impact on Russia's current account and trade balance, mainly due to the effect on imports, which in 1999 were 30% below that of 1998. Exports in 1999, although increasingly helped by rising world commodity prices, remained more or less unchanged in value terms.

**Figure 4. Merchandise exports and imports (\$ bn, seasonally adjusted)**



Source: Goskomstat

The structure of Russia's exports according to customs data on selected goods (Table 2) changed moderately in 1999 compared to 1998. The energy component increased slightly from 45.4 % of total exports in 1998 to 48.2% in 1999. Not surprisingly crude oil accounted for the bulk of this increase, together with petroleum products. Exports of natural gas and coal in dollar terms both fell approximately 16.5%. The value of exported energy amounted to \$35.2 bn, which is about 7% more than in 1998. Developments within the energy group (natural gas, crude oil, petroleum products, and coal) varied in 1999. Exports of crude oil increased by 38% from 1998, amounting to \$14.1 bn. The highest drop was in coal exports, which decreased by 20% from 1998 and totaled \$0.5 bn. Exports of natural gas shrank by 16% from 1998,

standing at \$11.3 bn. Growth in exports of petroleum products was a modest 1% from 1998 to 1999.

Preliminary estimates for the beginning of 2000 indicate that energy remains the leading item of Russian exports. During the first months of 2000, the share of energy in overall exports rose, due mainly to the increase of average export prices for crude oil, natural gas, petroleum products and coal. Russian gas production fell in volume terms during the first months of 2000, but coal production has been growing in all coal-mining regions. Oil production also grew in the early part of 2000, as was expected in view of continued high oil prices. In February, ahead of the OPEC meeting, international oil prices reached a record high of \$30 per barrel.

In value terms only exports of timber products were higher in the first half of 1999 compared to the same period in the previous year. Metals accounted for 15% of total exports in the first half of 1999, amounting to \$4.8 bn, to be compared with \$6.1 bn in the same period 1998 which then represented almost 17% of exports. Exports of machinery and equipment were down by \$1 bn, standing at \$3.1 bn, while exports of chemical was only marginally down compared to the first six month of 1998. Because of the reporting procedures the group 'other' accounted for 26.7% of exports or \$8.5 bn, up from 22.8% and \$8.2 bn compared to the previous year.

**Table 2. Russia's main exports by sector**

Sector	1997		1998		1999	
	Value (\$ bn)	% of exports	Value (\$ bn)	% of exports	Value (\$ bn)	% of exports
Energy, of which	39,8	48.0	33.0	45.4	35.2	48.2
Natural gas	16.4	19.0	13.5	18.5	11.3	15.5
Crude oil	14.8	17.0	10.2	14.0	14.1	19.3
Petroleum Products	7.3	8.4	4.2	5.7	4.7	6.4
Coal	0.8	1.0	0.6	0.8	0.5	0.7
Metals	13.7	15.8	11.6	21.4	10.4	14.2
Machinery & equipment	8.6	9.9	8.1	11.1	7.8	10.6
Chemical products	2.7	3.1	2.3	3.1	2.1	2.8
Timber products	2.6	3.0	2.4	3.3	2.7	3.7
Other	19.1	22.0	15.2	15.7	14.7	20.2
Total	86.6	100.0	72.6	100.0	72.9	100.0

Source: State Customs Committee

The August 1998 crisis gave a boost to import substitution in Russia as imports collapsed dramatically. According to Goskomstat, the value of imports in 1999 amounted to \$41.1 bn, which is 31% less than in 1998. Comparison between quarters shows that imports were lowest in the first quarter of 1999, totaling just \$9.4 bn, whereas in the same period of 1998 they stood at \$18.3 bn. A slight recovery was observed in the course of the year, and imports in the fourth quarter of 1999 totaled \$11.4 bn, which was about 21% higher than in the same period of 1998. While exporters benefited from devaluation and high international energy prices, importers revived towards the end of the year due to a slower inflation and real appreciation of the rouble. In January 2000, imports stood at \$2.4 bn, which is 17% less than in January 1999 and 58% below the January 1998 level.

The reporting of main imports by the State Customs Committee gives a somewhat limited picture of Russia's import structure since the category of 'other' commodities now accounts for 46% of trade. Based on the data available, we see that in value terms, imports fell in 1999 in all categories, reflecting the import substitution effect. If the 'other' category is excluded, it is seen that machinery and equipment constituted the biggest share of imports at 32%. This was also true in previous years. Imports of capital intensive goods, such as machinery and equipment, is common to all transition economies, which aim to increase their competitiveness by increasing the amount of intra-industry trade. In value terms, imports of machinery and equipment into Russia amounted to \$9.9 bn in 1999. This is 37% less than in 1998. As regards other import categories, the biggest drop was registered in industrial commodities (88%). Imports of industrial commodities totaled \$0.3 bn, and their share of total imports declined from 6% in 1998 to only 1% in 1999. Imports of food dropped by 7% compared with 1998 and accounted for 13% of the total in 1999. In dollar terms, food imports totaled \$4 bn. Imports of consumer goods, i.e. clothing, household goods and medicine, fell by 33% in 1999. They accounted for 5% of total imports in 1999, compared with 6% in 1998. Imports of consumer non-necessities dropped by 57% and energy imports fell 73% in 1999.

Unofficial trade has been a significant phenomenon in Russia over recent years. Shuttle trade plays a minor role in exports, but is important in imports. However, shuttle traders were among the victims of devaluation and the fall in unofficial trade contributed to the drop in overall imports. According to Goskomstat, the share of unofficial trade accounted for about 10% of trade in 1999, with total value of \$11.5 bn. This is 30% less than in 1998. Shuttle trade constituted 1.9% of exports and 24.5% of imports in 1999.



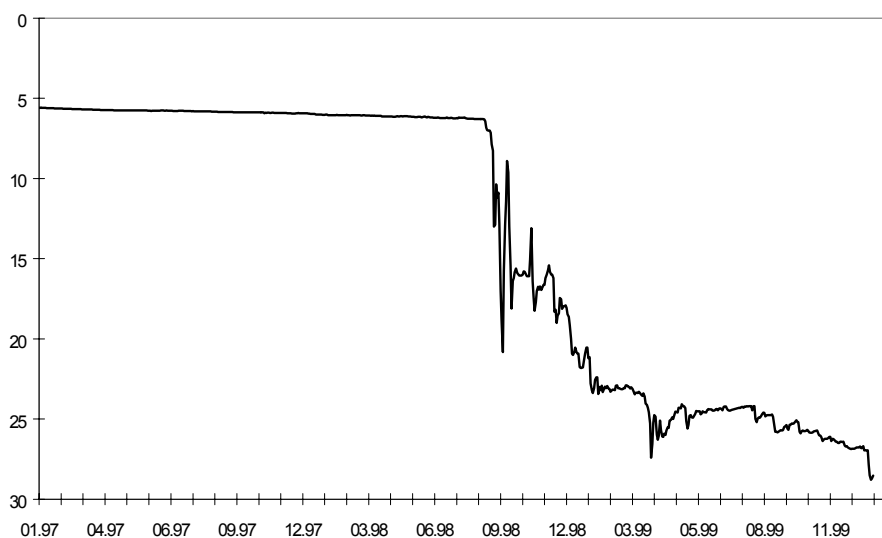
**Table 3. Russia's main imports by sector**

Sector	1998		1999	
	Value (\$ bn)	% of registered imports	Value (\$ bn)	% of registered imports
Foods	4.3	9.8	4.0	13.3
Consumer non-necessities (1)	2.1	4.7	0.9	2.9
Industrial commodities	2.6	5.9	0.3	1.0
Clothing, household goods & medicine	2.4	5.5	1.6	5.2
Machinery & equipment (2)	15.6	35.4	9.9	32.0
Other	17.0	38.6	14.0	45.6
Total registered at the border	44.1	100.0	30.9	100.0

Source: State Customs Committee

1. Includes alcohol, cigarettes, coffee, tea, chocolate and cocoa.

2. Includes cars and trucks

**Figure 5. The MICEX rouble exchange rate (R/\$)**

Source: Moscow Times

In 1999 the CBR official exchange rate depreciated by 23.5% and the MICEX exchange rate by 21.6%. In the last quarter of 1999 the rouble depreciated 7.2% (CBR official rate) and 6.6% (MICEX). The

rouble came under renewed attack immediately after the New Year. By January 12 the official rate had depreciated by 6.7% (and by 7% in one week), hitting a level above R28.8 to the dollar. Several factors contributed to the pressure on the currency. First, commercial banks' liquidity increased as the balance on their correspondent accounts at the CBR reached a massive R88.3 bn (rising more than R20 bn over a few days). Second, the markets believed that the CBR would allow the rouble to fluctuate between R27-30 per dollar. Third, signs of non-intervention from the CBR fuelled trading.

Although the rouble is technically under a floating exchange rate regime, economic actors have believed that the CBR would, at some point, defend the rouble (at the beginning of the year, many actors did not think the CBR would let the rouble fall below R29 per dollar). A weaker rouble means more expensive debt payments. This year the government is supposed to make approximately \$10 bn in debt payments, of which \$3 bn in the first quarter, and \$1.2 bn in January. Nevertheless, in the first few months of 2000 the CBR has managed to build up international reserves which further will provide support for the rouble. This has been possible due to strong export performance in the last quarter of 1999 which then has to be repatriated within 90 days, meaning that the proceeds are obtained in the first quarter of 2000. Also there are indications that capital flight may be slowing down, and that in fact some flight capital is returning to Russia in the form of investments. Countries such as Cyprus, Gibraltar, and Luxembourg are recorded as countries of origin for investments.

## **5 Conclusions**

First and foremost, Russia has returned to a more appropriate exchange rate regime. This in turn has created a favourable and competitive environment for the real sector. The fiscal situation has improved, which has relieved the CBR from pressure to print money. Inflation has gone down to acceptable levels, helped by the government's efforts to restrain from indexation of wages and pensions.

There are however wrongs that must be righted. The fact that Russia is experiencing strong growth may divert efforts away from imperative reform measures which is essential for long term sustainable growth. This is mainly in the area of structural and institutional reforms. Russia's enterprises are now faced with a much healthier financial position, and this may facilitate much needed investments and restructuring. Furthermore, the arrears-situation has improved and the use of barter has diminished. However, this would also have to be supported by po-

litical will. With regard to the banking sector, restructuring has to be sped up and confidence has to be created. Banks are not attracting savings, and lending to the real sector is still limited. Decisions to, if necessary, liquidate banks are still viewed as politically unfeasible.

There are however wrongs that remain to be righted. This is mainly in the area of structural and institutional reforms. Russia's enterprises are now faced with a much healthier financial position. The devaluation led to an increase in the demand for Russian produced goods to substitute for imports, and the share of cash payments started to increase (i.e. barter transactions fell), thus corporate earnings increased. As a result, the number of enterprises considering themselves to be in a 'good' or 'normal' financial situation (measured by the use of surveys) increased steadily. In August 1998 13% of enterprises participating in a survey conducted by the *Russian Economic Barometer* reported that their financial position was 'good' or 'normal', and a year later this number had increased to 49%. As for the use of barter in industrial sales, in August 1998 the *Russian Economic Barometer* reported that 54% of such transactions were made using barter, and a year later this had fallen to 36%. This may facilitate much-needed investments and restructuring. Furthermore, the arrears situation has improved and the use of barter has diminished.

These developments need the support of political will, however. With regard to the banking sector, restructuring has to be sped up and confidence created. Banks are not attracting savings, and lending to the real sector is still limited. Decisions to liquidate banks if necessary are still viewed as politically unfeasible. If these issues are tackled properly, the effect of the August crisis could very well be the transformation of Russia into a healthy, prosperous, and more transparent economy. The initial effects of the 1998 crisis could then be viewed as what Schumpeter called 'creative destruction'.



# Part Three

The Role of the EU  
in the Northern Dimension



## 13 The Northern Dimension of Eastern Enlargement – EU as an Outside Anchor and Russia<sup>1</sup>

*Erik Berglöf*

Returning to Europe - with EU membership as its concrete manifestation - has been on top of the political agenda in many of countries in Central and Eastern Europe since the beginning of transition. The broad support for this aspiration among the elites and in the general population has been extremely important to the reform process. Otherwise impossible coalitions have been forged and difficult institutional choices have been imposed by accession. The European Union has served as an “outside anchor” relieving political constraints to the reform process in these countries.<sup>2</sup> But there are also countries in the region for which EU membership is remote and even unattainable in the foreseeable future. The reform experience in these countries has been much rockier and the outcome more ambiguous.

This brief note discusses the role of the European Union as an “outside anchor” to the transition process in Central and Eastern Europe and former Soviet Union, with an emphasis on the countries constituting the Northern Dimension of the European Union. The latter countries span, more or less, the entire range in terms of EU’s contribution to their transition experience with Poland and Estonia having had remarkable success on one hand and Russia with its patchy record on the other. The note takes as a starting point the proposal from the European Commission and later adopted by the European Council in Helsinki to extend membership negotiations from six to twelve countries. The new policy removes the previous artificial barrier between the two echelons of candidate countries, but it remains vague on the accession date and opens up the possibility of long transition periods. Effectively, the proposal weakens the leverage of EU membership by diluting and creating uncertainty about the meaning of membership and removing the distinction between pre-negotiations and negotiations.

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<sup>1</sup> This commentary draws on Berglöf and Roland (1997).

<sup>2</sup> For an analysis of the accession process focusing on the transfer of financial resources and enforcement, see Burkart and Wallner (1999).

## 1 Implications for Accession

The idea of an outside anchor is very simple. A prize, here EU membership, is held out as bait to break political constraints domestically. The leverage is stronger, the bigger is the prize, the more certain and the nearer in the future it is. It is important to emphasize that the rewards are not strictly financial, e.g., structural funds and agricultural subsidies, but include the much more important intangible assets of re-joining Europe. Even the simple prize analogy has several seemingly nontrivial consequences for the accession process in particular as it applies to the Northern Dimension of the European Union.

One first implication is that for leverage to have an effect the rewards of membership must not be too far in the future. Voters, and even more so politicians, discount heavily. The exact length of the horizon of decision-makers in the transition countries cannot be specified. But it is difficult to imagine that politicians and voters would attach much weight to consequences that come beyond seven years; indeed the experience from transition suggests that the political horizon is much shorter. Postponing entry beyond 2005 would seriously weaken any leverage. The recent proposal is positive in the sense that it moves up the expected date for a decision on accession.

The failure to commit to a date points to a second implication: the “anchor” paradigm suggests that a timetable for important decisions must be fixed. Promising entry would obviously take away leverage, but introducing uncertainty or vagueness about the date of the decision on entry also seriously weakens leverage. Even though the recent proposal for enlargement has moved the expected decision date for the second echelon of countries, it has also reintroduced vagueness surrounding the exact date for the first round of applicants. As a result, the leverage of the EU in the reform process is likely to have been weakened. For applicants in the second echelon the net effect of an earlier decision and increased vagueness about the decision date is unclear.

A third implication is that membership should not be automatic or predetermined. By dividing the field into two echelons, and including Estonia and Slovenia into the first echelon, the Commission managed to send a rather subtle but yet clear message: accession is determined by the extent of reforms, not by geopolitical considerations. It was still worthwhile for, for example, Latvia and Romania to continue their reform efforts. Removing the admittedly arbitrary distinction between the two groups of countries blurs the message.



A fourth implication is that the European Union must not follow a predetermined order of entry; it must be possible for countries further down the list to climb. Frequent and transparent checkpoints as agreed upon in Luxembourg are essential in keeping the process alive. The signals to Latvia last year that it could join the first group had a positive impact in this sense. Latvia had in the face of very difficult domestic political and economic problems shown a commitment to reform that should be rewarded. However, the Latvian example also shows that these achievements must be fought for continuously and that they are vulnerable to external shocks. The mixed signals sent by the EU to Latvia over the last couple of years have not helped the country in this fight. On the whole, the recent proposal has probably increased the sense of mobility among the applicants, in particular for the countries, like Latvia, that were on the top of the second echelon.

A fifth implication is that holding off membership may be motivated. Indeed, postponing entry is more powerful the closer it seems. Again, Latvia is a good example. There was widespread disillusionment when Latvia was not included in the first five from the beginning. But policymakers reacted by making even harder efforts. Here the compromises reached in Luxembourg were very important in sustaining the momentum in reform. Without the regular evaluations and the prospect of being “upgraded” Latvia probably would not have come as far as it has. There is a clear risk that the prospects of earlier entry with diluted membership rights for the new members have reduced leverage in the countries at the bottom of the list.

A sixth implication relates to the criteria according to which the candidates are evaluated. The more opacity and vagueness surround these criteria the weaker the leverage, and the more difficult is the task of local reformers to sustain support for accession. The Copenhagen Declaration is not very informative, and the Agenda 2000 document only indirectly attempted to define the concepts. The recent evaluations have reduced the uncertainty about the interpretation of the criteria, but many questions remain. The Copenhagen criteria are intentionally vague, at least when it comes to the first two economic criteria: the competitiveness and the market economy criteria. What is needed is a deeper analytical foundation for these criteria. For example, I have yet to hear a convincing rendering of the economic analysis underlying the competitiveness criterion, and I find it hard to distinguish the two criteria.

Here I want to come back to the issue of the limits of enforcement within the European Union. Greece was mentioned as an example. Obviously, enforcement powers vary across different aspects of reform, and there may even be aspects of reforms that are better imple-

mented once members are inside. But I want to suggest one important point. The EU is probably much better at enforcing specific regulations than basic institutions implementing or interpreting these regulations. For the latter, the outside anchor prior to accession is likely to be very important.

So far we have assumed that EU is acting in the interest of the accession countries. Much of the negotiation process suggests that this is not always the right assumption. A more cynical view recognizes that even if the present members realize that they benefit from these countries reforming they will also try to extract benefits, and even transfers, from them in the bargaining process, holding them down to their reservation utilities, in economics lingo. Ironically, and perhaps intentionally, the criteria are only clear when it comes to the *acquis communautaire*, the reforms that are most beneficial to the present EU members and often of dubious value to the accession countries. For the debate it probably would be helpful to puncture the image of EU as always omniscient and benevolent.

A seventh implication concerns the linkage between enlargement and internal reform of the EU. It is often said, in particular following the recent proposal to expand the group of negotiating countries, that the decision-making process within the Union must be reformed before new members are admitted. As long as these two dimensions of European architecture are linked, the effectiveness of the EU as an outside anchor to the accession countries hinges on its ability to reform itself. Since these reforms are beyond the control of candidate countries, the linkage weakens leverage. Expanding the group of applicants from six to twelve has added additional pressure on internal reform and further increased uncertainty about when enlargement will actually happen.

## **2 EU and Non-Applicants**

EU can also play a role as an outside anchor in the countries with little or no chance of ever becoming a member of the European Union. Russia neither can nor wants to join the EU, and this has contributed to the lack of direction of reforms. It is in the interest of the European Union to find some way of providing an outside anchor to the Russian transition or transformation process. We must have very modest expectation for this leverage, but I want to suggest a few principles that should govern EU's relationship to Russia. Many of these principles are present, explicitly or implicitly, in the strategy document that was

adopted in Cologne last year and the program for the Finnish Presidency has made some of them clearer. But there is still a need for both visionary thinking and concrete actions. The basic criteria for creating leverage are the same. Conditionality must be substantive (i.e., the prize must be high enough), conditions clear and decision-points precise in time. Rewards must come within the horizon of decision-makers. In Russia's case an effective anchor is more likely to be financial rather than political; Russia has no strong identification with Europe as such.

The first principle must be that the cooperation should encompass a broad range of fields. Part of the weakness of IMF and potential WTO conditionality is that it is narrow. Russia's transition problems go far beyond macroeconomic imbalances and the structural issues, which have received more attention recently. The vulnerability of the Russian economy stems from the weaknesses of fundamental societal institutions, in particular in the norms and the enforcement of laws governing social and economic interaction. Unfortunately, we do not understand very well how to build a culture that fosters enforcement, and the achievements of the EU outside anchor in this area are mixed in Central and Eastern Europe. But EU conditionality holds much greater promise than other forms of leverage due its comprehensiveness. Engagement on a broader range of issues also reduces the vulnerability of the relationship to the seemingly unavoidable political and economic swings during the transition process, at least when the country is a democracy.

The second principle should be that anchors must be provided at many different levels of the Russian government. For leverage to have an impact, it must not only be applied in Moscow, it must also be exerted at the levels of the regions and the municipalities. This principle is becoming increasingly important as power is shifted from the federal level to the regions.

The third principle is that the ambition must be to engage Russia economically and in a genuine way. Russia's opening to foreign competition following the events in 1991 was dramatic, some would even argue that it opened too much, too quickly. In work that I have done with Damien Neven we show the EU has not responded in the most generous way. It kept the barriers where they hurt the Russians the most and made frequent, and our analysis of the antidumping cases shows an unfair use of available measures. It was only to be expected that Russia was going to have second thoughts about its opening up. The Russian Strategy adopted by the European Council, and the Partnership and Cooperation Agreement, spell out that the long-term objective should be the establishment of free trade between Russia and

the EU. Putting a free-trade agreement back on the agenda would be a major step in the right direction and allow the European Union to place conditions.

The fourth principle concerns the impact of EU enlargement on Russia. The Eastern enlargement is different from previous enlargements not only in the extent of its effects on the Union but also in its impact on those left outside. The impact comes in a broad range of areas, from new trade barriers being erected to visa restrictions being imposed. The restructuring pressure on Russian industry will also increase as Eastern European companies turn west even more. Some of the concerns voiced by the Russians are probably exaggerated, but the European Union should at least recognize them.

A fifth principle is one that I feel particularly strongly about. It concerns the need to engage Russia beyond the current elite. I am thinking in particular of the future generations of decision-makers. It is embarrassing how little of the Russian Brain Drain has gone to Europe. European universities must open up to young Russians in a much more systematic and coordinated way. Russians that study in Europe are much more likely to remain involved in their networks and eventually return. But engagement must also go beyond the elites and involve broader social groups. Tourism could be substantially expanded. It was the young tourists and job seekers waiting at the Hungarian border that played such an important role in the events of the fall of 1989.

In considering the role of EU as an outside anchor for Russia it is also important to remember that for outside leverage to be effective, it requires a minimum level of inside enforcement. The weakness of Russian legal institutions and enforcing agencies makes it questionable whether external conditionality could be effective in the country before substantial reform has brought it over this basic threshold. Ultimately, the main role of the EU accession process may be to provide a comprehensive set of criteria for what constitutes a modern market economy against which Russian policymakers can benchmark their own reform efforts.

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# Discussion

*Carl B. Hamilton*

This is a very interesting and stimulating paper. As I see it there are two implicit preconditions for the anchor approach to work:

**First**, the non-EU state must not be a “soft” one. The government must be able to rule the country effectively.

**Secondly**, in the non-EU state there must be an across the floor parliamentary consensus that EU membership, or closer ties with the EU, is so desirable that reductions in sovereignty (“costs”) are worth making in return for benefits stemming from EU-membership, or the closer ties.

## 1 Russia – A Soft State?

If the non-EU country’s government in effect does not rule the country it cannot deliver the implementation of reforms motivated by future membership, or agreements on closer ties. Then the anchor approach would work on paper only.

If it is a soft state both the non-EU country and the EU hopefully acknowledge this and move on to the next question: How can an outsider - like the EU - strengthen the non-EU country government’s capacity to rule its own country? When reflecting on this delicate question it seems important to differentiate between two reasons for the government’s shortcomings:

It can be a matter of *poor administrative capacity*. Then EU support could take the form of training, institution building, etc. Administrative reforms would take place in a political “waiting room”, preceding the phase when the EU can act as an anchor for reform.

If, on the other hand, the problem is that the non-EU country’s government *lacks political legitimacy* for good reasons, the efforts of outsiders to try to strengthen its legitimacy will be problematic, and may backfire. If the government is thrown out at the next election, not only would the old government be discredited, but so would also its foreign supporters, like the EU.

## 2 Need for Almost Consensus

In the non-EU country, closer ties with the EU, or EU membership, cannot be too politically controversial for the anchor approach to work. There needs to be a stable, across the floor support in parliament for closer ties, or full-fledged EU membership. Stability here means a significant majority *regardless of all likely election outcomes, and all likely ensuing government coalitions*. The EU's demands will otherwise be issues in election campaigns and may well tilt the outcome of elections.

The back firing could happen basically for two reasons: first that the electorate does not wish the reforms to happen. Secondly, the electorate may indeed tolerate the reforms, and may even like them, but the electorate may still vote against the reforms because it may dislike what they see as EU dictates, imposed upon "us" by "them" from abroad. To motivate domestic political changes by reference to foreigners' demands has proved problematic on occasions in the past, as students of e.g. the Maastricht ratification process know.

Berglöf's paper has as its basic analytical framework the relationship between the EU and fairly mature countries applying for membership, like Poland, Estonia, the Czech Republic, Hungary, etc. In these cases the issues of fixed deadlines in the process, the need for good behaviour to pay off, the risk of a postponed membership, the need for clear criteria, etc. are all fine, but note that they assume that a basic institutional and political stability already has been achieved.

Berglöf suggests that different levels of the Russian government (regions, municipalities) should be engaged in co-operation and "anchor activities" with the EU. The benefit would be some sort of "prize". However, even if the nature of the prize is made clearer, is it really possible for a foreign power like the EU (or USA, Japan, Sweden or Finland), to offer and hand out prizes to different regions and municipalities? It assumes that the regions and municipalities in effect are allowed to have their own quasi-foreign offices handling relations with the EU. It would shift power in foreign policy from the central Russian government to the regions. How would the Russian central government look upon that, and the fact that outside organisations shop around offering incentives, which would loosen the Russian federation as well as the grip of the federal government? I think it is impossible to circumvent this issue, as well as the federal government.

### 3 The Danish Lesson

A problem with the anchor approach is that the perspective stops on the day of EU membership. But history does not stop on that day.

Suppose the anchor approach leads to reforms being implemented, but that the implications are not fully explained to the electorate, or special interest groups, before membership, but become clear only when membership is a fact. It is often very tempting for policy makers to refer to the EU as a “scapegoat” for unpopular reforms, rather than taking on the effort themselves of explaining the pros and cons of reforms.

When voters and special interests wake up to realities, the policy makers lose credibility generally, and especially when it comes to decisions regarding European integration. “The politicians cannot be trusted, and they must be controlled more closely”, can be the reaction. If so, it will restrain that member country as an active participant in the EU, and it can result in the entrant becoming a frustrated, and a frustrating EU member breeding problems for other EU countries. Thus the anchor approach if exploited as a method to overrun parliaments, special interest groups or voters, can cause the membership issue to turn sour. The anchor approach thus must not be used as a substitute for explaining domestically what the EU-induced reforms are good for. This is the Danish lesson. It was not learned by Sweden, for example when it became a member of the European Union in 1995.





# 14 The Need for and Strategy of Common Policies under the Northern Dimension – The Role of the European Union

*Timo Summa*

The area of the Northern and North-Eastern Europe develops rapidly. Political, economical and environmental development and changes within the next five to ten years will give all actors here great challenges. It was therefore important for the European Union, involved in many sectors and levels in this area, to take an initiative to develop a Northern Dimension for the policies for the Union.

## 1 Short Summary of the Development – The Political Framework

The Northern Dimension should be seen in the general framework of the regional co-operation in Europe. The European Commission has defined the objectives for EU support and involvement in regional co-operation to be:

- to promote stability, security and prosperity in Europe through the development of good neighbourly relations among countries and peoples in its regions;
- to further the process of European integration by ensuring that no new dividing lines are drawn on the European continent;
- to create favourable conditions for EU enlargement.

There are several regional fora where the European Union has the leading role or where there are other links of co-operation.

The concept of a Northern Dimension for the policies of the Union was first introduced by Finland at the European Council in Luxembourg in December 1997. The Council took note in its Conclusion of the Finnish proposal concerning a Northern Dimension for the policies of the Union and requested the Commission to submit an interim report on this subject at a forthcoming Council meeting in 1998.

Subsequently, the Cardiff European Council on 15-16 June 1998 recalled the Conclusions of the Luxembourg European Council and reiterated the Commitment of the EU to help Russian efforts to tackle the

problem of spent nuclear fuel and nuclear waste in North-West Russia and notes that such work might be taken forward under the proposed Northern Dimension.

At the European Council in Vienna on 12 December 1998, the Council welcomed the interim report submitted by the Commission on a “Northern Dimension for the policies of the Union”. It has underlined the importance of the subject for both the Union’s internal and external policies notably with Russia and the Baltic Sea region. It has underlined the necessity to pursue the exchange of views with all the countries concerned to define together this Northern Dimension notion and invited the Council to define guidelines in the fields concerned, on the basis of the Commission’s interim report.

This meant that the European Council has included the Northern Dimension, and a continuous dialogue among all countries concerned, on its agenda.

At the General Affairs Council in Brussels on 31 May 1999 the Council adopted Guidelines for the implementation of the Northern Dimension. The latest cornerstone was achieved at the European Council in Cologne on 3-4 June 1999. The Council considered the Guidelines adopted as a suitable basis for raising the EU’s profile in the region.

## **2 The Components of the Strategy**

Now that the Guidelines have been adopted it is worth to pay a closer look at the Initiative. Seen from an EU perspective three questions come to mind. “A Northern Dimension for the Policies of the Union”. With Whom, Why and How?

### *The Geographical Area*

The geographical area is already defined. The region considered for the purpose of the Commission report on the Northern Dimension extends geographically from Iceland in the West across to North-Western Russia, from Norwegian, Barents and Kara Seas in the North to the Southern Coast of the Baltic sea. The region has approximately 84 million inhabitants of which 24 million live in the five Nordic countries, 7.8 in the Baltic Countries, 38.6 million in Poland and approx. 18.5 million in North-Western Russia including Kaliningrad.

*First Question: With Whom? (The Actors)*

Four actors or group of actors are to be identified in the region:

1. EU Member States
2. EEA countries
3. The Accession Countries
4. Russia
5. to which we should add a fifth one, the European Community as such.

Other actors, co-operation schemes and instruments, are also found in the area.

The First Group of actors, EU Member States, is mainly constituted by Finland and Sweden who are members of the EU. In view of their accession in 1995, the European Community put in place structural assistance designed specifically to address issues related to the EU's Northern regions, which have an extremely low population density (objective 6: around 700 Mill. Euro of assistance during the period 1994-1999).

The Second Group includes Norway and Iceland who are members of the European Economic Area. Significant co-operation exists between the EU and Norway regarding the development of Northwest Russia, in particular on nuclear safety, human resources development, transport, energy and environment and cross-border co-operation.

The Third Group of actors comprises of Estonia, Latvia, Lithuania and Poland who are part of the enlargement process and have Europe Agreements with the European Community and its Member States and who all benefit from the Phare Programme, which supports their preparation for EU membership.

The Fourth actor is the Russian Federation. The relations of which with the European Community and its Member States are governed by the Partnership and Co-operation Agreement (PCA) which entered into force on 1st December 1997. The PCA established the framework for bilateral co-operation and dialogue in a wide range of areas, notably political and economic affairs. The Russian Federation is a beneficiary of the Tacis Programme. At the Cologne European Summit in June 1999 a Common Strategy of the European Union on Russia was adopted.

In addition to Community co-operation programmes in the region, a number of Member States' bilateral programmes and joint Nordic programmes provide support for the region's development.

- Financial institutions and programmes.

Moreover, the European Investment Bank (EIB), the OECD Baltic Regional Programme, the International Financial Institutions, such as the World Bank (WB) and the European Bank for Reconstruction and Development (EBRD) as well as regional institutions, notably the Nordic Investment Bank (NIB) finance projects in Northern Europe.

- Regional co-operation.

Regional co-operation is also promoted in Northern Europe by existing regional fora notably the Council of Baltic Sea States (CBSS) and the Barents Euro Arctic Council (BEAC) in which the European Commission participates and the Arctic Council. A number of sub-regional co-operations add an interesting dimension to the regional co-operation.

To these actors who all belong geographically to the region one should add the European Community who has an established network of close relations with the countries of the region.

One should ask, therefore, why a Northern dimension for the policies of the Union?

This brings us to our second question.

*Second Question: Why? (Interests and Challenges)*

With the accession of Finland and Sweden the European Union extends across the Baltic Sea and beyond the Polar Circle and has 1300 km border with the Russian Federation. The future enlargement of the Union to include Estonia, Latvia, Lithuania and Poland will further emphasise this natural Northern Dimension interaction between the EU and Russia. Russia is already highly dependent on European markets, as the Union has a trade share of almost 40 percent in Russia.

The Northern region is of particular significance to the European Union. The security, stability and sustainable development of Northern Europe are of major interest for the Union and to the countries in the region. Differences in border areas between the Union and the Russian Federation are considerable and measures should be taken in order to decrease the risk of a deepening socio-economic and destabilising divide forming along the enlarged Union.

The Northern region is the Union's only direct geographical link with the Russian Federation and, as such, is important for co-operation between the EU and that country. It is a region of great natural re-

sources, with considerable human and economic potential and where environment is a cause of concern and represents a major challenge.

North-Western Russia is home to vast natural resources such as gas, oil, non-energy raw materials and forest resources. It is in EU's interest to ensure that it has secure and reliable sources of energy. The European Community is becoming increasingly dependent on imported energy. This trend will be reinforced with Community enlargement. The share of gas in energy consumption in the Community is expected to increase. The EU needs therefore to diversify sources and ensure that it has access to modern networks that can deliver energy imports. The hydrocarbon resources in the North could constitute a strategic reserve for Europe's energy demands. But the exploitation of oil, gas and non-energy raw materials will require substantial improvements in energy and transport infrastructure.

The region of Northern Europe has considerable potential for economic co-operation. Progress, however, has been hampered by inadequate economic infrastructure, legislation and institution, for example the weak financial services sector.

The economic development and interdependency of the North will require the development of transport infrastructures and the establishment of new connection with European-wide networks as well as efficient telecommunications and information systems supporting modern business activity.

The environment in Northern Europe is a cause of concern and will present a unique challenge to future generations. It is extremely vulnerable. The region contains a number of major sources of pollution and the risk to the environment is significant. Pollution in the Baltic Sea and its littoral states affects wide areas within the Union, the associated countries and Russia. The Russian Federation's environmental problems also arise from many sources, including nuclear power plants and civilian and military related nuclear waste. The treatment of nuclear waste in Northwest Russia is not at an adequate level of safety. Large quantities of radioactive waste and spent nuclear fuel are not properly managed or stored. This is an important problem in which the European Community, Russia, Norway and the US are already engaged.

In addition, problems such as illegal trafficking in drugs, nuclear material, illegal migration, criminal activities across borders, money laundering, training (managerial and vocational) and health issues will need to be addressed.

Having identified the interests and challenges this brings us to our third question: How?

*Third Question: How?*

- Using existing frameworks and instruments.

The Northern Dimension Initiative builds upon existing Union instruments programmes and budget lines and international institutions. The further promotion of a Northern Dimension concept should take place where there is clear added value and should be based on contractual relationships such as the Partnership and Co-operation Agreement with Russia and the Europe Agreements with the Baltic States and Poland. At the same time it should also help to emphasise the positive interdependence between Russia and the Baltic Sea Region and the Union, notably by achieving further synergies and coherence in these policies and activities.

- A common focus on priority areas

According to the Guidelines the Northern Dimension concept is particularly important with regard to certain aspects in which expected added value is greatest, such as energy, environment, natural resources, nuclear safety, infrastructure including transport and telecommunication, human resources development, public health and social administration, cross-border co-operation and fight against crime.

- Investments from public and private sector.

It is important to stress that as substantial investments are required, there is a need to improve co-ordination between different means of financing, for instance through joint operations with international financial institutions. The bulk of investments should be in the form of private sector money. Public funds play a significant role in creating required preconditions e.g. through improvement of transport infrastructure, border facilities and training programmes.

### **3 The Process Ahead**

The Commission's communication to the European Council recommends that on the basis of the report, contacts be taken within the appropriate fora with Estonia, Latvia, Lithuania, Poland, Iceland, Norway and the Russian Federation to further exchange views and develop the Northern Dimension Concept.

The Presidency together with the Commission has already undertaken a tour of capitals of the partner countries to discuss about the implementation of the Northern Dimension. The next important step will be The Foreign Ministers Conference on the Northern Dimension

that will be held in Helsinki in November. It will provide a forum for all the interested partners to elaborate the concept of the Northern Dimension and bring it forward. All the EU Member States and partner countries are invited to participate on a Foreign Ministerial level; relevant regional bodies, international financial institutions and EU organs will be present as observers.





# Discussion

*Erik Forsman*

In the following, it is my intention to present the view on the Northern Dimension as held in the Finnish industry.

With the accession of Finland into EU 1995, the Union attained a 800 mile long border with Russia. The future enlargement of the Union to include the Baltic States and Poland will further emphasise the northern Direction and increase interaction between the Union and Russia. Compared to the Soviet Union the centre of gravity of Russian transport flows and economic activity in general has shifted to the West and to the Northwest. From EU's viewpoint looking more to the North is a logical consequence of the enlargement of the Union towards north.

The Finnish initiative in 1997 to introduce the specific concept "A Northern Dimension for the Policies of the European Union" was based on a careful analysis of the changed geoeconomic landscape. It underlines the existence of a strong and long-term interdependence between Russia and Europe.

EU's Northern Dimension is meant to be a comprehensive concept to develop and coordinate EU policies and to define the Union's interests in the north-eastern part of Europe. The ultimate objectives of the Northern Dimension are to enhance stability and security in Northern Europe, to safeguard the development of basic social and human values, to support the market economy and employment and to promote trade and economic cooperation in the region. Geographically and economically the Northern Dimension covers the Baltic Sea Region, Barents Sea, Euro-Arctic region, the north-western parts of Russia as well as all Nordic countries.

The Northern Dimension was tabled for European Council for the first time in December 1997. The next step was taken in December 1998, when the Vienna Summit of the EU noted the Commission's report on the preliminary proposals for the Northern Dimension. The Summit requested the General Affairs Council to prepare a recommendation and guidelines. Based on these guidelines the Summit in June 1999 in Cologne noted, that a ministerial conference on the matter shall be arranged in November 1999 in Helsinki. The possibility of drawing up an Action plan would thereafter be considered. Political decision in this matter is to be foreseen in the Helsinki Summit in December 1999.

## **1 Industry's Interests**

Industry's interests towards the Northern Dimension are well founded and focused. The main interests lie above all in the access to wider and more stable markets in the northern part of Europe, in the new business opportunities which are provided by the expedient and joint utilisation of the natural resources and in the consolidation of industrial infrastructures in these regions.

From the industrial viewpoint the added value of the Northern Dimension initiative can be summarised under five headings:

- energy
- raw materials
- environment
- transport and communication
- safe and secure borders.

According to the latest assessments the consumption of gas will grow fastest in Western Europe. Only Russia is in a position to supply Europe the gas it needs. The gas deposits of Northwest Russia play here a decisive role, which neither the restricted gas reserves of the North Sea nor those of Africa can compensate. One of the great challenges of the Baltic Sea region is to create such a gas pipeline network which would connect the continental Europe with Russia. To bring about investments of this kind is not possible without very extended company consortiums, which sufficiently cover the interests of the producers, distributors and customers. The projects cannot advance if related and necessary competition criteria and business economic conditions and aspects are not duly met and respected. The evaluation of these is possible first after safeguarding the support of the decision makers for the projects concerned.

Also the perspectives of an increased cooperation in the field of oil sector in the Baltic Sea region are good. For Russia a central question in this respect is an oil pipeline connecting the Russian network with the EU-network. In Finland we would like to see a new crude oil pipeline to be built from Kirishi to Porvoo (= Baltic Oil Pipeline System).

Barents Sea region is also a great possibility for the EU-Russian cooperation. The basic question is to develop complementary transport and logistical solutions. Russia and Norway are natural cooperation

partners in this field. Many international companies are actively investigating possibilities to utilize new sea transports in the Barents Sea region.

A North European energy market cannot be embarked on one single energy mode. That is why it is important to develop also a joint Baltic electricity distribution network (Baltic Ring), where already 11 countries including Finland and Russia are involved.

## **2 Raw Materials**

Northwest Russia is rich in minerals important to Europe. It is in the EU's interest to secure both the availability of minerals and the reduction of pollution. The Russian forest resources are about seven times larger than the EU resources. Northwest Russia has most of Russia's accessible coniferous forest resources. Despite the Russian dominance in raw materials both Finland and Sweden are bigger producers of pulp and paper than the whole of Russia.

## **3 Environment and Nuclear Safety**

Environmental contamination in northern Europe is a serious question and the most problematic areas are located in Northwest Russia, the Baltic States and Poland, where discharges into the air and the water from energy production, industrial plants, traffic etc. mean significant environmental hazards. In international cooperation over 100 so-called environmental hot spots have been identified.

Another serious problem are the nuclear power stations. There are ten reactors in power plants in the region bordering the EU (eight in Russia, two in Lithuania) and approximately 150 nuclear submarines, of which about half have been decommissioned. The operational risks of the power plants present a major threat to the population and large areas in Europe.

## **4 Transport and Communication**

Russia of today is all but a landlocked country. It is more dependent on exports than the Soviet Union ever was. It is also dependent on transit routes and ports beyond its own control. All of this requires the development of Pan-European transport corridors also in the North. Around forty percent of Russia's exports are handled by ports in the

Baltic States. At present Russia has no alternative to the oil terminal in Ventspils, Latvia that handles almost half of Russia's oil exports. A more positive attitude to economic interdependency will enhance the possibilities to utilize existing ports economically.

Electronic communications can mitigate the problems of physical communication. Development of telecommunications networks should be in the focus of modernisation efforts. The poor availability of telecommunications services and infrastructure is a bottleneck to be abolished. The national networks, which in many countries outside the EU are underdeveloped should be strengthened and interconnected.

## **5 Safe and Secure Borders**

After the demise of the Soviet Union the Finnish border has become Russia's strategic outlet to the West. It is today a well functioning busy border. Improving border procedures by training and harmonisation of administrative controls will further the movements of people and goods. Improving border facilities between Russia and the future members of the EU the Baltic States and Poland is high on the agenda.

All in all trade and economic cooperation with Russia, Poland and the Baltic States have all possibilities to increase manifold in the years to come. The potential and dynamism of the region is widely recognised.

The whole Northern Dimension is, however, a huge political and economic complexity. The individual projects cannot progress without clear visioning of mutual benefits of the undertakings and expedient burden-sharing by the prospective partners. A big challenge is also the build-up of investors' business confidence. The cornerstones for this are a stable and sustained political and business environment with well functioning communication network between interested official and private business partners. The Northern Dimension has all possibilities to become a business framework of this kind.

At the very end what remains, is that Russia needs foreign partners and investment. The EU is and will remain Russia's largest trading partner with around a forty percent share of its foreign trade. If there is a Northern Dimension for the European Union, there is also a European Dimension for Russia.