LUND UNIVERSITY

Competing in the Single Market - SMEs and Innovation in the Baltic Countries and Poland

Schwaag-Serger, Sylvia; Wise, Emily

2004

Link to publication

Citation for published version (APA):
Schwaag-Serger, S., & Wise, E. (2004). *Competing in the Single Market - SMEs and Innovation in the Baltic Countries and Poland*. IKED - International Organisation for Knowledge Economy and Enterprise Development. http://www.iked.org/Publications%20-%20Competing%20in%20the%20Single%20Market.html

Total number of authors:
2

General rights
Unless other specific re-use rights are stated the following general rights apply:
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.
• Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
• You may not further distribute the material or use it for any profit-making activity or commercial gain
• You may freely distribute the URL identifying the publication in the public portal

Read more about Creative commons licenses: https://creativecommons.org/licenses/

Take down policy
If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

LUND UNIVERSITY

PO Box 117
221 00 Lund
+46 46-222 00 00

Sylvia Schwaag Serger
Emily Hansson

COMPETING IN THE SINGLE MARKET

SMEs and Innovation in the Baltic Countries and Poland

IKED
International Organisation for
Knowledge Economy and Enterprise Development

IKED – International Organisation for Knowledge Economy and Enterprise Development

IKED
Stortorget 29
S-211 34 Malmö
Sweden

Tel: +46-40-176500
Fax: +46-40-176501
E-mail: info@iked.org
Website: www.iked.org

ISBN 91-85281-02-6

© IKED 2004

Title: Competing in the Single Market – SMEs and Innovation in the Baltic Countries and Poland
Authors: Sylvia Schwaag Serger, Emily Hansson
Published: Malmö, 2004
Publisher: IKED
Cover designed by: Boyan Kostadinov
Printed by: Holmbergs

About the International Organisation for Knowledge Economy and Enterprise Development (IKED)

IKED is an independent, international non-profit organisation focusing on the emerging issues of the knowledge-based economy.

IKED strives to link the primary actors forming the knowledge-based economy – government, industry, academia and civil society – by facilitating international networks and policymaking forums, leading projects and forming recommendations to turn policies into action.

In addition to mobilizing and enhancing Nordic expertise, IKED engages in activities that support the successful integration of an expanded European Union, and is an active partner supporting structural policy reforms in various countries worldwide. IKED addresses the driving forces and consequences of new technologies, including information and communications technology (ICT), the rapidly changing innovation processes, and the conditions required for dynamic enterprise development. Focusing on the crosscutting horizontal policy dimension of these issues, IKED is a venue for addressing the broader economic and social implications relevant to the ascent of the knowledge economy. IKED further develops programs that involve prime policy makers, government agencies, private sector associations, NGOs, research institutes and other relevant stakeholders.

Competing in the Single Market

SMEs and Innovation in the Baltic Countries and Poland

Sylvia Schwaag Serger

Emily Hansson

PREFACE

Accession to the Single Market brings both new opportunities and challenges for companies, individuals and institutions in the new EU Member Countries. This is happening at a time when structural changes are reshaping the world economic order. The pressures arising both with EU accession and the knowledge-based economy are likely to be felt particularly acutely by small- and medium-sized enterprises (SMEs), which, on average and in contrast to large multinational enterprises, tend to lack the internal and external resources and structures necessary for adjusting to the above-described changes.

Against this background, in March 2003, the International Organisation for Knowledge Economy and Enterprise Development (IKED) initiated a programme, with the support of the Danish National Agency for Enterprise and Housing (NAEH), entitled "Competing in the Single Market – the Impact of EU Membership on SMEs in the Baltic Countries and Poland (Baltic Programme)". Building on the work on SME development carried out so far, the Baltic Programme addresses the specific policy challenges connected with the development of dynamic, innovative and internationally competitive SMEs.

This study, entitled "Competing in the Single Market – SMEs and Innovation in the Baltic countries and Poland", differs from many existing studies on SME and innovation issues in these countries in some important aspects. Firstly, the study has adopted a comparative perspective. There are numerous national studies on challenges to SMEs and innovation, but very few comparative analyses. This study compares the countries of Estonia, Latvia, Lithuania and Poland both with each other, with Nordic countries (who are recognised as leaders in innovation), and with the broader European region. From this comparative analysis, conclusions and recommendations which are more broadly applicable can be drawn.

Secondly, the approach to this work has been based on a combination of analysis and policy process. That is to say, the project has been anchored with policymakers and other appropriate stakeholder groups (private sector and academia) throughout the process in order to ensure relevant and action-oriented recommendations. The project initiated contact with a number of policymakers in a working group meeting held in June (see Appendices I-III). Conclusions from this working group meeting formed the basis of a vision for Nordic-Baltic cooperation, initially presented in an interim report and a high-level panel discussion held in connection with the Baltic Development Forum Summit in October 2003 (see Appendix IV). Finally, meetings/interviews (see Appendix V) and consultations were held with approximately 80 people, representing government, industry and academia, in order to discuss hypotheses and preliminary recommendations and their relevance to the practical situations and priorities in these countries. The ongoing dialogue with these contacts has led to a concrete anchoring of the recommendations, and a desire to continue the momentum established.

The authors would like to thank the following organisations and individuals for their support and cooperation: the NAEH, the Latvian Investment and Development Agency for its assistance in organising the working group meeting in Riga, the Baltic Development Forum, working group participants, and the many public and private sector representatives who took the time to be interviewed and share their valuable inputs on this topic.

EXECUTIVE SUMMARY

Since the collapse of the socialist regimes in 1989, Estonia, Latvia, Lithuania and Poland (henceforth referred to as the B4 countries) have made an impressive transition towards becoming fairly well-functioning market economies characterised by a high degree of macroeconomic stability. However, in light of their EU accession and the structural changes currently reshaping the world economic order, the B4 countries cannot afford to sit back and rely on macroeconomic stability and favourable legal framework conditions to ensure the development of a dynamic and internationally competitive business sector.

In particular, the rapidly growing importance of knowledge for economic welfare and competitiveness puts increasing focus on firms' and countries' ability to innovate. While there are some indications of a dramatic improvement in the B4 countries' innovative capacity, significant challenges remain to ensure the development of strong national innovation systems, in which companies, and particularly SMEs, are able and willing to innovate, to be internationally competitive and to grow.

SMEs currently account for the majority of enterprises and employment in the B4, and will continue to do so in the foreseeable future. Yet SMEs are young, both individually and as a sector, and do not currently contribute as much as larger companies to national innovation. SMEs must develop, both in higher value-added sectors of the economy and in their ability to collaborate with other actors in order to achieve a stronger position in the wider European market. At this juncture, government action, in the form of appropriate policies and framework conditions for enabling SME development, is crucial.

The B4 countries have made significant progress on institution-building and policymaking in support of SMEs over the last ten years. Each of the B4 countries has both well-developed goals and programmes, and institutions for implementation. However, one concern is that SME policies and actions are treated as independent variables, rather than as a part of an overall vision or strategy to improve national competitiveness. In addition, over-arching issues such as the organisation and evaluation of policymaking, and the overall focus of policymaking, need to be addressed. The policy agenda for SMEs must be worked into the wider context.

EU accession will not result in a dramatic dwindling of SMEs in the new Member Countries in general, or in the B4 in particular. However, EU accession will bring significant new challenges for SMEs in the B4 countries. Furthermore, these challenges will be heightened by the structural changes, summed up in the term 'knowledge-based economy', which are currently reshaping the world economy. Together, these two factors will exert increasing pressures on enterprises to be innovative, in order to be competitive.

Policymakers in the B4 are increasingly recognising the importance of innovation policy for competitiveness and economic development. Similarly, the importance of a dynamic SME sector, for economic growth and job creation, is widely acknowledged. In the past years, the governments in these countries have worked actively to design or improve national policies for innovation and enterprise development. Nonetheless, a number of important policy challenges remain with regard to enabling the development of a critical mass of innovative SMEs which are able to contribute to ensuring the competitiveness and vitality of the B4 economies in the Single Market in the long term.

Turning to the international policy perspective, this paper argues that there is a strong case for strengthening regional cooperation between the Baltic and Nordic countries on innovation and

enterprise development. There are numerous indications both of complementarities and synergy potentials of the economic strengths of these countries, and of linkages between these countries' innovation systems. Furthermore, the Baltic and Nordic countries have close economic, political and cultural ties, and all are currently looking very much to innovation policy to tackle the structural challenges facing their respective economies.

In light of these factors, and given the end of the East-West division of Europe, there is now a historic opportunity to lay the framework conditions that will enable the Baltic Sea region to become an economically strong, highly integrated and dynamic region, characterised and connected by regional specialisation processes, cross-border clusters and public-private partnerships.

SMEs in the B4: Key Points

- The B4 have been very successful in establishing macroeconomic stability. However, that in itself is not enough to ensure the development of dynamic SMEs.
- SMEs have a short history in the B4: companies are young, and the sector is young.
- SMEs represent the large majority of enterprises, and contribute most to employment and GDP in the B4.
- Compared to the EU, there are fewer economically active enterprises per capita in the B4.
- Of the acceding countries, the B4 rank lowest on productivity per employee; productivity in SMEs is generally even lower.
- SMEs do not have a strong presence in high value-added/high-tech sectors of the economy.
- Although SMEs account for a relatively low share of total exports in the B4 (20-44%), they are more export oriented than their EU counterparts (where SME exports represent only 13% of total exports).
- The B4 appear to have all the pre-requisites necessary (and rank well) on their capacity to innovate, yet are still competing on low cost or local natural resources rather than unique/innovative products and services.
- SMEs have an even tougher time than large-sized enterprises (LSEs) in developing innovative products and services, and lack the capital and networks to strengthen their innovative capacity.
- What is required is a critical mass of SMEs that are innovative, competitive, and able and willing to grow.
- There are many support organisations and policy mechanisms geared towards supporting SMEs, but SME policies are generally not incorporated into the wider context of national innovation policies/priorities.
- The B4 countries have made much progress on improving the administrative, legal and regulatory environment for SMEs, but still have work in the areas of entrepreneurship/management training, development of venture/risk capital mechanisms, and national/international network building among other things.
- The B4 countries view the EU Structural Funds as a mechanism to further their work on supporting SMEs, but there is a risk that focus and overall perspective is lost as much time and energy is spent on administering these funds.
- There is a need for a common vision (for SMEs/enterprise development).

TABLE OF CONTENTS

INTRODUCTION 13

CHAPTER 1: FROM STABILISATION TO INNOVATION: LEGACIES AND TRANSITION IN THE B4 COUNTRIES 15

Introduction 15

From Transition to Innovation 16

Innovation Performance in the B4 19

Summary 27

CHAPTER 2: BALTIC SMES – AGENTS OF FUTURE GROWTH 29

The Rising Importance of SMEs Globally 29

SMEs in the B4 35
- The Role of SMEs in Transitional Economies 35
- Structure and Presence of SMEs in the B4 38

SMEs as Drivers of Innovation and Competitiveness in the B4 46
- SMEs and Innovation 46
- SMEs in the B4 – Struggling to Innovate 47

Summary 56

CHAPTER 3: POLICIES PROMOTING SMES AND ENTERPRISE DEVELOPMENT 57

SME Policies within a National Innovation System 57

SME Policies in the B4 60
- Institutional Structure 61
- Programmes, Policies and Progress 69
- EU Structural Funds 73

Priorities for Policy 76

Summary 80

CHAPTER 4: CHALLENGES AND RECOMMENDATIONS 81

Introduction 81

General Challenges 83

Specific Challenges 84

Recommendations 89

CHAPTER 5: A VISION OF A NORDIC-BALTIC INNOVATION REGION 91

Baltic and Nordic Countries – Similarities and Differences 91

Networking Economies – The Case for Strengthening Baltic/Nordic Cooperation 94

CONCLUSIONS 97

REFERENCES 99

APPENDIX I 107

APPENDIX II 111

APPENDIX III 113

APPENDIX IV 115

APPENDIX V 119

BOXES

Box 1: The 'Knowledge-Based Economy' 18
Box 2: On Innovation and Innovation Systems 20
Box 3: The Indicator Problem 26
Box 4: Overview of Selected Multinational Charters/Programmes for SMEs 33
Box 5: Perceptions on Accession to the European Union 45
Box 6: Promoting Innovation – Private Sector Case Studies 52
Box 7: On the Triple Helix 54
Box 8: Examples of Developing Clusters in Latvia and Lithuania 55
Box 9: On Innovation Policy Governance 58
Box 10: SPINNO Scheme on Entrepreneurial Research Activities in Estonia 68
Box 11: Structural Funds to the Candidate Countries 75
Box 12: On SMEs and Financing 77
Box 13: Good Practice Example of Public Intervention in Venture Capital 85
Box 14: Window to the Future Initiative in Lithuania 87
Box 15: VINNVÄXT – Regional Growth through Development of Dynamic Innovation Systems 88
Box 16: Nordic and Baltic Countries – Similarities and Differences 94

TABLES

Table 1: Selected Basic Statistics 15
Table 2: Foreign Direct Investment in the Baltic Sea Countries 16
Table 3: Innovation in the B4 Countries (selected innovation, science and technology indicators) 19
Table 4: Expenditure on R&D (as a percentage of GDP) 21
Table 5: GDP Growth 1995-2003 in Selected Countries (at constant prices) 22
Table 6: Indicators of the Baltic Sea Countries 'catching up' 22
Table 7: Relative Strengths and Weaknesses (by country) 24
Table 8: Evolution of Gross Domestic Expenditure on R&D 25
Table 9: Average Annual Growth of SMEs vs. LSEs in Europe-19 (1988-2001) 31
Table 10: Classification of SMEs in Countries in Transition 37
Table 11: Comparable SME Statistics 38
Table 12: Main Indicators of Non-Primary Private Enterprise, Europe-19, 2000 44
Table 13: Comparative National Rankings – Competitiveness, Innovation and Cluster Development 48
Table 14: Barriers to Innovation for Enterprises in the EU without Innovation Activity (by sector and size class, 1998-2000, %) 53
Table 15: Market-Oriented SME Interventions 60
Table 16: Organisations Supporting SMEs in the B4 63

CONTINUED TABLES

Table 17: Chambers of Commerce in the B4 67
Table 18: Overview of Selected Programme/Policy Documents 69
Table 19: B4 National Rankings of Areas of the European Charter for SMEs 73
Table 20: Structural Funds – Community Contribution in Favour of SMEs 74
Table 21: Determinants of Firms' Innovative Capabilities 82
Table 22: Size and Export Orientation 92
Table 23: The Nordic Countries in International Comparison 93
Table 24: Innovation and Competitiveness Rankings 94
Table 25: Foreign Direct Investment in the Baltic Sea Countries 95

FIGURES

Figure 1: Overall Country Trend by Summary Innovation Index-2 (2003) 23
Figure 2: Cross-Border Alliances Involving SMEs, 1988-2000 30
Figure 3: Employment Growth by Size-Class, Europe-19, 1988-2001 34
Figure 4: SMEs Share of Employment and Value Added, 1989-98 36
Figure 5: Index of SME Development 38
Figure 6: Enterprises by Class Size, Trends for B4 Countries 39
Figure 7: Apparent Labour Productivity in Manufacturing, EU Countries 40
Figure 8: Labour Productivity Per Person Employed 41
Figure 9: Structure of Gross Value-Added by Sector, Trends for B4 Countries 42
Figure 10: Employment in Med/Hi-tech Manufacturing and in Hi-tech Services 43
Figure 11: Share of SMEs by Sectors in the B4 44
Figure 12: Enterprises with Innovation Activity in the EU, by enterprise size class and by sector, 1998-2000 (% of total enterprises) 49
Figure 13: BEEPS Survey Responses on Enterprise Performance (dates since 1998) 50
Figure 14: Proportion of Enterprises with Innovation Activity by Enterprise Size Class (manufacturing, 1998-2000, %) 51
Figure 15: SME and Innovation System Governance in the B4 61
Figure 16: Shares of R&D by Funding Sources (2000 or nearest) 68

INTRODUCTION

After more than 10 years of massive reforms and transformation, many of the so-called 'transition economies' in Central and Eastern Europe are in the process of completing the transformation to a fully-functioning market economy, and in particular, of preparing their economies for accession to the European Union. One of the central questions raised in this context is how well their companies will adjust to the consequences of joining the European Single Market. There are, in fact, widespread concerns that the Small and Medium-sized Enterprises (SMEs) will not be able to capture the opportunities nor cope with the new challenges arising with their integration into the European Union.

A dynamic and competitive SME sector is pivotal for future economic growth and employment in most countries. The presence of structural weaknesses or obstacles preventing SMEs from competing effectively in the Single Market would significantly increase the transition costs and result in a slower pace of economic development in the EU Accession Countries than might otherwise be possible.[1] These issues are greatly relevant for other transition economies as well.

The ability and capacity of individuals, companies, and institutions to innovate will play a vital role in ensuring the competitiveness and well-being of EU Accession Countries during their next development phase. By strengthening their innovation systems, these countries can significantly improve the ability of SMEs to compete internationally, thus making a vital contribution to ensuring a successful transition of their economies to the Single Market.

The aim of this report is to examine key challenges for SMEs, national innovation systems and policymakers in four of the EU Accession Countries – namely Estonia, Latvia, Lithuania and Poland, henceforth referred to as the B4 countries – in the context of these countries' accession to the Single Market. In particular, the report identifies some of the hurdles which companies, and particularly SMEs, in the B4 countries have to overcome if they are to be able to thrive and prosper within the European Union. Furthermore, we examine how governments can support or put in place appropriate mechanisms enabling the development of a critical mass of innovative SMEs that will be able to compete successfully in the Single Market, and thus catalyse innovation and competitiveness for their economies as a whole. Adopting a comparative perspective, the report examines the structure of, policies for, and challenges facing SMEs in Estonia, Latvia, Lithuania and Poland, and also presents some policy recommendations.

A comparative analysis of these countries is useful for several reasons. In addition to their close geographic proximity and location on the Baltic Sea, the B4 countries share a number of important and interesting parallels and commonalities related to their history, culture, institutional structures, political and economic developments and challenges, among others. In terms of policy orientation, the B4 are presently striving to build the framework conditions and implement policies that are needed for strengthening their structural reforms and national competitiveness.

While these four countries have a lot in common, there are also significant differences between them, relating not only to the obvious diversity in size, but also to important aspects of their social and economic assets, policy orientation and organisation. The above-mentioned combination of similarities and differences provides a useful basis for gaining valuable insights and lessons from a

[1] The EU Accession Countries joining the European Union on May 1, 2004 are Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovak Republic and Slovenia. Bulgaria and Romania hope to join by 2007, while Turkey is not currently negotiating its membership.

comparative analysis of conditions, challenges and policy approaches in these countries. Generally, when seeking to understand both the opportunities and challenges facing a particular country, relevant international comparisons of countries provide an important tool for identifying or uncovering critical issues.

A further reason for choosing to analyse Estonia, Latvia, Lithuania and Poland together is the combination of common challenges and economic and political ties that link these countries in a way that opens up important opportunities for cooperation. As we will show later, when it comes to ensuring their future competitiveness and welfare as full Members of the European Union, some of the challenges facing these countries can effectively be addressed through strengthening regional cooperation among the Baltic Sea Countries, including the Nordic countries, on a number of key issues.

The report is divided into the following principal sections. After having introduced the topic from both a historical perspective and within the context of national innovation systems, the report examines SMEs as a grouping in the B4 countries, according to their development, size and economic relevance, export orientation and innovative capacity, among other things. This analysis is followed by an overview and evaluation of SME policies in the B4 countries. Based on the characterization of both the structure of SMEs and the policies in place, the paper will identify some of the key challenges for the development of a critical mass of internationally competitive SMEs in the B4 countries and present recommendations for policymakers to strengthen enterprise development and innovation in the B4 countries and in the Baltic Sea Region as a whole.

CHAPTER 1: FROM STABILISATION TO INNOVATION:
LEGACIES AND TRANSITION IN THE B4 COUNTRIES

Introduction

The B4 countries have undergone far-reaching and dramatic changes in the past 15 years. The economic situation in the post-socialist countries before the transition, that is, before 1989/90, could be described as "dominated by the state, closed to the outside world, equipped with false prices, and deprived of both internal and external competition" (Balcerowicz et.al. (1998), p.132).

Starting in the early 1990s, the B4 countries adopted relatively similar policy packages, though with important variations, which can be summed up as combining "a liberal approach towards economic policy under a rigorous macroeconomic framework" (OECD (2000b), p.2). As a result, in the past decade, the B4 countries have achieved remarkable progress in terms of establishing macroeconomic stability and putting in place the necessary legal framework conditions for enabling the development of a market economy and functioning business sector. The B4 countries, in particular, have succeeded in dramatically reducing inflation, stabilising exchange rates, and generally ensuring the macroeconomic stability essential for, among other things, attracting significant sums of foreign investment (European Commission (2003c), p.22) (see Table 1).

Looking back, the B4 countries displayed a remarkable determination and commitment to achieve the transition to a functioning market economy, even in the face of severe hardships. Thus, the dramatic initial decreases in national output in the early 1990s, and the significant economic repercussions of the Russian crisis in 1998 (affecting particularly Latvia, Lithuania and Estonia), did not cause the B4 countries to deviate from the chosen economic and structural reform path.[2]

Table 1: Selected Basic Statistics

	GDP per capita in PPS, 2003, % of EU average (EU-15=100)	GDP per capita[1] (PPP adjusted) 2002 US$	Real GDP Growth Rate (%), 2003	Inflation Rate (CPI) (%) 2003	Unemployment Rate (%) 2003	Govt. Deficit/Surplus (% of GDP) 2002	Consolidated Gross Government Debt as a % of GDP, 2002
EU-15	100	—	0.6	2.2	8.0	-1.9	62.3
Greece	73.6 (f)	18184	4.7	4.2	9.3	-1.2	104.7
Spain	87.4 (f)	20697	2.3	3.7	11.3	0.1	53.8
Ireland	122.0 (f)	27642	1.6	4.8	4.6	-0.2	32.2
Portugal	69.4 (f)	17808	-0.8	3.9	6.4	-2.7	58.1
Acceding countries	48.7 (f)	—	3.1	—	14.3	-4.6	39.2
Estonia	42.2 (f)	11712	4.4	2.0	10.1	1.3	5.8
Lithuania	41.4 (f)	10015	6.6	3.6	12.7	-2.0	22.7
Latvia	36.6 (f)	8965	6.0	-1.2	10.5	-3.0	15.2
Poland	42.9 (f)	10187	3.3	1.2	19.2	-3.7	41.7

[1] World Economic Forum (2003)
Source: Eurostat

[2] A very good summary analysis of Poland's transition to a market economy can be found in Balerowicz et. al. (1998).

It is also remarkable that the B4 countries have managed to stabilise their economies and attract large inflows of foreign direct investment (see Table 2) at the same time as their political systems, at least on the surface, have been characterised by a large degree of instability. Thus on average, each of these countries has had at least 10 changes of government since 1990 (*The Economist,* "Teething troubles", February 14, 2004). Overall, it appears that the frequent changes of government in the B4 countries have not had any significant effect on these countries' political stability or their commitment to far-reaching structural and economic reforms.

Table 2: Foreign Direct Investment in the Baltic Sea Countries

	Inward Stock % of GDP		Inward Stock (bn US$)
	1995	2002	2002
Latvia	12.5	32.4	2.7
Lithuania	5.8	31.4	3.9
Estonia	14.4	65.9	4.2
Poland	6.2	23.9	45.2
Central and Eastern Europe	5.3	20.8	187.9

Source: UNCTAD (2003)

The success of the B4 in achieving macroeconomic stability is acknowledged in the conclusions reached by the European Commission in its monitoring reports of the New Member Countries' preparations for EU membership. Thus the Commission stated in its 2002 reports that each of the countries was "a functioning market economy" and that "[t]he continuation of … [the] current reform path should enable …[these countries] to cope with competitive pressure and market forces within the Union".[3]

From Transition to Innovation

Having established the B4 countries' success in achieving macroeconomic stability, it would be hasty to conclude, however, firstly, that these countries no longer need to concern themselves with macroeconomic stability, or, secondly, that all the framework conditions for enabling the development of a competitive business sector are now in place. Considerable work remains to be done in areas such as improving the functioning of labour markets, changing county and local government structures, reforming education systems, continuing restructuring and privatisation efforts, strengthening infrastructure, and reforming the banking sector, among other things.[4]

While the B4 have come a long way in making the successful transition to a market economy, they will not be able to rest once they get there. In a sense, one could argue that the bar is being raised or that they are now entering the start of another race. This is due, firstly, to the accession to the Single Market which will place new demands on enterprises with regard to EU regulatory requirements, and

[3] European Commission (2003f,g,h,i).
[4] see, for example, recommendations by the European Commission in its 2003 monitoring reports (European Commission (2003f,g,h,i) and Smallbone and Welter (2003) and OECD (2000b).

increased competitive pressure as B4 enterprises must compete with their other EU counterparts in the Single Market.[5] Secondly, and perhaps more importantly, the current structural changes (often described as the rise of the "knowledge-based economy" – see Box 1), and the implications of these changes, are putting new demands on governments, institutions, individuals and companies to adjust, act and cooperate in order to ensure future competitiveness and growth, both at firm and country levels.

As countries develop economically – and given equal access to global markets, the rapid pace of technological change, the trend towards shorter product life cycles and, more generally, the rapidly growing importance of knowledge –, the ability to innovate becomes an increasingly critical determinant of international competitiveness. In advanced nations today, competitive advantage "… must come from the ability to create and then commercialize new products and processes, shifting the technology frontier as fast as their rivals can catch up" (Porter and Stern (2003), p.1). Gradually, the ability to innovate has thus become accepted as a crucial prerequisite of enterprise development and entrepreneurship, and concepts such as 'innovation policy' and 'innovation systems' are increasingly attracting the attention of policy makers in most EU countries (see Box 2).

The low growth and economic stagnation experienced by a number of EU Member States in recent years, at a time of general macroeconomic stability, illustrate that countries cannot simply rely on favourable macroeconomic framework conditions to ensure competitiveness and growth. Instead, countries must seek to combine macroeconomic stability with designing and implementing effective microeconomic policies, and thus in effect putting in place enabling 'framework conditions for innovation':

> *The scope of what is viewed as framework conditions may be defined in different ways. In a broad sense, they may include well-functioning product markets (goods and services) as well as factor markets (labour market, the financial markets including venture capital), education and science system, and physical, institutional and juridical infrastructure, including a governance system that is able to sustain effective and consistent playing rules for innovation. Hard-defined aspects such as social capital and attitudes that underpin trust in transactions, entrepreneurship, risk-taking, etc., are also of great importance.*
>
> (Andersson et. al. (2004a), p.32)

For the B4 countries this means that, in order to compete successfully in the global market, and to continue to grow at a pace that will allow them to bring their GDP per capita levels closer to the EU average (see Table 1), they must strengthen the ability and willingness of their enterprises to innovate, to be internationally competitive and to grow.

Some analysts have expressed concerns that, at least up until recently, policymakers in the B4 countries have focused largely, or exclusively, on macroeconomic conditions, and have not been paying enough attention to strengthening their countries' and firms' innovative capacities. Thus, a recent report commissioned by the European Commission observed that:

> *After 10 years of limiting itself to macroeconomic policy and transition-related institutional transformation, policy in Latvia and Lithuania faces the challenge of how to effectively use countries' human potential.*
>
> (European Commission (2003c), p.22)

[5] Many B4 companies are already competing with EU companies today (both in their home markets and abroad). However, in the coming years, this competition is likely to gradually extend to more and more business sectors and intensify in certain business segments.

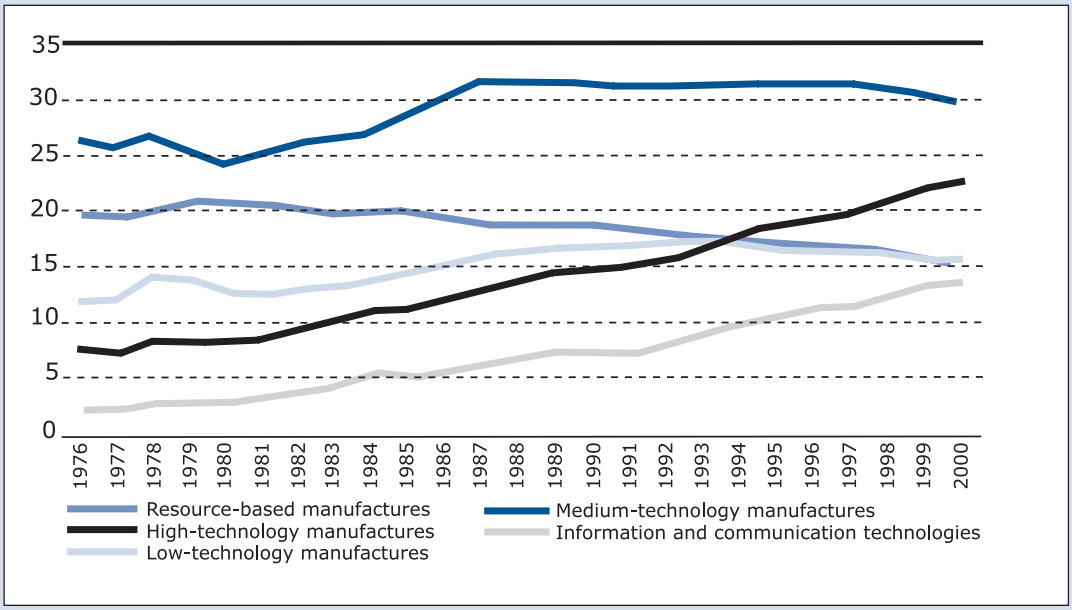
Box 1: The 'Knowledge-Based Economy'

The world economy has undergone a number of profound changes over the last decade. These are reflected in concepts such as "the new economy", the "learning society", the "information society" and the "knowledge-based economy". Some of the expectations created in the process fell flat to the ground at the turn of the millennium, as the business cycle turned, equity valuations – not only of the high-tech sector but much more broadly – came tumbling down around the world, as flows of foreign direct investment dried up, and multilateral trade negotiations turned sour.

The fact is that the world economy did not witness any general strengthening of long-term productivity growth even at the peak of the "new economy" era of the late 1990s. As far as we can measure, productivity growth was lower in the 1990s than in the 1980s, when it was lower than in the 1970s, and so on. On the other hand, there are a number of ongoing developments the effects of which are not easily quantified, such as rapid quality improvements in a number of industries, and an expansion of new service sector segments where productivity is hard to measure. In fact, the mounting difficulties of measuring economic growth and welfare are masking the accelerating rise of new determinants of economic performance, of the competitiveness of nations, and of the prosperity of millions of people around the world.

The fundamental change that is underway is linked to the collapse in the costs for diffusing and making use of information. This leads to a massive expansion in the availability of codified data. There is a potential for new technologies, and for knowledge on how to access markets, partners, suppliers, etc. to be diffused worldwide, to any corner of the world, in a way never seen before. As a consequence, international trade is increasingly tilted towards products with high skill- and technology-content (see figure). Similar observations are easily made at industrial- and firm-level; areas intensive in technology and skill are on the increase.

Changes in the composition of international manufactured trade according to technology



Source: UNCTAD (2002) and Andersson et.al. (2004a)

This concern is echoed in the OECD survey of the Baltic countries from 2000, where the authors warn that:

> *Macroeconomic stabilisation is not an end in itself. It is a necessary condition to start the reform process…Successfully making use of market mechanisms requires Baltic countries to develop new institutions, without which transitional reforms will be delayed or frustrated.*
> (OECD (2000b))

Similarly, when analyzing the development of the Baltic countries in the transition period, Teichmann comes to the conclusion that, while strict exchange rate regimes and tight fiscal policies have achieved macroeconomic stability, "insufficient emphasis has been put on institution building" (Teichmann in Teichmann (ed.) (2003), p.38)

Innovation Performance in the B4

In light of the importance of innovation for economic growth and competitiveness, and, considering the concerns mentioned in the previous section, the question remains how innovative are the B4? A number of indicators have been developed in recent years - aimed at capturing and measuring countries' and firms' innovative capacity. Going by these indicators, at a first glance, the B4 countries find themselves far below the EU and OECD averages. Table 3 compares the B4 countries with selected 'old' EU Member States according to a number of variables which are generally regarded as suitable indicators of innovative capacity (for a critical note on these indicators, see Box 3). Thus, the B4 countries have considerably lower numbers, or shares, of EPO patents, employment in medium- and high-tech manufacturing (with the exception of Poland), internet access/use and PCs per inhabitants than the EU average.[6] When comparing the shares of internet hosts, internet users and mobile phone subscriptions there is a marked difference between Estonia, on the one hand, where the relevant numbers are close to or even above the EU average, and Latvia, Lithuania and Poland, on the other hand. In terms of population with tertiary education and ICT expenditure as a percentage of GDP, the B4 are close to, and in some instances, even above the average for the existing EU Member Countries.

Table 3: Innovation in the B4 Countries (selected innovation, science and technology indicators)

	Pop. with Tertiary Education 2002	Empl. in Med./ Hi-Tech Manuf. (% of tot. workforce) 2002	EPO Patents per Million Inhabitants 2001	Internet Access/ Use[1] 2001	ICT Exp. (% of GDP) 2000 or 2001	PCs per 100 Inhabitants 2002	Internet Hosts per 1000 Inhabitants (Jan 2002)	Internet Users per 1000 Inhabitants (2001)	Mobile Phone Subscriptions per 100 Inhabitants, 2002
Estonia	29.6	3.4	11.0	0.11	9.6	21	37	301	65
Lithuania	44.0	2.6	2.4	0.01	5.9	11	11	72	47
Latvia	19.6	2.0	7.6	0.00	7.9	17	9	68	40
Poland	12.2	7.5	2.5	0.08	5.9	11	12	98	46
Finland	32.4	7.4	337.8	0.76	6.8	44	171	431	85
Germany	22.3	11.4	309.9	0.66	6.9	43	30	365	73
Ireland	25.4	6.9	85.6	0.55	5.3	42	34	234	76
Sweden	29.7	7.3	366.6	0.97	9.8	62	83	518	89
EU-15	21.5	7.4	161.1	0.51	7.0	31[2]	34	315	79

[1] composite indicator based on home internet access (% of all households) and share of SMEs with own web site (EIS (2003))
[2] figure for 2001
Sources: International Telecommunication Union (ITU) 2003; European Commission (2003l), Eurostat (2003a)

[6] Regarding the share of the labour force working in medium and high-tech manufacturing, it is noteworthy that four other Accession Countries, namely Slovenia (9.2%), the Czech Republic (8.9%), Hungary (8.5%) and the Slovak Republic (8.2%), have considerably higher shares than the B4, and indeed the majority of the existing EU Member Countries (Eurostat (2003c)).

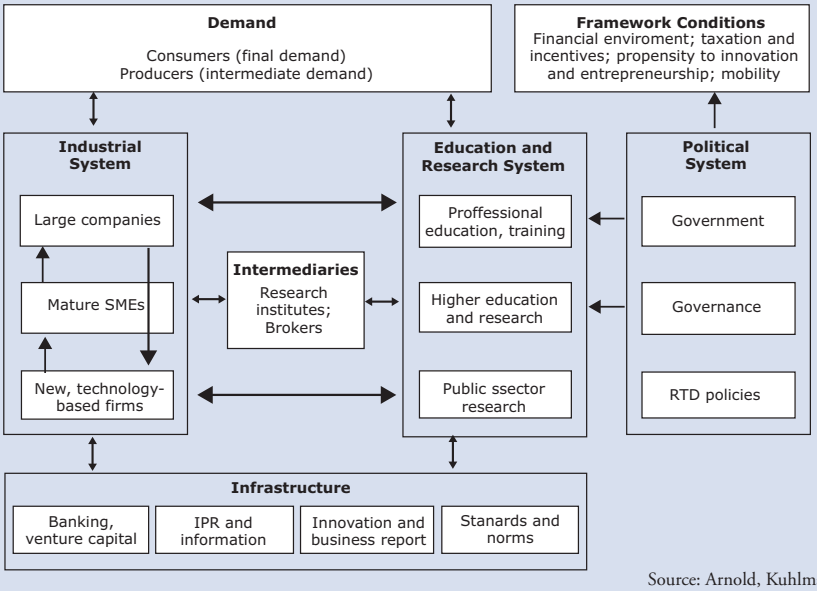
Box 2: On Innovation and Innovation Systems

The European Commission defines innovation as "the renewal and enlargement of the range of products and services and the associated markets; the establishment of new methods of production, supply and distribution; the introduction of changes in management, work organisation, and the working conditions and skills of the workforce" (European Commission (COM(1995) 688). Traditional perspectives have viewed innovation as closely related to science and technology. In practice, however, innovation can take many forms, including commercialisation of science and technology as well as the development and implementation of new ideas more generally, as in the form of organizational change or inventing new ways of doing things.

Rather than being a one-dimensional, linear process leading from certain input factors, innovation is the result of efforts by multiple actors, and is enhanced by their constructive interactions. The concept of innovation has evolved from a linear model having R&D as the starting point, to the systemic model in which innovation arises from complex interactions between individuals, organisations and their operating environment (European Commission 2003k). The notion of innovation system aims to broaden the scope of the policymaker to encompass the factors and reforms that may be most important for freeing up the potential for innovation, irrespective of in which policy domain they are found. Furthermore, the term 'innovation system' has emerged to capture the interrelated role of different actors, markets and institutions (Andersson et. al. (2004a), p.19).

Based on the innovation system approach, innovation policy is a horizontal policy approach encompassing a wide range of areas and instruments that cut across traditional policy domains. Areas that could be mentioned in this context are taxation and incentive structures, ICT access and penetration, R&D investment and commercialization, networks and clustering, business environment, technology upgrading, foreign direct investment, education, attitudes and social capital, etc. (see also figure below).

Innovation System Model



Source: Arnold, Kuhlman, van der Meulen (2001)

Of the available innovation statistics, national expenditure on R&D as a percentage of GDP is generally considered both one of the most important indicators, and one of the determinants of a country's innovative capacity. Given the importance assigned to R&D within the national innovation system, the extremely low total investment in R&D in all the B4 countries could be interpreted as a worrying sign of low national innovative capacity (see Table 4). Whereas public expenditure on R&D is roughly one third of the average share for the EU-15, private sector expenditure on R&D amounts to only about one sixth of the EU equivalent.[7]

Table 4: Expenditure on R&D (as a percentage of GDP)

	Total	Public	Business	Data from
Sweden	4.27	0.96	3.31	*2001*
Finland	3.41	1.02	2.47	*2002*
Germany	2.49	0.73	1.76	*2001*
Denmark	2.40	0.75	1.65	*2001*
Norway	1.62	0.65	0.97	*2002*
Ireland	1.24	0.37	0.87	
Spain	0.96	0.46	0.50	*2001*
Portugal	0.84	0.57	0.27	*2001*
Estonia	0.78	0.53	0.26	*2001*
Lithuania	0.69	0.49	0.20	*2001*
Poland	0.68	0.43	0.24	
Greece	0.67	0.48	0.19	*1999*
Latvia	0.44	0.28	0.16	*2001*
EU	1.99	0.69	1.30	*2002*

Source: European Innovation Scoreboard 2003

Summing up, there appears to be a significant gap between the B4 countries and the existing EU Member Countries, when it comes to the ability to innovate. However, it would be hasty, and wrong, to conclude from these observations that the B4 countries are 'hopelessly' behind in their striving towards innovation and competitiveness. Firstly, since they came out of the severe economic crises that afflicted most Candidate Countries in the early 1990s, the B4 have experienced average economic growth rates that are significantly higher than those of the Nordic countries, the EU or the OECD, for that matter (see Table 5).[8]

[7] The actual percentages for Latvia and Lithuania might in reality be slightly higher than listed here, due to the fact that, in the case of Latvia, the business enterprise sector is not fully covered, while in Lithuania defence R&D is not included (OECD (2003), STI Scoreboard, p.66). However, these considerations do not increase the total R&D expenditure shares for these countries significantly to disprove the conclusions drawn in this analysis.

[8] However, this observation is moderated by the fact that GDP in the B4 grew from very low initial levels.

Table 5: GDP Growth 1995-2003 in Selected Countries (at constant prices)

	1995	1996	1997	1998	1999	2000	2001	2002	2003[1]	1995-2003 (average)	2000-2003 (average)
EU-15	2.4	1.6	2.5	2.9	2.8	3.5	1.6	1.0	1.2	2.2	1.8
Estonia	4.3	3.9	9.8	4.6	-0.6	7.3	6.5	6.0	4.9	5.2	6.2
Latvia	-1.7	3.7	8.4	4.8	2.8	6.8	7.9	6.1	5.5	4.9	6.6
Lithuania	6.2	4.7	7.0	7.3	-1.8	4.0	6.5	6.7	4.5	5.0	5.4
Poland	7.0	6.0	6.8	4.8	4.1	15.8	1.0	1.6	2.5	5.5	5.2
Denmark	2.8	2.5	3.0	2.5	2.6	2.9	1.4	1.6	1.5	2.3	1.9
Finland	4.1	3.9	6.4	4.9	3.4	5.5	0.6	1.6	2.2	3.6	2.5
Norway	4.4	5.3	5.2	2.6	2.1	2.4	1.4	1.5[1]	2.2	2.8	1.5
Sweden	4.0	1.3	2.4	3.6	4.6	4.4	1.1	1.9	1.4	2.7	2.2

[1] forecast.
Source: Eurostat

Secondly, and perhaps more importantly for long-term growth, several indicators for innovation, science and technology have improved dramatically for the B4 countries in recent years. Among other things, there are a number of indications that the B4 are making rapid progress in both the use of and investment in ICT. Table 6 shows the percentage increase in selected ICT indicators between 2000 and 2002. In this time period, the number of PCs and of internet users per inhabitants firmly exploded, increasing by as much as 69% and 137%, respectively, in the case of Lithuania, and resulting in increases that by far exceed the growth rates for the EU average in the same time period.[9] It is safe to conclude, therefore, that, at least in the field of ICT, compared with the much slower rate of change in the European Union countries, one of the salient features of the B4 is a clear trend towards reducing the innovation gap and a rapid progress towards a knowledge-based economy.

Table 6: Indicators of the Baltic Sea Countries 'catching up' (% increase 2002/2000)

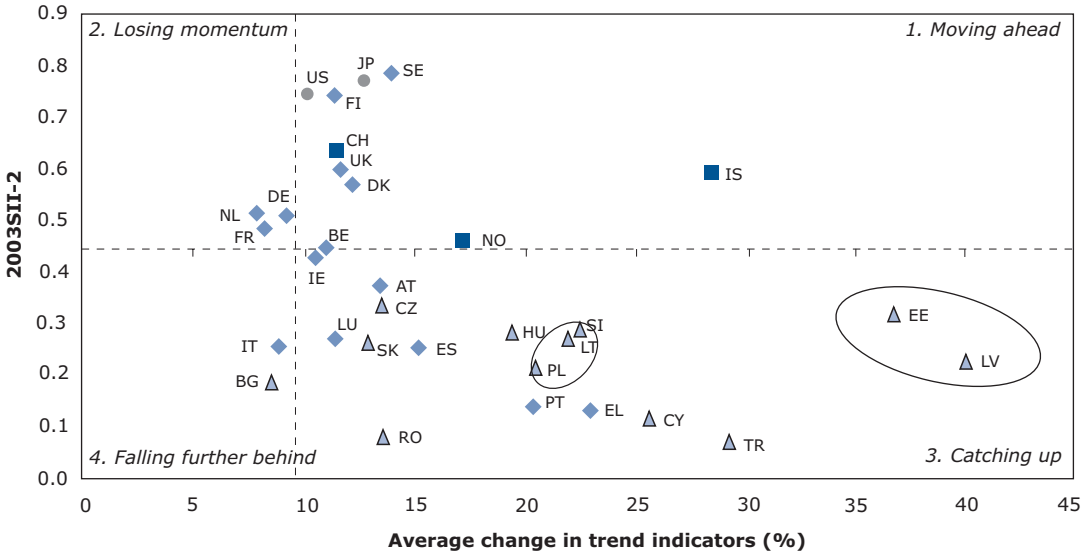
	Number of PCs	Number of Internet Users	Number of Internet Hosts	Mobile Phone Subscriptions
Estonia	38	52	65	67
Lithuania	69	137	229	236
Latvia	22	115	42	135
Poland	53	36	93	112
EU-15 (% increase 2001/2000)	10.7	27	19.5	14.9

Source: Eurostat, ITU, own calculations

[9] Corresponding figures for the EU average could not be calculated due to the fact that the EU-15 averages for these indicators were not available at the time of publication of this report. While there has been a continuous increase in the EU average in all four indicators between 1995 and 2001, the growth rates have been gradually declining since 1995. Thus, it is fairly safe to assume that the annual increase in these four indicators in 2002 was smaller than the increase in 2001, and, therefore, that the % increase between 2000 and 2002 in the EU average for these indicators is less than double the year-on-year increase recorded for 2001.

This impression of the B4 catching up to their more advanced European partners is confirmed by the results of the *European Trend Chart on Innovation* and the *European Innovation Scoreboard* (EIS). The EIS benchmarks countries according to indicators ranging from education levels and ICT[10] penetration to R&D expenditures and venture capital investment. Since 2000, the *European Trend Chart on Innovation*, together with the EIS, provide an assessment mechanism for analysing and benchmarking national innovation policies and pointing to the strengths and weaknesses of national innovation performance (European Commission 2003j). As can be seen in Figure 1, on a national level, the B4 countries all appear in the "catching up" quadrant, having a high upward trend in indicators, yet still ranking below most of the other EU Member and Candidate Countries for the current year.

Figure 1: Overall Country Trend by Summary Innovation Index-2 (2003)



Source: European Commission (2003l)

[10] information and communication technologies

[11] The Summary Innovation Index-2 (SII-2) uses only the twelve most widely available indicators of the EIS (all five human resources indicators, all six knowledge creation indicators and ICT expenditures), and covers all countries.

Table 7: Relative Strengths and Weaknesses (by country)

Country	Major relative strengths	Major relative weaknesses
Estonia	- Trend for S&E graduates - Trend for business R&D - Trend for EPO hi-tech patents - Trend for Patents	- Trend for lifelong learning - Current EPO hi-tech patents - Current patents
Latvia	- Trend for med/hi-tech manufacturing employment - Trend for business R&D - Trend for EPO patents	- Current EPO hi-tech patents - Current and trend for USPTO patents - Internet access/use
Lithuania	- Current education - Trend for business R&D - Trend for EPO patents	- Trend for med/hi-tech employment - All current patents - Internet access/use
Poland	- Trend for education - Trend for EPO patents - Trend for ICT expenditures	- All current patents - Internet access/use

Source: EIS, European Commission (2003l)

Table 7 presents the relative strengths and weaknesses of the B4 countries. Estonia and Lithuania are among the most innovative acceding countries (together with the Czech Republic, Hungary and Slovenia), leading particularly in the areas of science & engineering graduates, population with tertiary education, and innovative SMEs (both in-house and through cooperation). Poland leads acceding countries in high-tech venture capital and early stage venture capital/GDP indicators. Latvia is among the acceding country leaders in participation in lifelong learning and innovation expenditures in both manufacturing and services.

However, this generally optimistic picture, depicting rapid progress by the B4 countries towards an innovative and knowledge-based economy, and towards catching up with the EU-15, is marred by the fact that the B4 have failed to increase significantly their comparatively low expenditure on R&D (as measured as a percentage of GDP). Table 8 compares the average annual increase in gross domestic expenditure on R&D. Of the B4, Estonia has the highest average annual growth rate of gross domestic expenditure on R&D (measured in current PPP US $) at 7.2% (between 1998 and 2000). While this is above both the EU-15 and OECD average, it is however, considerably lower than – or just equal to – the average annual increase for a number of EU countries, such as Finland, Ireland, Portugal and Sweden, all countries which already spend a much higher share of GDP on R&D than Estonia. For the B4 to secure a strong national knowledge base, which – even in the age of globalisation – is still considered one of the foundations of a strong national innovation system, they will have to increase their expenditure on R&D, both in the public and private sector, by considerably more than they have done so far.

Table 8: Evolution of Gross Domestic Expenditure on R&D

	Average annual growth rate %	Period covered
Estonia	7.2	*1998-2000*
Latvia	3.4	*1995-2000*
Lithuania	6.5	*1996-2000*
Poland	4.0	*1995-2001*
Finland	11.3	*1995-2001*
Ireland	7.5	*1995-2001*
Germany	3.3	*1995-2001*
Greece	12.0	*1995-1999*
Portugal	10.1	*1995-2001*
Spain	6.5	*1995-2001*
Sweden	7.2	*1995-2001*
EU-15	3.7	*1995-2001*
OECD	4.7	*1995-2001*

Source: OECD (2003)

While the indicators presented here generally offer a useful, and needed, tool for assessing and comparing innovative capacity, it is important to point out that there is still considerable room for improving these instruments. The difficulty of comparing innovation performance and capacity across countries, and the lack of reliable and comparable data – particularly in the Candidate Countries –, as well as the need to ensure greater transparency in the collection and aggregation of data, significantly restricts the ability to formulate appropriate policy responses (see also Box 3). Thus the European Commission remarked:

> *A … major issue for policymakers is the lack of available reliable and internationally comparable survey data on innovation performance. Few firm conclusions can be reached either in terms of internal patterns of innovation or how countries are performing in comparison to their neighbours and future partners in the EU. In the absence of reliable data, policy decisions are more likely to be influenced by pressure groups and political considerations than by well-identified needs of enterprises.*
>
> (European Commission (2001a, p.78)

Box 3: The Indicator Problem

Existing innovation indicators and innovation surveys display considerable weaknesses, especially for economies in a development or transition stage but also in the case of developed countries (see, e.g. Godin (2003), and Salazar and Holbrook (2003)). Innovation surveys tend to measure activities and input rather than output. R&D is a measure adding up several different kinds of activities and, it should be underlined, is not equivalent to innovation. Another aspect is that innovation surveys fail to capture organizational, process and services innovation, or innovation in the public sector (Godin (2003)). Finally, while innovation policy today recognizes the importance of effective linkages and networks, "innovation surveys throw little light onto how these networks are created, function and develop over time" (Salazar and Holbrook (2003)).

Another significant problem which is not unique to innovation indicators, but which is highly relevant for policymakers seeking to design effective innovation policies, is the fact that they are not suitable for economies characterized by bipolarities, in terms of large regional differences or large spreads regarding innovativeness, as is the case in many of the EU Accession Countries. In these countries, both regional disparities and the differences between their modern and traditional segments tend to be considerably larger than for the other OECD countries.

The available innovation statistics can be misleading, since they cannot reflect these large discrepancies within the countries in question, but capture only the average - composed of very highly developed, competitive, innovative firms and sectors on the one hand, and very traditional firms and sectors with low productivity and innovative capacities, on the other hand.

The more homogenous a country is, in terms of economic development and innovative capacity, the more suitable the existing innovation indicators and surveys. In order for transition economies and economies with high regional and segment disparity to be able to make sound innovation policy decisions, there is a clear need for the development of new and / or improved indicators of innovation. In particular, countries, such as the B4 countries, should work towards, and could benefit considerably from, joint initiatives aimed at improving regional innovation indicators.

Source: Andersson et.al. (2004b)

Summary

There is no doubt that, since the collapse of the socialist regimes in 1989, the B4 countries have made an impressive transition to fairly well-functioning market economies characterized by a high degree of macroeconomic stability. In this chapter, we have made the point that, in light of their EU accession and the structural changes currently reshaping the world economic order, the B4 countries cannot afford to sit back and rely on macroeconomic stability and conducive legal framework conditions to ensure the development of a dynamic, and internationally competitive business sector.

In particular, the rapidly growing importance of knowledge for economic welfare and competitiveness puts increasing focus on firms' and countries' ability to innovate. Institutional and organizational conditions, access to knowledge, capital and labour markets, managerial capabilities and other human capital issues, incentive structures and attitudes are some examples of factors that will strongly affect the extent and pace of enterprise development in general, and of SME development in particular.

Some indicators show a dramatic improvement in the B4 countries' innovative capacity, particularly in the field of ICT access and usage, revealing that these countries are 'catching up' to their more advanced European partners. However, significant challenges remain to ensure the development of strong national innovation systems, in which companies, and particularly SMEs, are able and willing to innovate, to be internationally competitive and to grow.

The next chapter takes a closer look at the role and structure of SMEs in the B4 countries. It also looks at SMEs in the context of innovation and how well they are integrated into the national innovation systems of the respective countries.

CHAPTER 2:
BALTIC SMEs – AGENTS OF FUTURE GROWTH

SMEs are growing in importance in economies around the world. In Europe, SMEs are viewed as one of the primary building blocks to strengthening innovative capacity, and hence increasing the future competitiveness of individual nations and Europe as a whole. But without the experience on the market, the presence in high value-added sectors, or the critical mass for investments to innovate or expand their market presence, and generally without favourable conditions for development, SMEs, and particularly those in the EU Accession Countries, will continue to struggle to meet the expectations placed on them as drivers of innovation and economic growth.

The Rising Importance of SMEs Globally

In recent years, a number of trends have caused the role of small and medium-sized enterprises (SMEs) in the global economy to expand[12]:

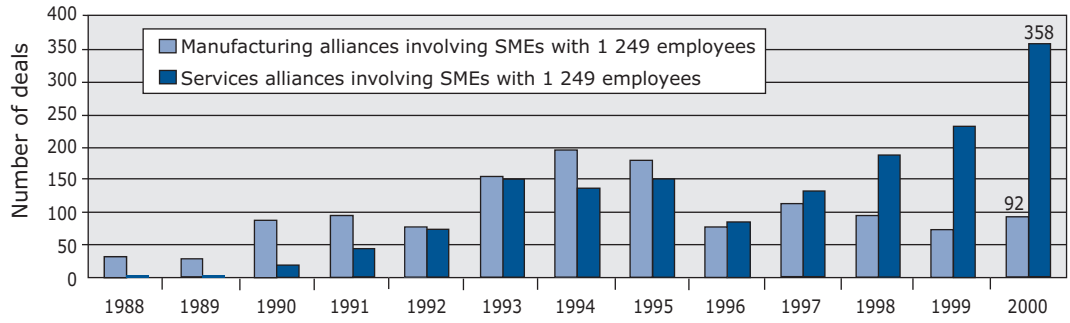
- *Proliferation of information and communication technologies* (ICT) *and reduced importance of critical mass:* The rise of the home computer and the internet has led to a broadening of information, consumer education and company reach. Not only is the individual consumer more demanding, but there are also more companies available to fill that demand. Without the traditional fixed costs of a building, a sales force, or product inventory, it has become much easier for small companies to become important players on the market.

- *Focus on core competence:* Driven by the understanding that companies which focus on their key competencies are more successful, and catalyzed by several years of bearish markets and constrained cash flow, large multinationals have begun outsourcing "non-core" activities. These generally encompass administrative and support services (e.g. telephony, catering, cleaning, salary administration), but can also include R&D (in the case of pharmaceuticals), design (in the case of telecom) and other high value-added steps in the supply chain. The "breaking-off" of non-core divisions has resulted in the rise of a set of smaller, very specialized and experienced companies, eager to broaden their customer base beyond their former parent company.

- *Increase in international business networks and strategic alliances:* As multinational enterprises (MNEs) reorganise to pursue specialisation, they are pushed to seek complementary resources and skills in order to secure their competitive position. This restructuring of industry has led to an increase in various types of business linkages, especially cross-border alliances and mergers and acquisitions (M&As), which in turn has opened up international business opportunities for SMEs with quality tangible and intangible assets, such as niche products and services, advanced technologies and market knowledge (OECD, 2002a). Local networks and alliances have played a significant role in making participating SMEs globally competitive and attractive (see also Figure 2). Networking is an increasingly common feature in successful regional economies (Perry, 1999).

[12] A good summary of these trends is presented in Kentaro Sakai's paper on *Global Industrial Restructuring: Implications for Small Firms.*

Figure 2: Cross-Border Alliances Involving SMEs, 1988-2000



Source: Sakai (2002)

- *Quicker Time to Market:* The driving force of a more demanding consumer (and owner of company stock) has catalyzed continuous improvements in production processes and innovation. The global market requires speed and flexibility, often only available in smaller companies.

What are SMEs (small and medium-sized enterprises)?

SMEs are defined as all enterprises employing less than 250 employees and earning less than €50 million in revenue (or having a total net worth of less than €43 million). In addition, no more than 25% of the capital or voting rights may be held by one or more enterprises which are not themselves SMEs. There are three size classes of SMEs:

- Micro Enterprises, with less than 10 employees
- Small enterprises, between 10-49 employees
- Medium-sized enterprises, with 50-249 employees

European Commission Recommendation 2003/361/EC of 6 May 2003

The result of these trends is reflected in the increase in SMEs' share of employment and enterprises in various countries around the globe[13], and in an increasing policy focus on identifying measures to induce the further growth and development of these enterprises (see Table 9; see also Figure 3). As can be seen in Table 9, between 1988 and 2001, employment in SMEs in Europe-19 grew by 0.3% on average, while it shrank by 0.1% in LSEs. In this period, SMEs also experienced a higher growth in profitability (0.5%) than LSEs (0.3%).

[13] It is important to note that SMEs' relative importance seems to be greater in economies with low per capita GDP (Spain, Greece, Portugal), than in economies with high per capital GDP (United States, Germany, France). Differences in per capital GDP do not fully explain differences between the EU and the United States. Instead, differences in economic structure explain these differences better, such as: the presence of a large domestic market in which social and cultural diversity is much less than in Europe; a less fragmented market; and fewer barriers to mergers and acquisitions (European Commission, 2002d).

Table 9: Average Annual Growth of SMEs vs. LSEs in Europe-19 (1988-2001)

	Real value added		Employment		Profitability	
	SMEs	LSEs	SMEs	LSEs	SMEs	LSEs
	Average annual change in %				Average annual change in %-points	
Austria	2.2	1.9	0.0	0.2	0.1	-0.1
Belgium	1.9	2.2	0.2	0.0	0.1	0.4
Denmark	2.6	2.8	0.1	0.2	0.6	0.7
Finland	-0.1	0.1	-1.7	-1.6	-1.3	-1.2
France	1.3	2.4	0.3	0.7	-0.1	0.2
Germany2.5	3.2	0.3	-0.3	0.3	0.6	
Greece	3.3	2.3	2.1	1.0	-0.6	-3.0
Ireland	7.7	9.5	2.8	3.1	2.1	0.9
Italy	1.3	1.3	-0.3	-0.4	1.1	1.5
Luxembourg	5.4	4.8	2.6	1.1	0.0	0.4
Netherlands	2.1	2.5	1.1	0.9	0.0	0.3
Portugal	3.0	3.3	0.2	0.4	2.6	0.7
Spain	2.7	2.9	1.2	1.3	0.4	0.4
Sweden	1.6	0.8	-1.2	-1.4	0.1	-0.9
United Kingdom	2.4	2.3	-0.1	-0.9	0.2	0.2
EU	2.0	2.5	0.3	-0.1	0.5	0.3
Iceland	1.6	0.0	1.3	0.5	-0.6	2.7
Norway	3.2	3.9	1.5	1.5	0.2	1.1
Switzerland**	1.6	1.7	0.4	0.1	0.5	2.1
Non-EU	2.2	2.5	0.7	0.4	0.3	2.0
Total	2.1	2.6	0.3	-0.1	0.5	0.3

*Difference between value added and labour costs, adjusted for the imputed wage of self employed, as percentage of value added.
**Including Liechtenstein.

Source: Estimated by EIM Business & Policy Research; estimates based on Eurostat's SME Database. Also based on European Economy, Supplement A, June 2001 and OECD: Economic Outlook, No. 65, June 2001.

Source: European Commission (2002e)

Mirroring their rising importance for employment, innovation and growth, there has been an increasing focus among policymakers on SMEs. In Europe, the Lisbon Council Meeting in March 2000, and the resulting *European Charter for Small Enterprises*, was a milestone for recognizing the number and relevance of SMEs in Europe, as well as for developing specific programmes and policies for them (see also Box 4). The Charter outlined 10 key areas for EU support and action:

- Education and training for entrepreneurship
- Cheaper and faster start-up
- Better legislation and regulation
- Availability of skills
- Improving online access
- Getting more out of the Single Market
- Taxation and financial matters
- Strengthening the technological capacity of small enterprises
- Making use of successful e-business models and developing top-class small business support
- Developing stronger, more effective representation of small enterprises' interests at Union and national level

Concrete actions on these key areas are detailed within the *Multiannual Programme for enterprise and entrepreneurship, and in particular for small and medium-sized enterprises* (2001-2005), which is reviewed annually. Also, the Structural Funds distributed to new Member Countries of the EU include specific allocations for SME programmes (detailed later in in this report).

The European Union is not alone in highlighting the significance of SMEs in economic growth and competitiveness. As detailed in Box 4 on page 33, many international organizations and regional policymaking fora have, through their charters and programmes, emphasized the importance for policies and activities developed to suit the specific needs of this group of enterprises.

Box 4: Overview of Selected Multinational Charters/Programmes for SMEs

OECD Bologna Charter

In June 2000, the OECD organized the first international, ministerial-level conference on SMEs: Enhancing the Competitiveness of SMEs in the Global Economy: Strategies and Policies. The Bologna Conference highlighted best practices to improve the competitiveness of SMEs in the context of the globalised, knowledge-based economy. A key outcome of the conference was the adoption of the **Bologna Charter on SME Policies** by the governments of almost 50 OECD member and non-member economies and the initiation of the Bologna Process, with the following objectives:

- To foster the entrepreneurial agenda and SME competitiveness at the global level through the implementation of the Bologna Charter;
- To provide guidance to governments to help entrepreneurs and SMEs worldwide meet the challenges and reap the benefits of globalization; and
- To further deepen and improve the high-level dialogue on SME policies among policy makers, the business community, and national and international organizations and institutions.

A 2nd OECD Ministerial Conference on SMEs will be held in Istanbul June 4-5, 2004.

INSME

The International Network for SMEs (INSME) is a non-profit association open to international membership, whose mission is to stimulate transnational cooperation and public and private partnership in the field of innovation and technology transfer to SMEs. INSME's role is to create a link between SMEs, Policy Makers and Intermediaries by acting as an information hub, a facilitator for alliances, a promoter of networking, and a catalyser for international cooperation and political dialogue. INSME is promoted by the Italian government within the Bologna Process.

EU Lisbon Meeting and European Charter for SMEs

The Lisbon Council Meeting in March 2000 set the goal for the European Union to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth, more and better jobs, and greater social cohesion. The EU recognized SMEs' role as drivers for innovation, employment and social integration, and endorsed the European Charter for Small Enterprises in June 2000 in order to improve the situation of small business in the EU by stimulating entrepreneurship, evaluating and adjusting existing measures, and ensuring that policymakers take due consideration of small business needs.

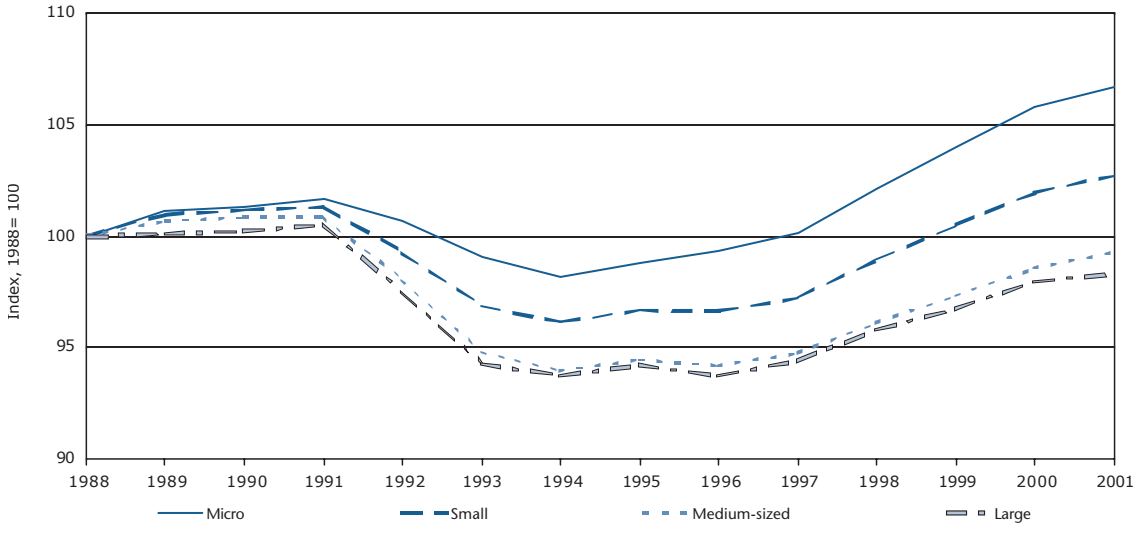
Maribor Declaration

In the Candidate Countries, the CC Best report summarised good practice in promoting entrepreneurship and competitiveness. In February 2002, the Commission invited all 13 Candidate Countries to Maribor (Slovenia) to endorse the European Charter for SMEs. The Maribor Declaration was signed in April 2002, and is the Candidate Countries' acknowledgement of the Charter as the basis for action to support and develop small enterprises, as well as their statement of interest in participating in the reporting process on the implementation of the Charter.

Nordic Charter for SMEs

In 2002, the Nordic Council of Ministers (NCM) adopted a Charter for Small Innovative Companies, Entrepreneurs and Independent Investors. In the charter, the Nordic ministers for trade and industry commit themselves to, among other things: strengthening innovation and investment in general in the Nordic countries; establishing an administrative and legislative framework that will stimulate the development of innovative companies, entrepreneurs and investors; and facilitating access to advice, technology and research results.

Figure 3: Employment Growth by Size-class, Europe-19, 1988-2001



Source: Estimated by EIM Business & Policy Research; estimates based on Eurostatís SME Database. Also based on European Economy, Supplement A, June 2001 and OECD: Economic Outlook, No. 69, June 2001.

Source: European Commission (2002d)

Overall, however, SMEs appear to play a greater role in employment growth and in the economic structure of Europe than in, say, the United States or Japan. Thus, enterprise and employment statistics show that the average size of enterprises in Europe is smaller (6 employees) than in Japan (10 employees) or the United States (19 employees). At the same time, SMEs account for a much larger share of total employment in the EU, than in other countries or regions (European Commission, 2002d). Furthermore, employment growth has been fastest within micro enterprises in Europe (see Figure 3).

The above described characteristics are even more marked for SMEs in the Candidate Countries[14], where SMEs account for 72% of total employment (compared to 66% for Europe-19). The difference is concentrated in micro enterprises, which account for 40% of employment in the Candidate Countries compared to 34% in Europe-19 (European Commission, 2002d).

Given SMEs' prominent role in the European economy (representing a majority of enterprises, employment and GDP) and projections that their growth as a sector will continue, there are widespread expectations of SMEs playing a significant role in strengthening Europe's economic growth and employment, and its competitive position in the global economy in the future.

[14] The 13 Candidate Countries are: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovak Republic, Slovenia, and Turkey.

The Role of SMEs in Transitional Economies

SMEs play an important role in the economy in general, but their role is particularly prominent in the economic transformation of countries in transition (CITs). Some of the most significant building blocks for economic stability and growth in CITs are the creation of the private sector, the development of entrepreneurship and the creation of SMEs. SMEs stimulate private ownership and serve as the main 'learning ground' for managerial and entrepreneurial skills; they are flexible and can adapt quickly to changing market demand and supply situations; they generate employment, help diversify economic activity and make significant contributions to exports and trade (UNECE 2003).

> *"The Small and Medium Enterprise (SME) sector carries great hopes and great burdens in the evolution of all of the transitional economies. It is difficult to imagine either rising overall living standards or social peace without sustained and healthy growth of this sector."*
>
> (McIntyre (2002), p.2)

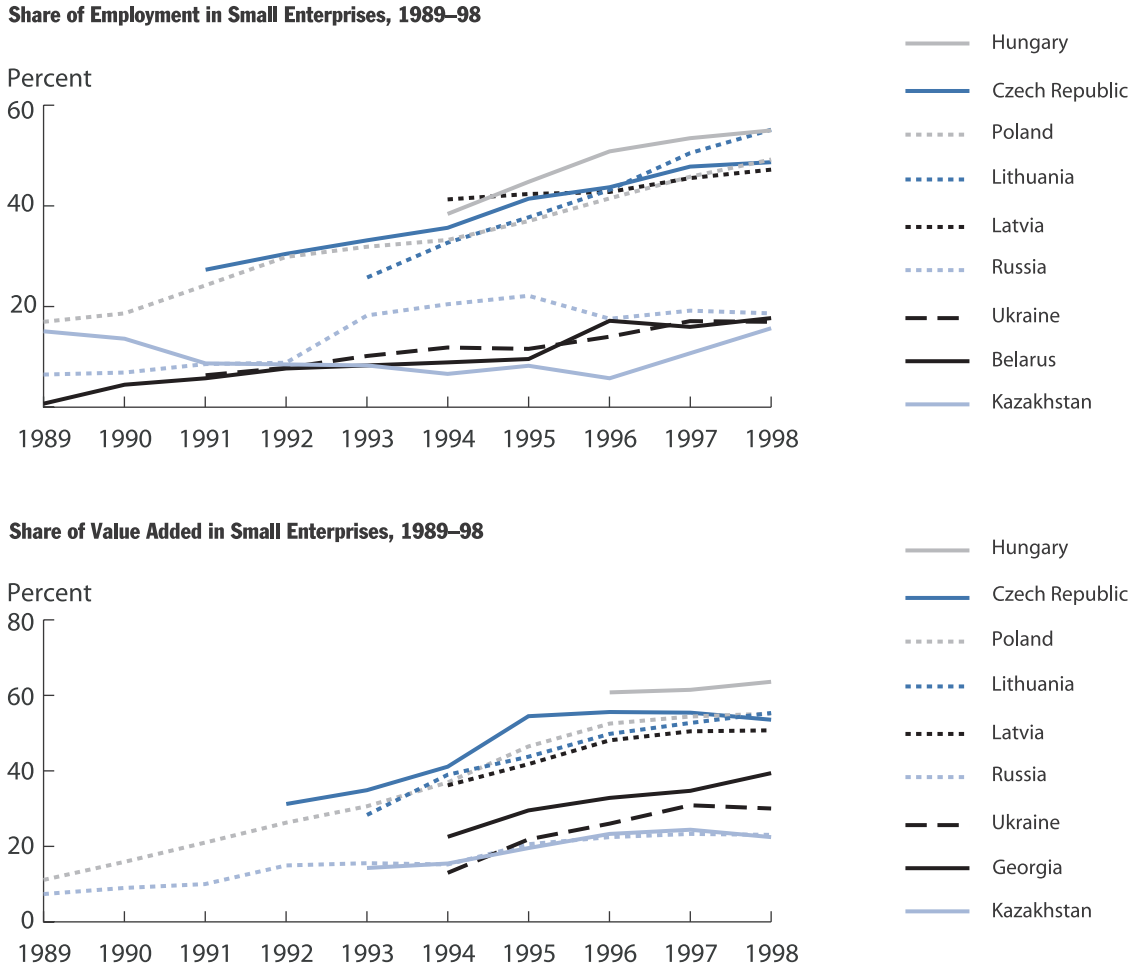
The CITs (or new market economies) have all undergone very rapid and transformational reforms over the last 15 years. These countries have managed continuous growth in GDP and foreign investment and decreased rates of inflation and unemployment while undergoing massive economic (e.g. privatization) and political changes (see chapter one of this report). One commonality of these countries' reform agendas was their focus on developing the small and medium enterprise sector.

In the early stages of transition, one of the main catalysts of transformation was the re-structuring of the large, originally state-owned enterprises, generally with high levels of foreign involvement, either through direct ownership, joint ventures or foreign know-how (Scase (2000), p.iv). Although to varying degrees, overall, in the past decade, the transition economies have become increasingly dependent on large foreign-owned corporations for exports, business R&D, product, process and organizational innovation, capital investments, job creation, and economic growth.

As transition has progressed, however, the importance of small and medium enterprises (SMEs) as instruments and vehicles of economic renewal and vitality has increased. Since the early 1990s, the B4, as well as many other Candidate Countries, have experienced dramatic increases in the share of both employment and GDP accounted for by SMEs (World Bank 2002). Generally, it is fair to say that SMEs play a key role not only in the social but also in the economic fabric of the transition countries (European Commission (2002e and 2003j), McIntyre (2002 and 2003)).

The rising importance of SMEs is partially due to the shift of production from formerly state-owned enterprises, many of which were dismantled in the 1990s (European Commission 2002e). In the early stages, many SMEs in the transition economies were created from the break-up of large, state-owned enterprises and mass privatization, while others were conversions from the unofficial sector. The rapid rise in the economic significance of SMEs therefore "does not in itself point at a healthy development of the SME-sector" (ibid.). The crucial question concerns what conditions and measures are needed to build an environment that is conducive to the development of dynamic, competitive, and innovative SMEs.

Figure 4: SMEs Share of Employment and Value Added, 1989-98



Source: World Bank (2002)

Despite some early reforms by the post-communist countries in the early 1990s (European Commission (2002e)), there are still significant structural barriers to SME development in the transition economies as pointed out by the European Commission in its 2003 *Implementation Report on the European Charter for Small Enterprises in the Candidate Countries :*

> *Small enterprises in the Candidate Countries remain to a large extent underdeveloped. New enterprises are mainly created in the traditional service sectors and there are only few innovative companies. The life cycle of companies is shorter than in the EU and the methods of the economic transition towards an open economy have not always been favorable to new and small enterprises.*
>
> European Commission (2003j, p.18)

Thus, although EU accession offers SMEs new export opportunities, it will also bring increased competition in domestic markets (see also Box 5). While the more stringent quality and technical standards, coupled with an increase in the number of players, should lead to generally more competitive companies in the Accession Countries in the longer run, SMEs are currently at a disadvantage. The disproportionate effect (relative to larger enterprises) of compliance costs means that SMEs will have a more difficult time in capitalizing on the opportunities afforded by market integration. Experience from Western Europe suggests that the main market integration effects will

be to the potential advantage of the strong and to the disadvantage of weaker SMEs. For example, firms that are already proactively managed, and with an existing presence in foreign markets, are in the best position to take advantage of any new foreign market opportunities (Smallbone and Rogut, 2003). For newer, or more regionally focused SMEs, market integration presents extreme challenges to growth and continued existence.

The countries in transition (CITs) are well aware of these challenges, and have been taking long strides in improving the institutional, legal and regulatory environment, reducing the administrative burden, and developing business support programs to assist SMEs.[15] The B4 countries, in particular, have succeeded in supporting SME development in their countries, and are reckoned among those countries that are making rapid progress in this respect (see Table 10 below).

Table 10: Classification of SMEs in Countries in Transition

Countries making rapid progress	Countries with intermediate stage of transition	Countries making slow progress
Croatia	Bulgaria	Albania
Czech Republic	Kyrgyzstan	Bosnia and Herzegovina
Estonia	Romania	FYR Macedonia
Hungary	Russian Federation	Moldova
Latvia	Uzbekistan	Tajikistan
Lithuania		Turkmenistan
Poland		
Slovakia		
Slovenia		

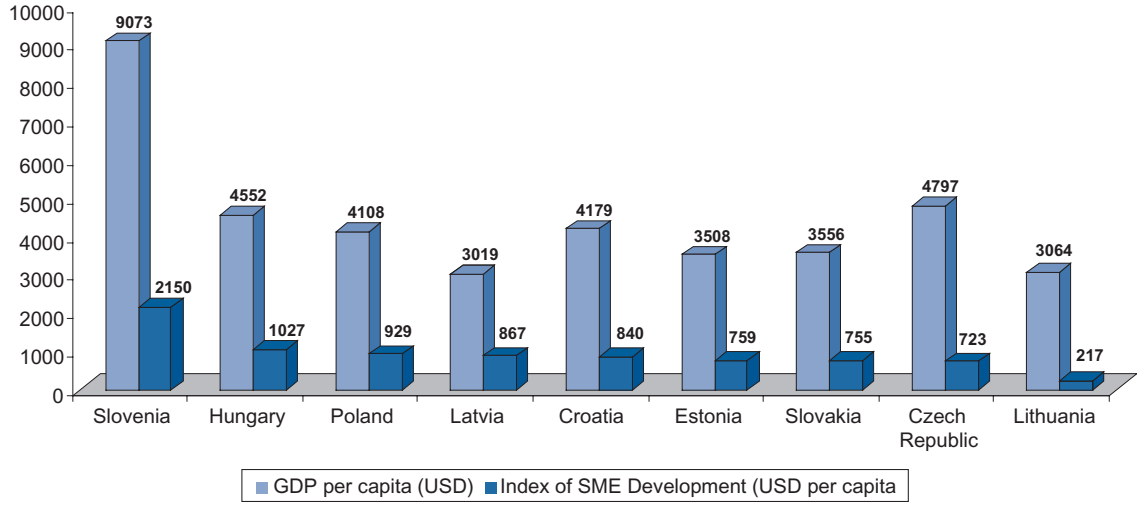
Source: UNECE (2003)

At the same time, the B4 countries have very different levels of performance of their SME sectors. The UNECE has attempted to measure the development and achievements of SMEs in CITs through its Index of SME Development[16] (UNECE 2003). The Index illustrates the performance of SMEs relative to the overall economic performance in these countries, as measured by per capita product (in USD). As Figure 5 illustrates, Slovenia and Hungary exhibit the best performance on this index, while the B4 countries exhibit varied performance. Among the B4, Poland ranks highest (3rd), followed by Latvia (4th), Estonia (6th) and Lithuania (9th).

[15] One programme that should be mentioned here is the United Nations Economic Commission for Europe (UNECE)-initiated Programme for the Development of SMEs in countries in transition (CITs), started in 1995. This programme has the goal of promoting policy and regulatory reforms to create an enabling environment for the development of entrepreneurship and creation of SMEs, and support the creation and strengthening of formal institutions that provide business development and financial institutions on a sustainable basis (UNECE 2003).

[16] The Index for SME Development is a complex economic indicator that incorporates the share of the whole SME-sector in the overall performance of the national economy based on three economic parameters: (i) the share of private ownership, (ii) the share of SMEs in GDP, and (iii) the share of the labour force of SMEs in the total labour force of a country. In advanced emerging market economies, the Index of SME Development amounts to USD 500-2200 per capita. The countries with intermediate stages of development have less than USD 500 per capita, and less developed countries in transition have less than USD 100 per capita.

Figure 5 : Index of SME Development



Source: UNECE (2003)

Structure and Presence of SMEs in the B4

As presented in Figure 4 (above) and Table 11 (below), SMEs have accounted for a growing share of the B4 economies over the last decade and now account for the majority of enterprises, the bulk of the labour force, and more than half of total GDP. Although SMEs as a group comprise an important segment of enterprises in all of the Candidate Countries, there are large differences between the average size of enterprises (and other attributes) among the B4 countries (see Table 11). At the same time, their structure, sectoral presence and productivity also display noteworthy differences.

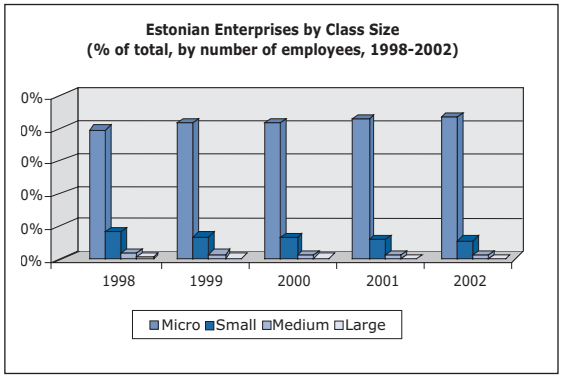
Table 11: Comparable SME Statistics

	SMEs' Share of Total # of Enterprises (% of total)				SMEs' Share of Labour Force (% of total)				SMEs' Share of Turnover/GDP (% of total)				SMEs' Share of Value-Added (% of total)			
	TOTAL	Micro	Small	Med.	TOTAL	Micro	Small	Med.	TOTAL	Micro	Small	Med.	TOTAL	Micro	Small	Med.
Denmark	**99.3**	79.7	16.4	3.2	**61.2**	13.9	23.8	23.5	**53.0**	11.8	18.5	22.7	**56.5**	13.1	20.7	22.7
Finland	**99.8**	90.2	8.1	1.5	**58.5**	22.5	18.4	17.6	**49.0**	15.3	15.4	18.3	**49.3**	17.5	15.6	16.2
France	**99.9**	92.1	6.7	1.1	**62.3**	24.5	21.2	16.6	**58.4**	20.4	20.4	17.6	**55.5**	19.5	19.1	16.9
Germany	**99.5**	81.4	15.5	2.6	**61.1**	19.1	22.5	19.5	**47.5**	10.1	16.9	20.5	**45.5**	8.5	16.4	20.6
Italy	**99.9**	94.9	4.5	0.5	**82.2**	47.8	21.9	12.5	**71.7**	30.5	23.7	17.5	**72.5**	32.5	23.4	16.6
Sweden	**99.8**	93.3	5.6	0.9	**63.1**	28.0	19.0	16.1	**57.6**	19.6	19.2	18.8	**55.6**	20.1	17.7	17.8
United Kingdom	**99.6**	85.5	12.2	1.9	**55.1**	21.7	18.1	15.3	**50.3**	16.2	16.7	17.4	**59.2**	20.9	20.0	18.3
Estonia[1]	**99.6**	78.5	17.8	3.3	**59.7**	30.3	22.7	6.7	**54.3**	23.3	31.0	-	**42.2**	16.4	25.8	-
Latvia[2]	**99.5**	76.9	18.9	3.7	**62.0**				**60.0**							
Lithuania[3]	**99.6**	81.5	14.9	3.2	**64.8**	11.1	20.5	33.2	**57.4**				**55.4**	12.0	19.1	24.3
Poland[4]	**99.8**	96.5	2.4	0.9	**66.9**	31.9	15.1	19.9	**63.0**	28.2	13.5	21.3	**54.7**	25.4	10.7	18.6

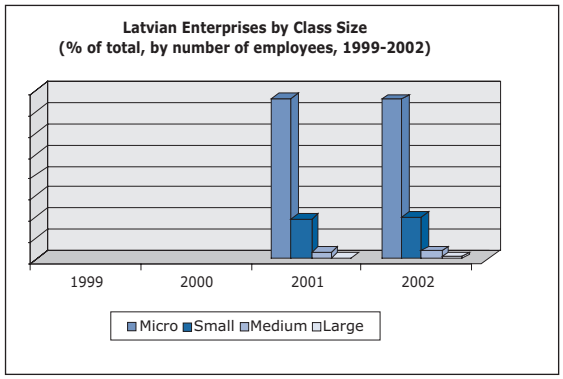
Sources: For EU member countries: Eurostat (2002b)-data primarily from 1999, for candidate countries: Eurostat (2004a)-data primarily from 2000
[1] Data on share of labour force from Statistical Office of Estonia (2004)
[2] Data on share of labour force and share of GDP from European Commission (2003c)
[3] Data on share of labour force, share of GDP, and share of value-added from SMEDA (2003)-data from 2000
[4] Data on share of labour force PAED (2002)-data from 2000

A common measurement of business activity is the number of economically active SMEs per 1000 inhabitants. Within the EU, this number fluctuates between 40 and 60. In the B4, the number is significantly lower (Estonia: 27, Latvia: 18, Lithuania: 17, Poland: 35) (Latvian Ministry of Economy 2003 and SMEDA 2003), constituting a cause for concern particularly in Lithuania, Latvia and Estonia. As a result, increasing the number of active SMEs (to be more aligned to European levels) features as a prominent goal of policymakers in these countries.[17] Seen as an indicator of entrepreneurial activity, it is understandable that new market economies, such as the B4, would want the largest possible base for developing their market skills and entrepreneurial activities.

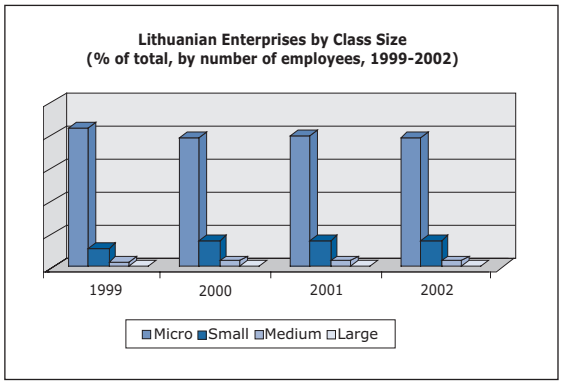
Figure 6: Enterprises by Class Size, Trends for B4 Countries



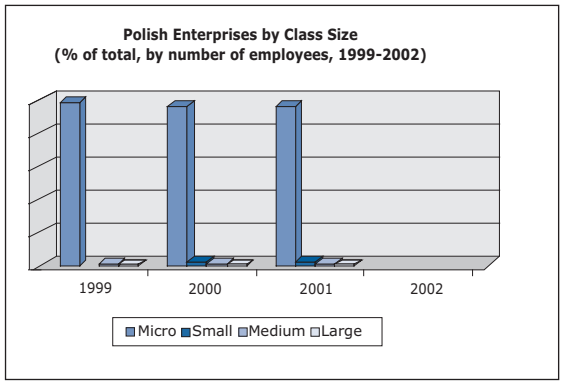
Source: Statistical Office of Estonia (2004)



Source: Eurostat (2004a) and Latvian Ministry of Economy (2003)



Source: SMEDA (2003)



Source: PAED (2002, 2003)

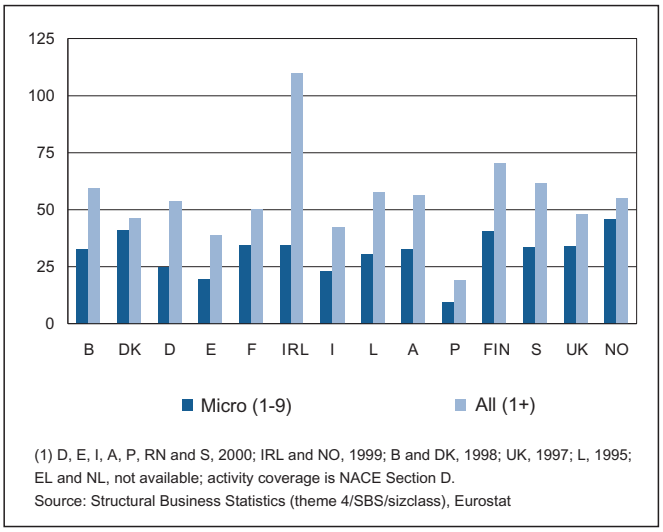
As illustrated in Figure 6, micro enterprises dominate SMEs in the B4. Poland, in particular, has an overwhelming majority of micro enterprises, with an average company size of 5 employees (compared to 9, 15, and 11 for Estonia, Latvia and Lithuania respectively). Europe, in comparison, has an average enterprise size of 6 (see Table 12). According to a report by the European Commission there has been a trend towards a decrease in company size in the Candidate Countries. The report attributes this development to three main factors: (i) the restructuring of former state-owned enterprises, (ii) changes in the institutional environment which make it easier to start one's own business (including the 'legalising' of the informal economy), and (iii) the rise of the services sector (European Commission, 2002e). The figure above confirms this trend for Estonia.

[17] This was mentioned, for example, in the presentation given by the Latvian Minister of Economy, Mr. Juris Lujans, in his presentation at the Baltic Development Forum Summit in Riga in October 2003.

Overall, there are thus fewer economically active SMEs in the B4 than in Europe, and a proportionally larger number of smaller/micro enterprises in the B4. For policymakers, this poses two primary concerns: (i) how to encourage the establishment of more SMEs in order to increase entrepreneurial experience and skills (primarily a concern for the Baltic countries, with fewer SMEs per 1000 inhabitants), and (ii) how to support micro enterprises in their efforts to compete (this is primarily a concern for Poland, with a lower average company size). Of particular concern in the case of Poland is the proportionately large number of traditional, 'low-tech' or 'non-innovative', micro enterprises (we will return to this question in the following section).

Although SMEs represent a large majority of active enterprises and sources of employment, they do not account for a proportional amount of GDP. This phenomenon is not specific to the B4 countries. Throughout the EU, SMEs represent a disproportionately lower amount of GDP than employment (see Table 11). Given this common phenomenon, productivity per employee is a key issue.

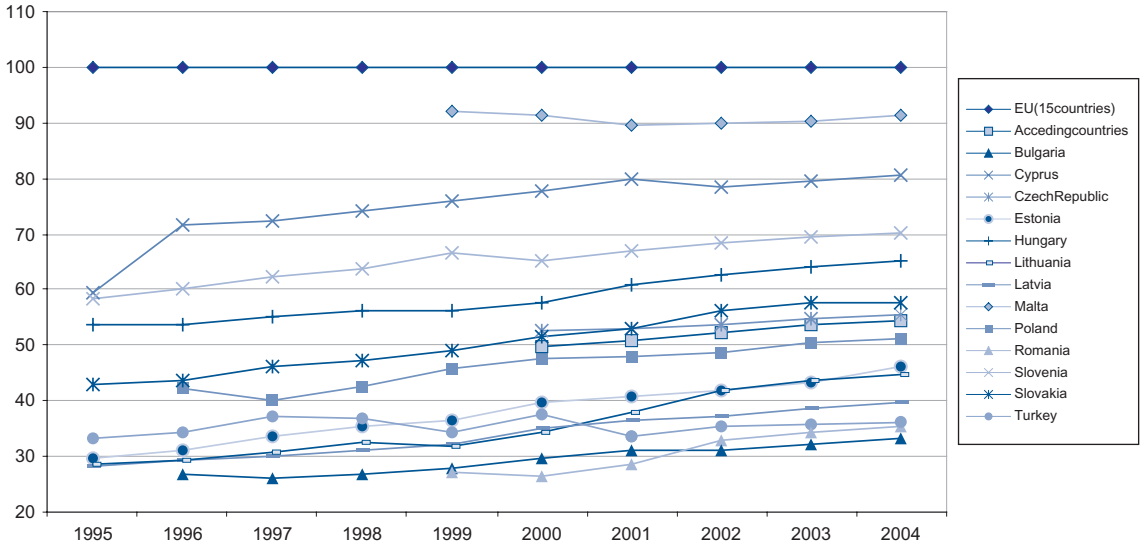
Figure 7: Apparent Labour Productivity in Manufacturing, EU Countries
(in thousands of EUR per person employed, 2000)



Source: Eurostat (2002b)

Figure 7, which compares labour productivity in manufacturing between small companies and total companies in the EU-15, indicates that productivity per employee is lower in smaller companies compared to larger companies. Figure 8, in turn, shows that productivity per employee is lower in the Candidate Countries than in the EU-15. Although, as Figure 8 shows, all of the B4 countries have been able to increase productivity per employee over the last ten years, they still rank among the least productive of both EU and Accession Countries (ranking above only Bulgaria, Romania and Turkey). Among the B4, Poland has the highest productivity per employee, followed by Estonia, Lithuania and Latvia. Lithuania has experienced the highest growth in productivity per employee. Although such comparisons should be approached with caution, and although it is difficult to say why Poland's productivity (with the lowest average company size) is highest among the B4 countries, one can conclude overall that all B4 still have a way to go before they reach comparative productivity levels of the other EU countries. Given the lower productivity for their countries as a whole, and given that small enterprises generally tend to have lower productivity than larger ones, SMEs in the B4 can count on a particularly tough race to "catch up" to European levels of productivity.

Figure 8: Labour Productivity per Person Employed
(GDP in purchasing power standards per person employed, relative to EU-15)



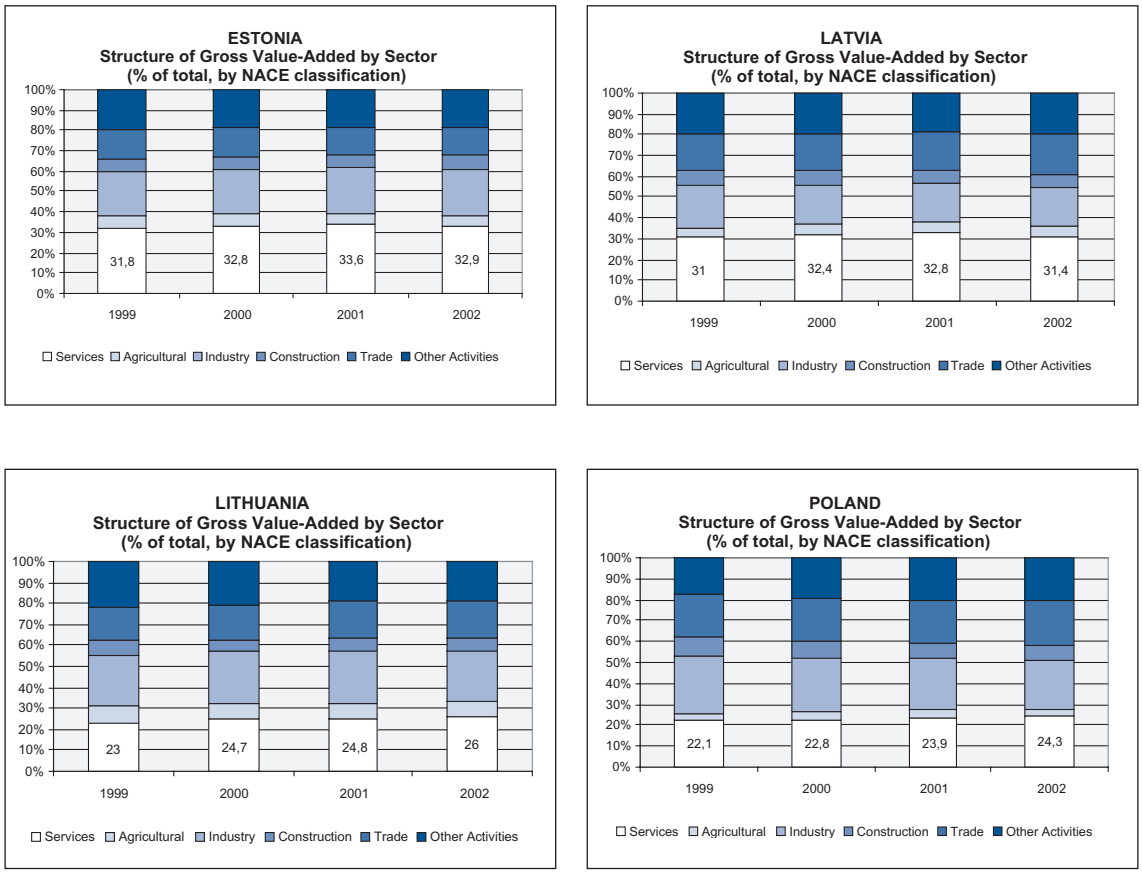
Source: Eurostat

Turning to the overall structure of the economy, one of the principal trends to be observed, and which mirrors a general trend in developed countries, is that the service sector is expanding in the B4 (Figure 9), particularly for SMEs (Figure 11). Thus, although the B4 countries each have different sectoral structures and areas of growth, one development shared by the B4 is growth in the service sector.

Otherwise, each country has different sectoral "specialities", as illustrated in Figure 9 below.[18] In Estonia, the fastest-growing sector is construction (2.4%), followed by industry (1.7%) and services (0.9%). In Latvia, the fastest-growing sector is trade (3.1%), followed by agriculture (1.7%) and services (0.3%). In Lithuania, the fastest-growing sector is services (3.1%), followed by trade (2.8%) and industry (0.8%). In Poland, growth in "other activities" (including public administration, education and health sectors) is highest (4.4%), followed by services (2.4%) and trade (0.8%).

[18] Compound annual growth rate over the four years 1999-2002.

Figure 9: Structure of Gross Value-Added by Sector[19], Trends for B4 Countries

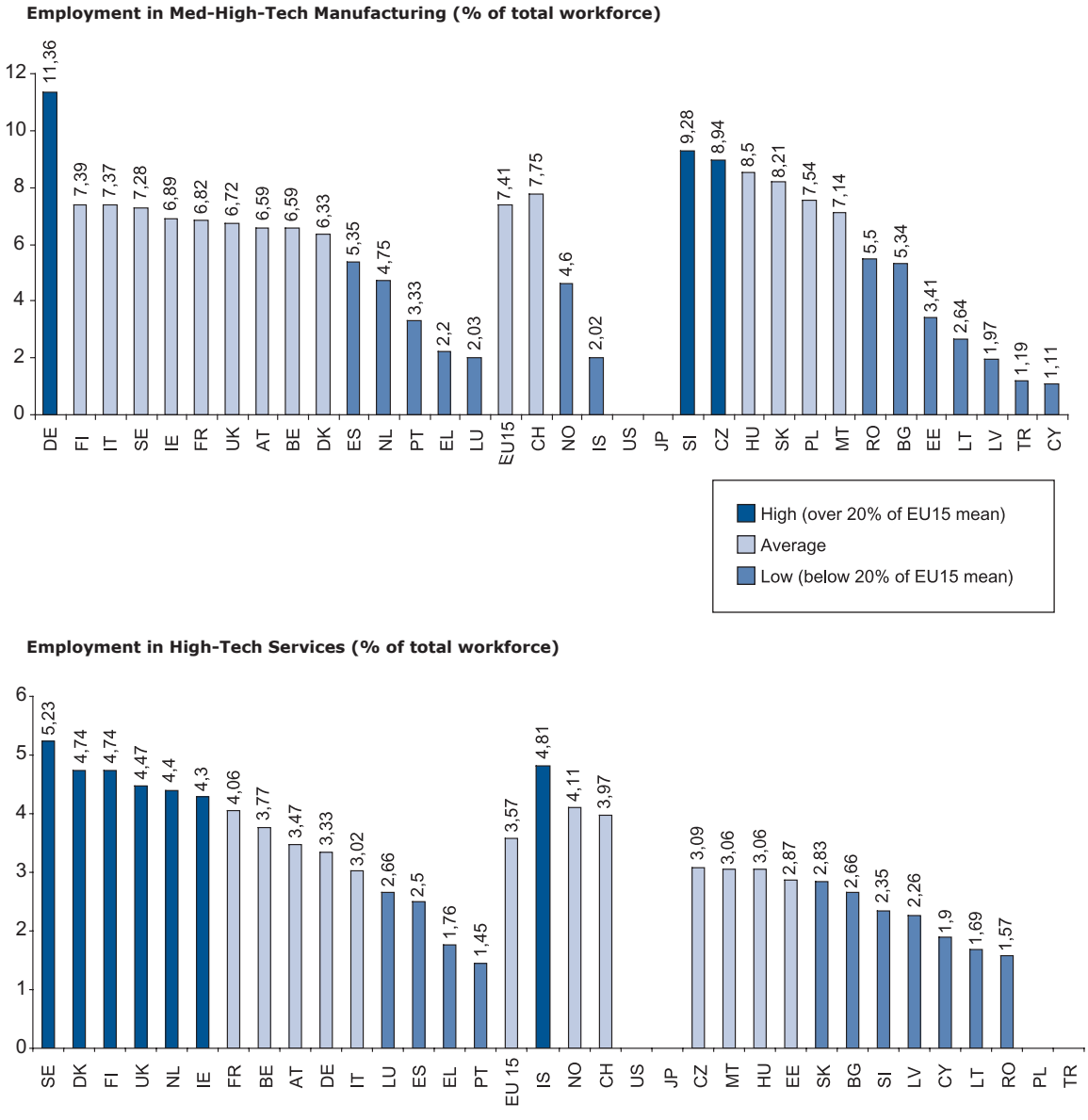


Source: Romanian National Institute of Statistics, (2003)

SMEs are most prominent within the trade sector, although lately their presence there has been shrinking (Figure 11). Without more detailed data and careful examination, it is difficult to draw conclusions as to the implications of the sectoral make-up of SMEs in the B4. In consideration of the fact that employment in the B4 countries is, on average, less high-tech intensive in both manufacturing and services than in the EU (see Figure 10), an exclusive high-tech focus would clearly be inappropriate. One of the big challenges in policymaking is the question of whether it is possible to gauge in which areas the development potential of SMEs would be the greatest or, even more specifically, in which area support of SMEs might render the greatest social benefits.

[19] For comparison purposes, sectors have been defined using the following NACE classification groupings: Agricultural (A,B), Industry (C,D,E), Construction (F), Trade (G), Services (H,I,J,K), Other Activities (L,M,N,O,P,Q).

Figure 10: Employment in Med/Hi-tech Manufacturing and in Hi-tech Services

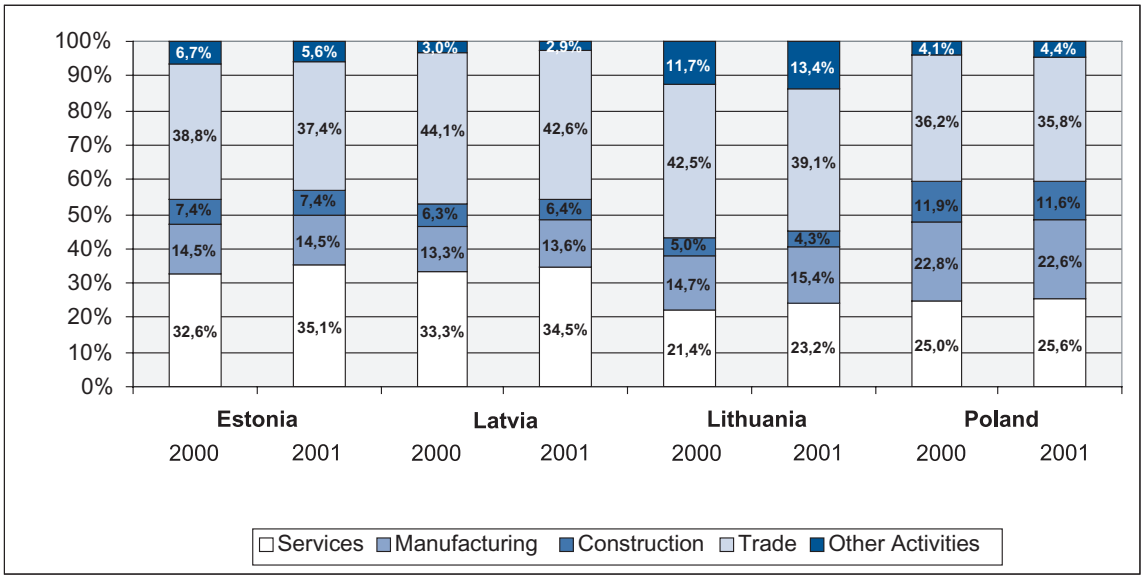


Source: European Commission (2003l)

The percentage of employment in medium-high and high-tech manufacturing is an important indicator "of the manufacturing economy that is based on continual innovation through creative, inventive activity" (European Commission (2003l)). The percentage of high-tech services in employment in turn, is important, both as an indicator of the share of innovative services in the economy and because high-tech services

> *provide services directly to consumers, such as telecommunications, and provide inputs to the innovative activities of other firms in all sectors of the economy. The latter can increase productivity throughout the economy and support the diffusion of a range of innovations, particularly those based on ICT* (ibid.)

Figure 11: Share of SMEs by Sectors in the B4 (% of total number of enterprises)



Source: UNECE (2003)

Bearing in mind that the average enterprise in the B4 is quite small and that SMEs' total contribution to GDP is between 50-60%, it is not surprising that SMEs account for a relatively low share of exports (between 20-44%) in these countries. Among the B4, Poland differs significantly from the other three countries, with SMEs accounting for nearly half of total exports (44% in 2001), whereas in the other three countries, the corresponding share is considerably lower. Thus, SMEs make up between one fifth and one fourth of total exports, that is, 21% in both Estonia and Lithuania in 2002. For all B4 countries, however, this proportion is higher than in the EU-19, where SMEs on average only represent 13% of total exports (Table 12). In Lithuania in 2002, the majority of exports were sold within the EU (48.7%) or CIS (18.9%). The micro enterprises exported mainly to the CIS (59.2%), whereas small and medium-sized enterprises exported relatively equal shares to the EU (33.8%) and CIS (38.9%) (SMEDA 2003). In Poland in 2000, a large majority of exports went to the EU (52.4%), whereas a smaller portion went to countries in the East (30.7%) (PAED 2002).

Table 12: Main Indicators of Non-Primary Private Enterprise, Europe-19, 2000

		SME				**LSE**	**Total**
		Micro	Small	Medium-sized	Total		
Number of enterprises	(1000)	19040	1200	170	20415	40	20455
Employment	(1000)	41750	23080	15960	80790	40960	121750
Occupied persons per enterprise		2	20	95	4	1020	6
Turnover per enterprise	Million €	0.2	3.0	24.0	0.6	255.0	1.1
Share of exports in turnover	%	7	14	17	13	21	17
Value added per occupied person	€ 1000	40	75	105	65	115	80
Share of labour costs in value added	%	66	66	58	63	49	56

Source: European Commission (2002e)

Summing up, there are fewer economically active enterprises per capita in the B4. These SMEs are growing in the service sector, and declining in numbers in the trade sector. In general, enterprises in the B4 are less hi-tech and less productive than their counterparts in the other EU countries, but SMEs are surprisingly more export-oriented in the B4 than in the rest of Europe. Poland differs from the other B4, and the EU average, in the proportionately larger number of microenterprises, compared with the EU average, and in the more pessimistic outlook of its enterprises with regard to EU accession (see Box 5).

In conclusion, policymakers should focus on improving the conditions to support entrepreneurship (spawning more companies), while at the same time strengthening the 'enabling conditions for innovation' (leading to higher productivity and competitiveness) across all sectors, helping SMEs to develop and contribute to national economic growth.

Box 5: Perceptions of Accession to the European Union

Business surveys provide a valuable insight into expectations of companies regarding the impact of joining the Single Market. In addition, they can serve as an indicator of, firstly, how well companies in the respective countries are preparing for their entry into the Single Market, and, secondly, to what extent they will be outward-looking and proactive in seeking to maintain existing or secure new market segments within and outside their country.

The business surveys conducted by Eurochambres, such as the report on *Corporate Readiness for Enlargement in Central Europe,* provide very useful overviews of companies' perceptions regarding the impact of accession on their business prospects and ability to compete. One of the main conclusions of the report is that

> *Small companies and companies mainly operating at the domestic market are generally less prepared for EU Single Market: they are less informed on the Acquis, their current level of compliance is lower, and they are less advanced in their preparation to achieve compliance. In the short term, this is not a problem, but it will affect their long term competitiveness*
> (Eurochambres (2003), p.6).

The survey, covering close to 4000 companies in 10 Candidate Countries, reveals considerable differences between the B4 countries, when it comes to level of preparedness for EU accession, but also perceptions of the opportunities/threats associated with joining the Single Market. Thus, Polish companies, and particularly SMEs, appear to be both much less prepared for and optimistic about EU membership than their Estonian, Latvian and Lithuanian counterparts. According to the survey, Poland ranks among the lowest of the Candidate Countries (incl. Bulgaria and Romania) when it comes to the share of companies having initiated preparations for implantation of the Acquis Communautaire, the degree to which companies comply with the Acquis, and the share of companies having made an Acquis implementation cost (ibid., pp.14-17).

Regarding the expected effects of accession, Poland had by far the highest percentage of companies expressing fears that EU accession would result in tougher competition in the home market by European companies, whereas Estonian companies were the least concerned. Poland also belonged to the countries with the lowest hopes for easier access to EU markets as a result of EU accession (ibid, p.20).

SMEs and Innovation

Some of the challenges and opportunities arising with the knowledge-based economy (see Box 1) are best handled by big already established firms which enjoy economies of scale and scope. At the same time, however, the real opportunity, and challenge, in the era now arising lies in the fact that many of the transactions and processes that used to require a central location and great scale now can be carried out in the periphery, on small scale, if firms and other actors can engage in networks with partners. The new way is to combine the flexibility of small scale with economies of scale and scope at the level of networks, thereby entering new markets, and managing vital information and skills in various services complementing manufacturing capacity.

SMEs thus provide an important and unique breeding ground for innovation and, in turn, for national competitiveness. Given the right framework conditions, SMEs have the potential to serve as incubators to new ideas, exercising their ability to act quickly and flexibly more easily than big, established firms.

In many of the transition economies, SMEs can and should play a key role in moderating their countries' current economic dependence on a handful of large multinational companies. As pointed out by the OECD,

> *[t]he SME sector can provide a large share of the flexibility increasingly required in OECD economies. Dynamic rates of business turnover facilitate the fundamental restructuring required to shift resources towards growing areas and away from declining areas, and to adjust the structure of production to meet market needs. At firm level, many smaller enterprises are inherently more flexible than larger firms, as they are less likely to be 'locked in' to existing plant, technologies or organisational structures.*
> (OECD (2002a), pp.11-12).

One of the principal challenges for the former socialist countries will therefore be to enable the development of a critical mass of dynamic, innovative, and internationally active and competitive SMEs which can gradually moderate these countries' economic dependence on large foreign-owned corporations. This must be accomplished at a time when, with the upcoming accession to the EU in May, competition is getting tougher and technical and quality standards are becoming more stringent.

Currently, there are a number of "monuments" from the previous era that still remain, challenging the further growth and development of SMEs, and particularly of innovative SMEs, in these countries, including:

- A long experience with, and deep expertise of more theoretical and technically-focused R&D, overpowering the need to develop more entrepreneurial attitudes and commercially-oriented solutions
- A strong, traditional, higher-education structure which is difficult to adapt to the needs of a market-focused economy
- A low level of collaboration between universities and research institutions and the private sector
- A relatively young and risk averse capital market, not able to provide seed or risk capital to those entrepreneurs and SMEs who seek funds in order to initiate or grow their business

Overall, SMEs tend to lack the financial resources, the technological or management know-how, and the networks that would enable them to invest, or otherwise be actively involved in, substantial R&D activities (either in-house or in collaboration with research institutions or networks). Furthermore, small firms tend to lack the resources to invest in organisational change warranted by market developments (ibid.).

SMEs in the B4 – Struggling to Innovate

As presented in Chapter 1, the B4 are "catching-up" to the rest of the EU on various innovation performance indicators. However, in larger international comparison, the B4 still need to make considerable progress (see Table 13). The analyses carried out by the World Economic Forum on national competitiveness, and published in the annual Global Competitiveness Report, suggest that the B4 rank relatively low when it comes to the nature of their competitive advantage. The B4 rank lower in this indicator than their innovative capacity would indicate. Estonia's relatively low score and ranking, below the other B4, is somewhat surprising in this context as it generally ranks considerably higher in terms of both overall competitiveness, ranking 22nd in the 2003 Growth Competitiveness Index compiled by the World Economic Forum, and in terms of available innovation statistics (both in the Global Competitiveness Report and in the Trend Chart on Innovation).

Furthermore, the B4 rank relatively low in terms of the state of cluster development. This represents a remaining challenge when considering that the development of clusters is now recognized as one important means for SMEs to attain economies of scale and scope, and is increasingly seen as an important vehicle for SMEs to build the capacity to innovate and to compete internationally (see Andersson et. al. (2004c)). Having said that, it should be stressed that the public sector's role in promoting cluster development is not easily grasped or defined. Recognizing the importance of clusters for innovation and competitiveness should therefore not automatically be translated into an obvious rationale for policies aimed at actively promoting existing or even creating new clusters (for a critical assessment or treatise of the role, and particularly the limitations or pitfalls, of policymaking aimed at stimulating cluster development, see ibid.).

Table 13: Comparative National Rankings – Competitiveness, Innovation and Cluster Development

	Nature of Competitive Advantage		Capacity for Innovation		State of Cluster Development	
	Rank (of 80 countries)	Score[1]	Rank (of 80 countries)	Score[2]	Rank (of 80 countries)	Score[3]
Germany	1	6,2	1	6	7	4,7
Japan	2	6,1	4	5,8	13	4,2
U.S.	3	6	6	5,7	3	5,4
United Kingdom	6	5,8	9	5,6	5	4,9
Finland	7	5,8	3	5,9	4	5,3
Denmark	8	5,8	13	5,2	22	3,7
Sweden	10	5,8	2	6	9	4,4
Netherlands	11	5,4	11	5,2	14	4,1
France	12	5,4	5	5,8	21	3,7
Italy	13	5,3	19	4,4	1	5,7
Spain	21	4,5	21	4,4	30	3,5
Norway	22	4,3	17	4,5	15	4
Ireland	25	4,3	23	4,2	10	4,3
Croatia	28	3,9	41	3,3	63	2,7
Slovenia	29	3,8	24	4,2	58	2,7
Hungary	34	3,5	32	3,6	39	3,2
Greece	43	3,3	57	2,9	67	2,6
Lithuania	48	3,2	37	3,4	34	3,3
Portugal	50	3,1	40	3,3	32	3,4
Poland	53	3	42	3,2	42	3,1
Latvia	56	2,9	39	3,3	56	2,8
Slovak Republic	60	2,8	38	3,4	61	2,7
Estonia	61	2,8	34	3,5	74	2,5
Czech Republic	71	2,7	26	3,9	65	2,6

[1]Competitiveness of country's companies in international markets is primarily due to (1=low cost or local natural resources, 7=unique products and processes)
[2]Companies obtain technology (1=exclusively from licensing or imitating foreign companies, 7=by conducting formal research and pioneering their own new products and resources)
[3]How common are clusters in the country? (1=limited and shallow, 7=common and deep)

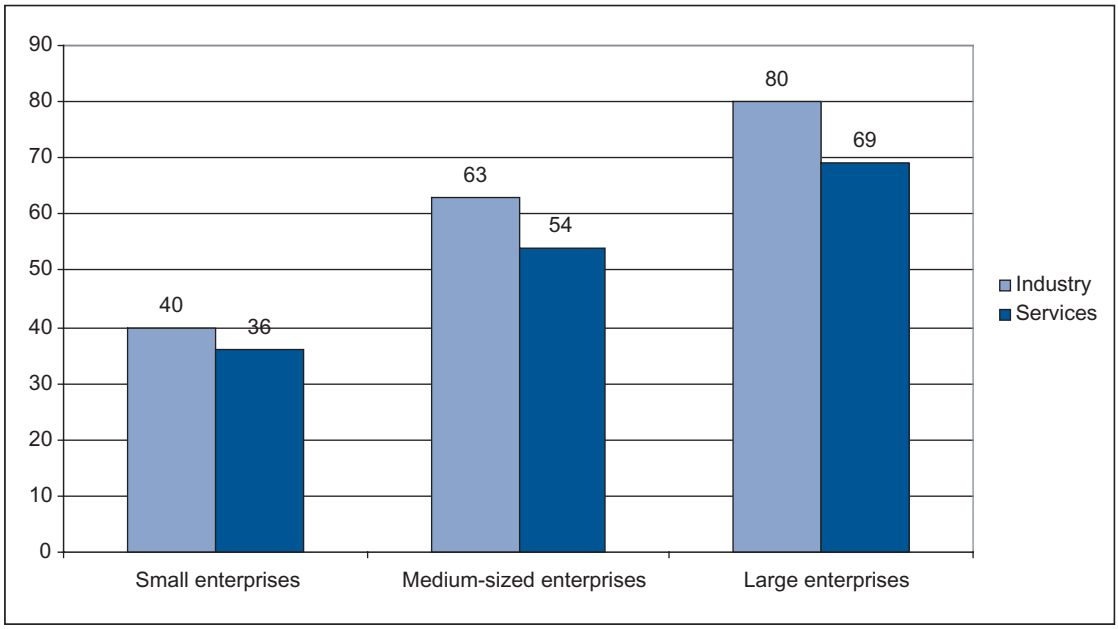
Source: World Economic Forum (2003)

Overall, the rankings compiled by the World Economic Forum would indicate that the B4 are competing on lower costs, rather than unique products and processes, and that they obtain technology largely through FDI, rather than through their own pioneering efforts.

Currently, there is very little reliable, internationally comparable, information on SMEs' contribution to innovation and national competitiveness. However, a few national and international surveys enable indications of SME performance relative to larger companies, and trends in SME performance over time. One survey with a relatively broad base of comparative data is BEEPS.[20]

[20] The Business Environment and Enterprise Performance Survey (BEEPS), developed jointly by the World Bank and the European Bank for Reconstruction and Development is a survey of managers and owners of firms across the countries of Eastern Europe, the former Soviet Union, and Turkey designed to generate comparative measurements of the quality of governance, the investment climate and the competitive environment, which can then be related to different characteristics of the firm and to firm performance. The results of the survey (conducted in two rounds – in 1999 and 2002) can be accessed at http://info.worldbank.org/governance/beeps2002/.

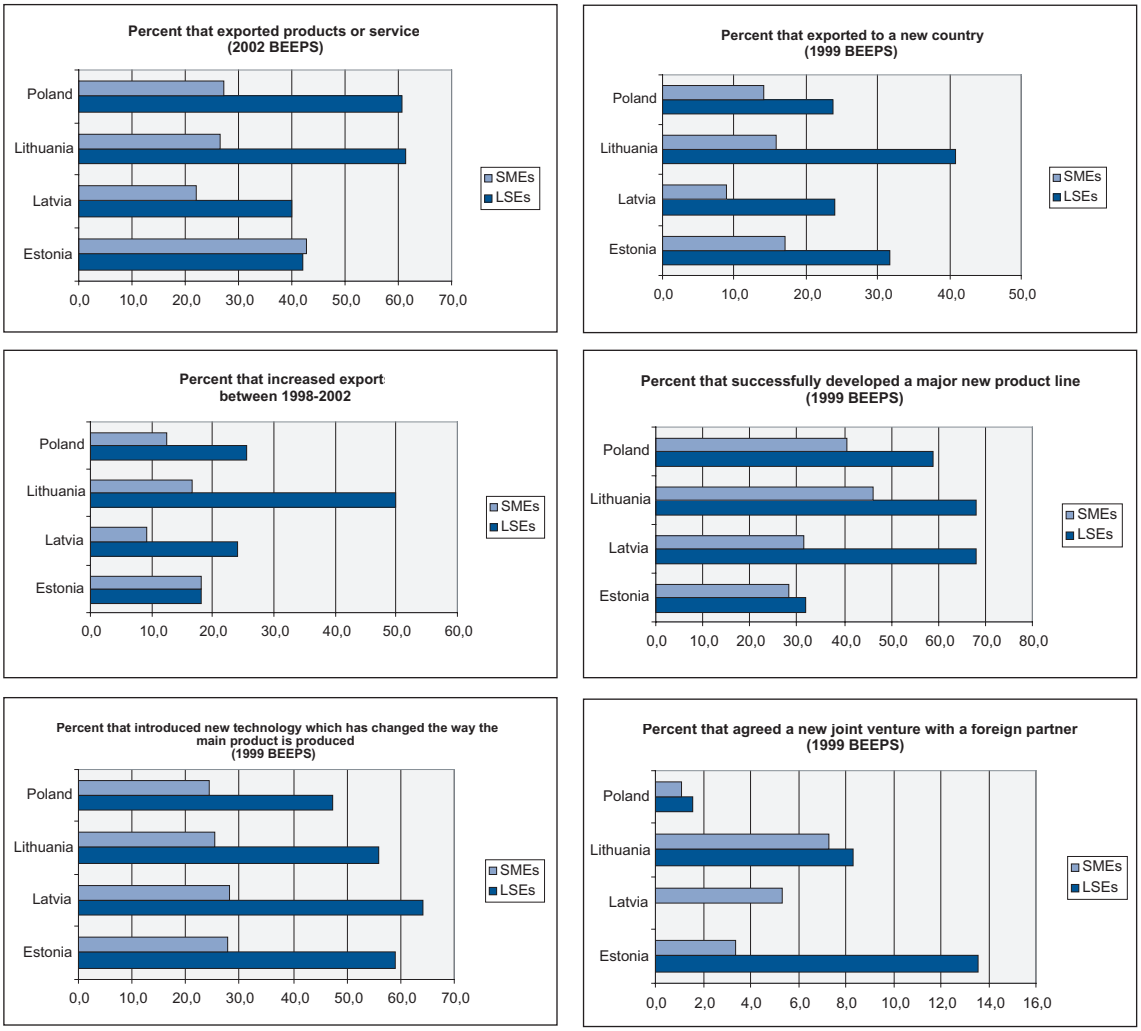
Figure 12: Enterprises with Innovation Activity in the EU, by enterprise size class and by sector, 1998-2000 (% of total enterprises)



Source: Eurostat (2004b)

The results of this survey confirm the data in Figure 12 above, including that larger enterprises are more apt to conduct innovative activities than SMEs. As illustrated in the set of figures below (Figure 13), according to BEEPS, SMEs in the B4 are less export-oriented (with the exception of Estonia), less innovative with new products or technologies, and less active in forming joint ventures with foreign partners than large companies.

Figure 13: BEEPS Survey Responses on Enterprise Performance (dates since 1998)

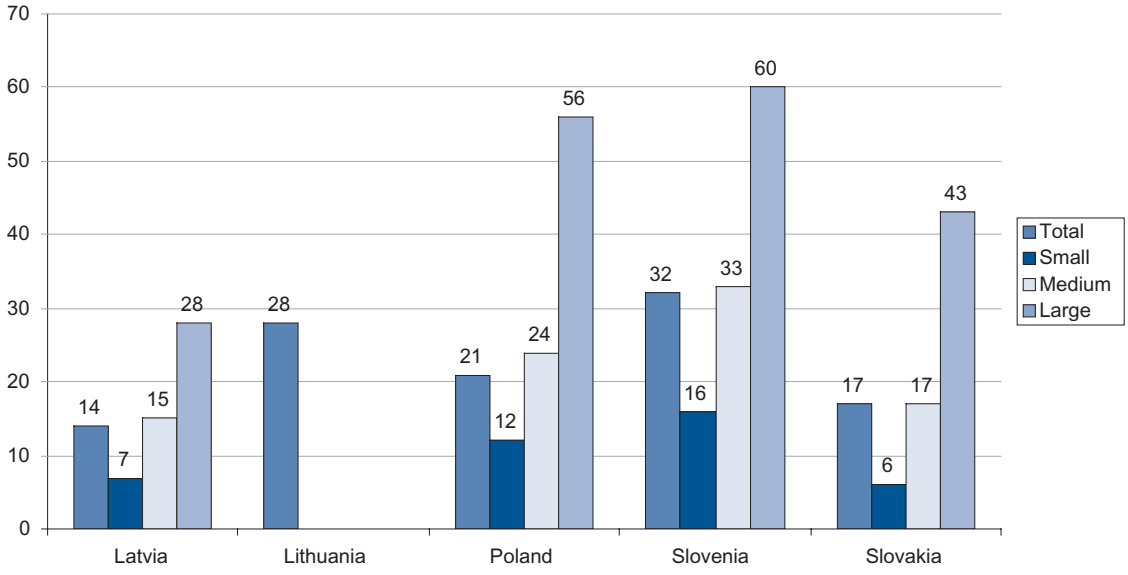


Source: World Bank and EBRD BEEPS Survey

Of major concern for the longer-term vitality of most SMEs is the fact that they tend to be principally engaged as small traders or retailers making thin margins on standard products. Thus, Candidate Countries still do not have, or are not yet sufficiently able to compete in, the kind of advanced services sector common in the EU. Furthermore, very few SMEs are seriously engaged in manufacturing activity involving innovative capital investment and new technology (European Commission (2002e, p.26)).

According to the Community Innovation Survey (CIS), there are fewer innovative enterprises in the B4 than in Europe, on average. Whereas 45% of enterprises were innovative in European countries, the proportions in the B4 were much lower: 36% in Estonia, 19% in Latvia, 27% in Lithuania, and 17% in Poland (Central Statistical Bureau of Latvia (2003)). The data on the number of innovative enterprises in these countries is even more discouraging for SMEs, where the propensity to innovate is even less (see Figure 14).

Figure 14: Proportion of Enterprises with Innovation Activity by Enterprise Size Class (manufacturing, 1998-2000, %)



Source: Eurostat (2004a)

In this context, a recent study on innovation in SMEs in Poland, carried out by the Polish Agency for Enterprise Development (PAED), found that R&D cooperation of SMEs, including cooperation with universities, institutes and innovation centres, was very low when compared with EU countries (PAED (2003)). Similarly, survey results presented in an Estonian survey on innovation, pointed to a large gap between smaller and larger enterprises. In all categories (strategic, management, organizational, marketing and product appearance), large enterprises were more successful in implementing significant change. In particular, the successful innovators were more likely to have foreign capital and involvement, providing them with more opportunities to carry out every kind of change to raise the competitiveness of the company (Kurik et. al, 2002). Two cases of companies who promote innovation through cooperation with academia can be found below in Box 6.

In Latvia, as well, a recent survey on innovative activities (Central Statistical Bureau of Latvia (2003)) has shown that large enterprises were the most active in introducing technological innovations. Large enterprises had the greatest density of innovative enterprises, in both products and processes, across manufacturing and service sectors. The survey also identified the main factors hampering innovative activity across all enterprises as being (in order of importance): lack of appropriate sources of finance, innovation costs too high, and excessive perceived economic risks.

These primary barriers are the same within European countries (see Table 14). SME survey data in Estonia, Latvia and Poland confirms this, listing the primary constraint to innovation as being high costs/availability of financial means (Jürgenson et.al. (2003), Central Statistical Bureau of Latvia (2003), PAED (2003)). When broken down by enterprise size class, it becomes apparent that the smaller the enterprise, the more it has problems with financial means; whereas the larger the enterprise, the more other barriers (e.g. skills of employees, finding a market for products/services, etc.) have a higher relative importance (Jürgenson et.al. (2003)).

Box 6: Promoting Innovation - Private Sector Case Studies

In addition to public-sector and broad private sector initiatives to promote innovation, there are many individual companies that stand out with their practices in promotion of innovation. The following are examples of (relatively large) companies who, through their background or unique initiatives, stand out in their respective countries.

Grindex (Latvia) is a pharmaceutical company established in 1991, yet with a history dating back to 1946. Grindex has approximately €30 million/year in revenues, and approximately 500 employees. Grindex makes use of its close, traditional ties with science/researchers to further research and development of new drugs. Approximately 7% of net revenues is invested in the Latvian Institute of Organic Synthesis (a public institute within the Academy of Science), both to further research and to strengthen Grindex's ties with science. In addition, Grindex invests another 7% of net revenues on new technology and new equipment, 6% of net revenues on R&D, and 50.000 Euro per year to five different universities in Latvia to develop their science programmes. Promoting science, and the continued development of Latvia's human capital within science, is important to Grindex. If the company is to continue its growth and expansion in other markets, a continued influx of skilled and entrepreneurial human assets is a pre-requisite.

The Research and Academic Computer Network **NASK** (Poland) was established in 1991 as a research & development unit within Warsaw Technical University whose mission was to connect the Polish scientific and academic community to the Internet, and satisfy needs in the field of data communications and network security. Today, NASK is a publicly-owned company, with approximately 500 employees and €15 million/year in revenues (as of 2001). NASK capitalizes on its close historical ties with Warsaw Technical University to conduct research related to market activities: improving the quality of telecommunication transmissions, increasing service levels, and addressing issues of digital/network security. In addition, NASK offers a public service through its sponsorship of www.poland.pl site, promoting small communities in Poland. NASK has a number of international partners, including Infonet (in the U.S.) and Telia (in Sweden), and stands out in Europe as being the first company to register domains using national language characters.

Source: IKED Field Study interviews

Table 14: Barriers to Innovation for Enterprises in the EU without Innovation Activity (by sector and size class, 1998-2000, %)

	INDUSTRY					SERVICES				
	Enterprises without innovation activities (absolute figures)	Proportion of enterprises without innovation activities indicating specified hampering factors (%)				Enterprises without innovation activities (absolute figures)	Proportion of enterprises without innovation activities indicating specified hampering factors (%)			
		All	Small	Medium	Large		**All**	Small	Medium	Large
Economic factors										
Excessive perceived risks	22406	15	16	11	9	12936	12	12	13	7
Innovation costs too high	30241	20	21	15	13	17390	16	16	16	9
Lack of appropriate source of finance	20008	13	14	10	7	12493	12	12	10	7
Internal factors										
Organisational rigidities within the enterprise	8103	5	6	5	5	5717	5	5	4	5
Lack of qualified personnel	17858	12	12	10	5	9305	9	9	9	3
Lack of information on technology	7863	5	6	3	1	4682	4	4	4	2
Lack of information on markets	7491	5	5	3	1	3923	4	4	4	2
Other factors										
Insufficient flexibility of regulations or standards	10504	7	7	5	3	9894	9	10	6	5
Lack of customer responsiveness to new goods or services	12294	8	9	6	8	8126	8	8	5	3

Source: Eurostat (2004b)

Similarly, the evaluation of innovation policy in six Candidate Countries commissioned and published by the European Commission in 2001, found that "… despite expectations that large enterprises would be replaced by new innovation-oriented SMEs, large firms continue to undertake the majority of innovation activities…" (European Commission 2001a). Overall, the data suggests that innovation activities in the Candidate Countries are even more concentrated in large firms than in EEA countries, and that the primary barriers to innovation tend to be related to economic factors (see also Box 12 in Chapter 3).

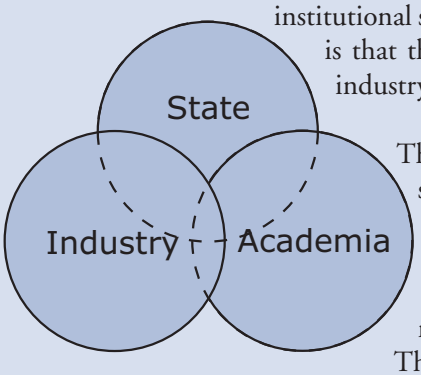
Whereas small companies are in most need of capital in order to innovate and grow, it is the large companies who have an easier time accessing capital: FDI is primarily geared towards large multinationals; commercial banks are more likely to extend favorable credit terms to well-established, larger companies; venture capital is generally only available in later/growth stages rather than early/seed stages of investment. Smaller companies are left looking for alternative sources of expansion.

One alternative that many countries are now considering as a method of strengthening/supporting smaller companies and catalyzing innovation nationwide is the development of clusters. Clusters, and particularly innovative clusters, can serve as an instrument for strengthening the innovative capacity and the competitiveness of SMEs:

By increasing SMEs' access to technology, capital, product markets, among other things, strategic alliances and other partnerships, as well as networks and clusters enable SMEs to combine their generally inherent flexibility and ability to adapt quickly with the advantages of scale and scope generally only available to large corporations.
(OECD (2002a), p.21.)

Box 7: On the Triple Helix

The Triple Helix model illustrated below was coined by Etzkowitz et.al. in the late 90's, and provides a partly overlapping and partly complementary concept to innovation systems. The triple helix comprises universities and other knowledge-producing institutions; industry, including high-tech start-ups and multinational corporations; and government at various levels. While industry and government have traditionally been conceptualized as primary institutional spheres, the new element presented in the triple helix model is that the university is posited to be a leading sphere along with industry and government.



The Triple Helix is a spiral model that is non-linear, non-static and that focuses on the interplay between, within and overlapping the actors to explain innovation. Its focus is to distil in which way industry, universities and public actors serve as interrelated nodes in processes sustaining new firm creation and the establishment of critical mass. The Triple Helix sees organisationally-overlapping and increasingly flexible roles for the actors. Thus, the university can be seen as a firm founder through incubator facilities; industry as an educator through company universities, and government as a venture capitalist.

Source: Etzkowitz (2002)

Whereas the notion of an innovation "system" may serve to broaden the scope of the policymaker to encompass the factors and reforms that may be most important for freeing up the potential for innovation – irrespective of in which policy domain they are found – the cluster approach focuses on a specific set of activities and how they interact. The implicit assumption underlying the cluster approach is that, if continued, close networking between geographically concentrated economic activities with similar focus has the potential for bearing fruit and improving the competitiveness of the actors involved, as well as economic performance in a broader sense. The reforms that may be brought about through application of the notion of innovation systems may be greatly important for fulfilling the potential of clusters to develop, however. Reversely, the dynamics inherent to clusters may represent important assets and mechanisms from the viewpoint of policymakers concerned with innovation systems.

Strengthening innovative clusters is not just a matter of promoting networking or ICT. Rather, successful clusters tend to involve close cooperation between business, academia and government, and an element of knowledge creation and application which is highly collaborative and inter-linked. Other factors which play an important role in successful clusters are linkages and interactions captured in the triple helix model – including inter-firm collaboration, public/private partnerships, industry-science relationships, and globalisation (for an explanation of the triple helix model see Box 7).

Some interesting examples of cluster initiatives in the Latvia and Lithuania are listed below in Box 8.

Box 8: Examples of Developing Clusters in Latvia and Lithuania

In mid-2001, the **Latvian Information Systems (IS) cluster** was set up, with the aim of ensuring that by 2010, Latvia would become the leading exporter of software, integration services, and outsourced services in Eastern Europe. Today, there are 20 enterprises and organisations in the cluster, including Latvia's leading software companies, communication service companies and data centres, a testing company, universities, a vocational training centre, and web design, marketing and PR companies.

Although the IS/IT sector in Latvia began consolidating before, the formation of the cluster was facilitated by the project Support to Industrial Cluster Restructuring (2000-2001) which provided consultative support to the process of cluster formation, recommending cooperation areas and assuming the role of coordinator or network broker, as well as helping to define goals, strategies and joint values (collaboration, quality, competence and innovation) for the cluster.

Recent evaluations of cluster members' performance has shown that, on average, the companies increased profits rapidly. Growth in turnover and profits was proportionally much higher than overall economic growth in Latvia (during 2001). The focus achieved through the clustering process has lead to success: individual company revenues and exports have increased, and productivity/utilization has increased from 50-60% to 75%. Now, the cluster is preparing to expand beyond national borders, establishing a Baltic IS/IT cluster, aiming to compete with the U.S. and India. Recently, the Baltic IS cluster participated in the international exhibition COMDEX Scandinavia (in Gothenburg, Sweden, January 2004).

In **Lithuania,** the **Sunrise Valley Cluster** was formed in May 2003 to contribute to the growth of the knowledge economy and increased competitiveness of Lithuania. Initial financial support of €200.000 has been provided by Phare. Its objectives are to provide modern conditions for quality education and research, linked to professional activities and business environment; generate employment opportunities for highly qualified university graduates, scientists and other specialists; provide favourable conditions for commercialization of research; act as a link between science and technology parks and business incubator systems in Vilnius; and provide a basis for local and foreign investment for research projects.

Founding members include the University of Vilnius, Vilnius Technical University, Bité, EKSPLA and Alna. The Knowledge Economy Forum and Vilnius City Municipality are the public organisations who are supporting this effort. To date, the facilities and international networks have been established; future efforts will be concentrated on strengthening the brand in order to encourage a physical concentration of high-tech business establishment (primarily in laser photonics, IT, medicine and biotech). Sunrise Valley is also trying to find ways to collaborate with other Baltic and Nordic countries, both to experiment with others' concepts and to find ways to increase the level of collaboration (beyond sales/trade).

The state of each nation's cluster development in the B4 is quite varied. Their ranking (Table 13 above) highlights the "newness" of this realm of enterprise development and indicates considerable room for improvement when it comes to strengthening cluster initiatives in these countries.

Summary

With EU accession (and a more competitive environment quickly approaching), SMEs in the B4 stand on uncertain ground. This chapter has shown that SMEs currently account for the majority of enterprises and employment in the B4, and will continue to do so in the foreseeable future. Yet SMEs are young, both individually and as a sector, and do not currently contribute as much as larger companies to national innovation. SMEs must develop, both in higher-value added sectors of the economy and in their ability to collaborate with other actors (clustering) in order to achieve a stronger position in the wider European market.

Given that compliance costs in connection with Accession weigh relatively more heavily on SMEs than on larger companies, there is a considerable risk that a significant number of SMEs might never make it to the stage where they can capitalize on the significant opportunities offered by the Single Market and the knowledge-based economy.

At this juncture, government support and action, in the form of appropriate policies and framework conditions for enabling SME development, is crucial. The challenge for governments, and this applies particularly to transition countries preparing to join the Single Market, is "to create a facilitating and supportive environment for SME development, … that enables SMEs to exploit the potential benefits and/or cope with any additional costs or threats from increasing internationalisation forces, while avoiding becoming protective". (OECD 2001b)

Having examined the structure of SMEs in the B4 countries, we now turn to examining the policies that may enable, or hinder, that SMEs realize their potential to become the drivers of innovation, competitiveness, and economic growth in the B4 countries.

CHAPTER 3:
POLICIES PROMOTING SMEs AND ENTERPRISE DEVELOPMENT

In recent years, policymakers in the Baltic Sea countries have increasingly realized the key role of innovation – and innovation policy – for competitiveness, economic development and growth.[21] Similarly, there is a widespread consensus among decision-makers that SMEs are important both for job creation and GDP growth (see European Commission (2003c)). However, the link between innovation and SMEs, and the relevance of that link for national competitiveness, appears to be less clear. How important is innovation for the development of competitive SMEs, and how important are SMEs for stimulating innovation within the national context? What is the role of SMEs in the national innovation system? What is the connection between innovation policy and SME policies and how should they be coordinated?

Given the high expectations placed on SMEs, EU Member Countries, both existing and acceding, are implementing more and more measures to support the growth and development of SMEs. The challenge, especially for the Candidate Countries, is to ensure that SME policies are designed and implemented as part of the wider context of the national innovation system.

SME Policies within a National Innovation System

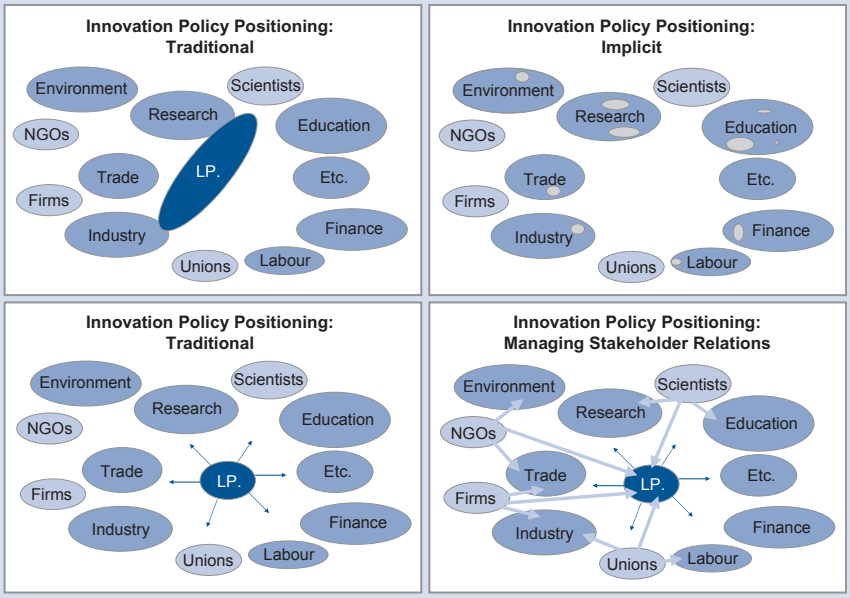
> *Small and Medium Sized Enterprises form the backbone of the European economy. They are key to entrepreneurial spirit and innovation in the EU and thus crucial to ensure EU competitiveness. A proper definition of which enterprises are SMEs makes it easier to identify their needs and to develop efficient policies to compensate for the specific problems linked to their small size. This is vital for the competitiveness of an enlarged European Union, its growth and employment.*
>
> Erkki Liikanen, Enterprise Commissioner for the EU, 8 May 2003, Brussels

Overall, it should be recognized that both SMEs and Large Scale Enterprises (LSEs) have important roles to play in a nation's growth and competitiveness. In particular, the presence of successful and dynamic LSEs is one prerequisite for stimulating and enabling innovative SMEs (McIntyre (2003), p.5). When seeking to design and implement effective policies for innovation and enterprise development, policymakers must take into consideration the different key competencies of and challenges for LSEs, on the one hand, and SMEs, on the other hand. At the same time, policymakers must be aware of the importance of synergistic relationships between LSEs and SMEs as a precondition for economic growth and competitiveness.

[21] What constitutes innovation is a complex matter, and measuring and comparing innovation is a subject area still very much under development. Traditional perspectives have viewed innovation as closely related to science and technology. In practice, however, innovation can take many forms, including commercialization of science and technology as well as the development and implementation of new ideas more generally, as in the form of organizational change or inventing new ways of doing things. Innovation is thus the key not only to economic progress, but also to identifying new solutions to pressing social issues, such as an ageing population or environmental degradation.

Box 9: On Innovation Policy Governance

In practice, there are sharp differences between countries in the way that innovation policy is designed and implemented. Some of these depend on the political colour of governments and, e.g., the way in which they favour market-oriented or government-sponsored programmes. Beside this, and often more stable than which political configuration is at the top at a particular point in time, innovation policy is subjected to systematic differences between the influence of traditional policy perspectives. The figures below provide schematic illustrations of alternative situations. According to the "traditional positioning", the responsibility of innovation policy (blue domain) is placed somewhere between the ministries (in green) in charge of education, research and industry. Some countries practice more of an "implicit" approach, however, where responsibilities are spread out, resulting in a shared sense of ownership but typically also resulting in coordination problems. A newer and generally more successful approach is that which brings an "explicit" responsibility not dominated by any traditional policy domain, but with sufficient clout to allow for coordinated concerns and initiatives across ministries. As the final figure shows, there is not only the task of bringing together departmental interests, but also of allowing for, and orchestrating, the impetus of multiple relevant stakeholders.



Which of these approaches are practiced crucially matter for what weight is attached by national governments to different kinds of issues and concerns. A direct influence by the Ministry of Industry, for instance, tends to account for high priority to public-private partnership and that appropriate room is left for private sector interests even in government-led initiatives. A more active role for the Ministry of Finance will account for stronger emphasis on indirect, horizontal policy instruments rather than public funding or fine-tuning with incubators or science parks. A strong engagement by the Ministry of Education in research and innovation will place priority on basic rather than applied research, and will likewise emphasize supply-side aspects of human capital accumulation rather than the demand side. In between the extremes, shared forms of responsibility will produce outcomes that in part depend on which room is left for these different influences to dominate.

National governments themselves will have some difficulty having perspective on the strengths and weaknesses that result from the asymmetric influence of one ministry or the other. Nevertheless, they may be aware of some consequences, and thus try to push to other actors – such as regional/local authorities or the private sector – the responsibilities for those tasks which are likely to suffer. The other actors are likely to be more aware, as they are closer to and can witness the practical consequences of a bias in policy. They may thus try to push for compensating mechanisms or undertake themselves which are then better handled that way. Governments assume the overall responsibility, however, for assuring governance structures that include such considerations. Thus, irrespective of the way in which national governments organise the cross-cutting horizontal aspect of innovation policy, putting in place incentives that encourage systematic learning on the part of the different stakeholders should be viewed as a priority.

excerpt from Andersson et. al.(2004c)

It is apparent from all the data examined in the previous chapter that SMEs require support through policies designed to meet their specific needs and to address the particular obstacles facing them. At the same time, policymakers must strive to link enterprise policies (both those geared for SMEs and LSEs) together with innovation policies, as part of their national innovation system (see Introduction and Box 9 above). Although SMEs have specific characteristics that drive the need for policy measures tailored to them, they should not be treated as an independent or isolated group, but rather as an integral component of a functioning innovation system. SMEs, as an economic entity, constitute an important dynamic element of the innovation system, through their potential for renewal – either within existing companies or through the appearance and disappearance of companies –, growth and dynamism. SME policies should be aimed at enabling a critical mass of SMEs to be innovative, to compete internationally and to grow, rather than at necessarily preserving existing firms.

This systemic approach contrasts with traditional SME promotion strategies, which rely heavily on direct and subsidized provision of financial and non-financial services to SMEs. Government's role is to create an enabling environment for SME competitiveness and to develop markets for SME-relevant services, rather than substituting for them (Hallberg (2000)). The role for government in this area, as for policy intervention in general, should thus be motivated by different types of market, government and policy imperfections or failures.[22]

[22] For a discussion of the rationale for policy intervention see, for example, Andersson et.al. (2004c).

There are many areas encompassed within the realm of SME policies. The International Finance Corporation (IFC) has segmented SME policies/interventions into three areas: business environment, financial services, and business development services. Examples of specific policy measures are included in Table 15 below.

Table 15: Market-Oriented SME Interventions

	Open Access to Market, Accelerate Market Development	**Invest in Public Goods, Build Institutional Capacity**	**Reduce and Rationalize Traditional Public Interventions**
Business Environment	• Competition policy • Licensing and registration requirements, administrative fees • Commercial transactions law • Intellectual and commercial property rights • Tax, labour legislation	• Infrastructure (transport, ports, market facilities, communications, information technology) • Information (markets, standards, technologies) • Monitoring of SME performance and impact of policies and interventions	• Reconsider policies that reserve certain sectors for small-scale enterprises or grant them special protection • Seek greater neutrality across firm sizes in tax and labour legislation and enforcement
Financial Services	• Financial sector competition policy • Interest rate ceilings • Regulations governing leasing, venture capital, equity markets	• Innovation in loan products, lending methodologies, delivery mechanisms, risk assessment methodologies • Credit bureaus, registries • Training and TA to financial institutions serving SMEs	• Reduce direct lending through public financial institutions • Reduce SME lending (portfolio) requirements on financial institutions • Eliminate subsidized credit lines and credit guarantee schemes
Business Development Services	• Target subsidies for market development to specific market failures • Information on service providers, impact of services • Enforce competition in service markets	• Innovation in products, delivery mechanisms • Development of performance and impact indicators	• Increase cost recovery for publicly-provided or subsidized services • Reduce duplication across agencies in services provided • Use the private sector to deliver services

Source: Hallberg (2000)

The EU has outlined ten areas for support and action in its Charter for SMEs and Multiannual Programme for enterprise and entrepreneurship (described in chapter 2 of this report). These areas are meant to address a number of barriers to SME development in the Candidate Countries (as identified in a recent survey of SMEs in Europe, including the Candidate Countries):

> *The limited access to finance seems to be one of the serious barriers to economic growth and prosperity. One reason is that the small enterprises are not considered to be a priority for the banking sector as they are perceived to be high risk. Another reason is that small enterprises in the Candidate Countries have yet to develop an entrepreneurial spirit and still lack the means to know their needs and opportunities, in particular in terms of management or support services. In the area of administrative simplification progress has been made but further efforts are still needed to increase the efficiency of the public administration at all levels.*
>
> European Commission (2003j, p.18)

In the following section, we take a closer look at the breadth of policies affecting SMEs, and at the interrelation between SME policy and innovation policy. We will describe both the institutional structure and the programmes/policies in place, as well as comment on progress-to-date and priority areas for the future for the B4 countries.

SME Policies in the B4

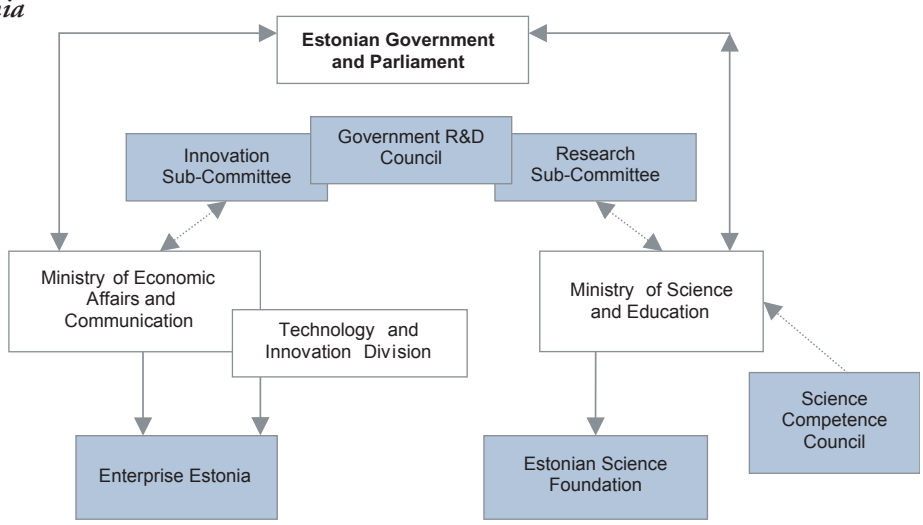
According the European Commission (2002e), after the fall of the Berlin Wall, SME development in post-communist countries rapidly became one of the principal economic reform issues. The institutional structure and policy mechanisms supporting SMEs have developed quite rapidly in recent years.

Institutional Structure

In all of the B4 countries, there is widespread awareness of the economic significance of SMEs, and of the need to develop specific mechanisms to support their growth and competitiveness. In each country, there are a number of institutions acting within the realm of SME and innovation support, and there are a wide range of projects and policy mechanisms in place. In general, the **Ministry of Economy** plays the leading role in establishing the key programme documents/guidelines for SME policies (see Figure 15). SME policies are generally dealt with in parallel to (rather than in connection with) innovation policies, with a separate division for each area. This division of responsibilities leads to a tendency to view SMEs in a vacuum, rather than as an element of coherent policy for innovation and enterprise development, and makes both coordination and prioritization of policy measures issue-areas (for a general discussion on innovation policy governance see also Box 9).

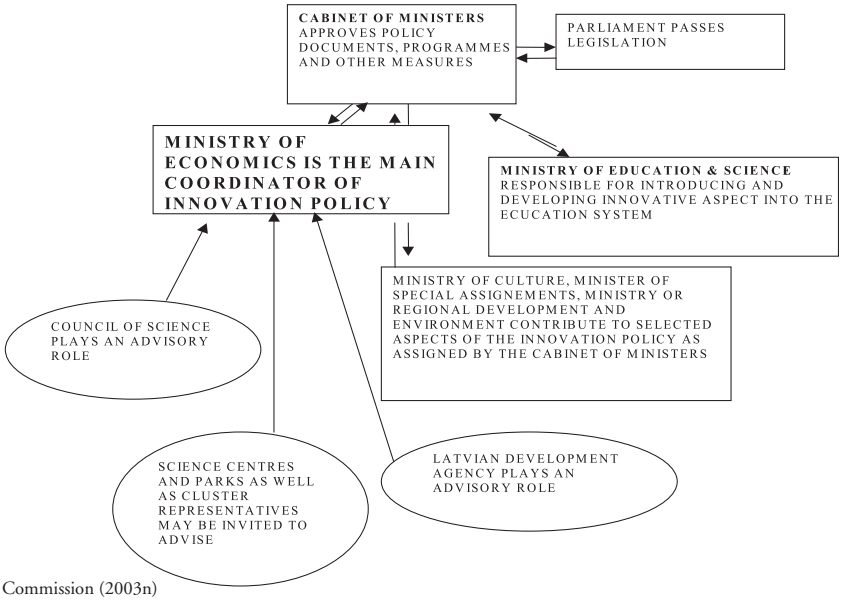
Figure 15: SME and Innovation System Governance in the B4

Estonia



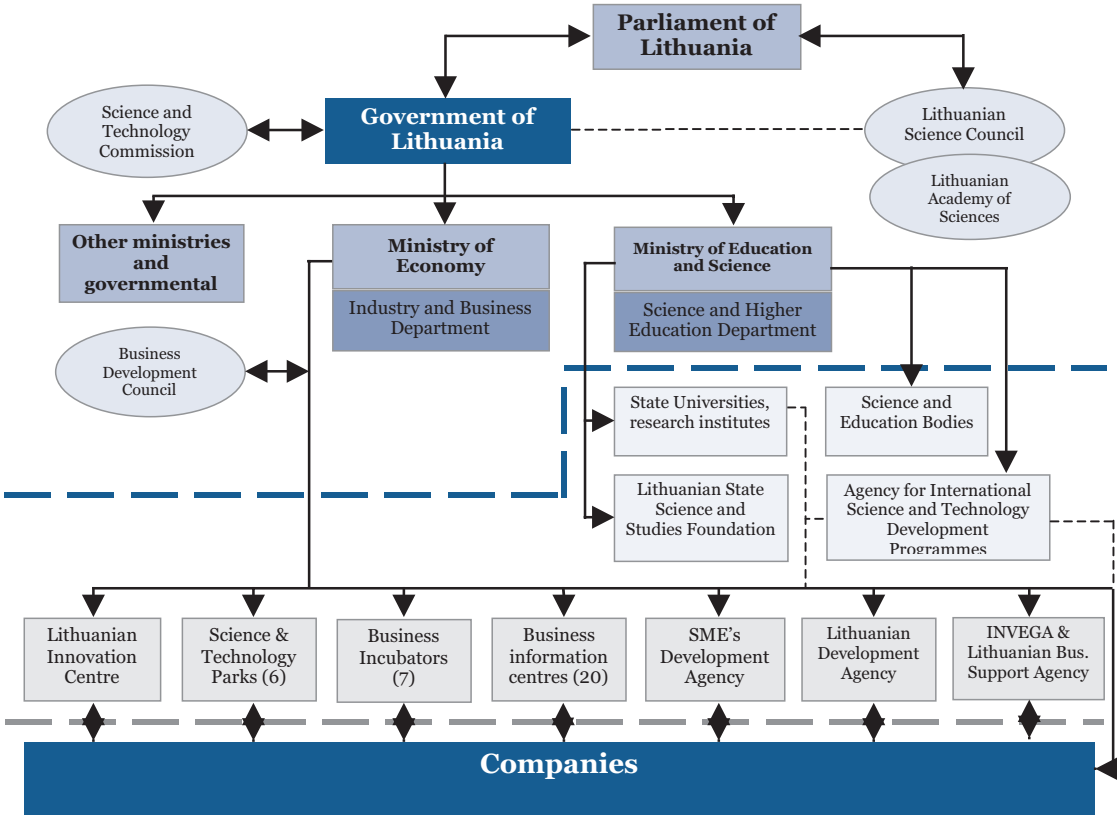
Source: European Commission (2003m)

Latvia



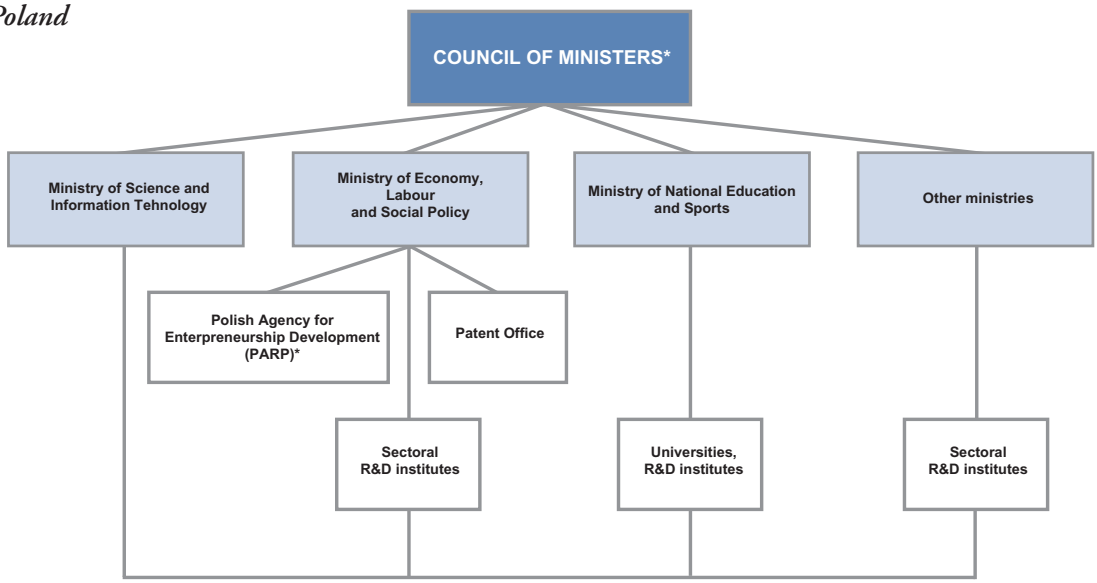
Source: European Commission (2003n)

Lithuania



Source: Innovation and Technology Division, Industry and Business Dept., Lithuanian Ministry of Economy

Poland



Source: European Commission (2003p)

As a result of relatively recent policy mandates, there is a large network of **business support institutions** in the B4 providing business development and management expertise, helping SMEs identify and access both domestic and international sources of funds (including assistance with applying to EU Structural Funds), and serving as agents for SMEs in finding appropriate innovation partners in other

EU countries **(innovation relay centers)**. In addition to business support institutions, there are a number of publicly-funded organisations whose mission is to provide financing/**financial support** to SMEs. There has even been a burst in the establishment of **science or technoparks**, where hi-tech focused SMEs can establish themselves – benefiting from temporary tax reductions and the geographical proximity to a number of other SMEs like themselves (encouraging clustering). An overview of these institutions in each country is presented in Table 16 below. It should be pointed out that this listing stakes no claim to being exhaustive or complete. Rather it hopes to provide a representative overview of the landscape for SME policies in each of the B4 countries.

Table 16: Organisations Supporting SMEs in the B4

ESTONIA	
Agency/Organisation	**Main Responsibilities**
Enterprise Estonia	- founded, by the Ministry of Economic Affairs, in the year 2000 with the aim of promoting the competitiveness of the Estonian entrepreneurial environment and businesses. - provides financing products, counselling, co-operation opportunities and training for entrepreneurs, research establishments and the public sector. - actively operates in six areas: enhancement of the competitiveness of Estonian enterprises in foreign markets, inclusion of foreign direct investments, development of tourism export and internal tourism, elaboration of technological and innovative products and services, development of Estonian enterprises and entrepreneurial environment, and enhancement of general entrepreneurial awareness. - Upon EU accession, Enterprise Estonia will become one of the implementing institutions of the EU Structural Funds in Estonia, being the main provider of support and development programmes, directed towards entrepreneurs
Export Crediting and Guarantee Foundation KredEx	- develops Estonian exports by giving guarantees and credits mainly to SMEs
Tartu Science Park, Tallinn Technical University and business incubators (4)	- coordination and implementation of scientific research and innovation - assistance in finding info, partners or market, investors or financial opportunities - services (business consulting, etc.) to companies and entrepreneurs starting science/technology enterprises
Small- and Medium-sized Enterprises Association (EVEA)	- provides its members with favourable consulting, marketing and other services and protects their interests in Estonian legislation

LATVIA	
Agency/Organisation	**Main Responsibilities**
Latvian Development Agency	- created in 1993 and charged with promotion of foreign direct investment to Latvia and Latvia's export - reorganised during 2003/2004 to become the Latvian Investment and Development Agency tasked with promoting the development of entrepreneurship and the competitiveness of Latvian entrepreneurs - both in Latvian and foreign markets, and promoting an increase in foreign investment. - implements state support programmes, advancing grants to entrepreneurs to increase their competitiveness, including the impending programmes co-financed from EU Structural Funds
Latvian Technology Park (LTP)	- provides premises and consultative services (business incubator) to new innovative/high-tech companies (34 tenant companies with 590 employees) - independent Business Innovation Centre unit works with technology transfers and has created a network of technology managers in the universities of Latvia
Latvian Technology Centre (LTC)	- offers service and support for technologically-oriented firms - provides innovation support and information through IRC-Latvia (innovation relay centre) - consulting and information bureau (EUREKA coordinator), offers assistance with searches for project partners
Business Innovation Centre of Latvian Electronic Industry (LEIBIC)	- support to small enterprise development in electronic industry branch, enterprise technological modernization and production for export promoting, and professional training for technical personnel - informative support on new technologies, advertising and fund raising
Latvian Association of Technology Parks/ Centres and Business Incubators	- acts as a coordinator establishment among the respective institutions in Latvia - promotes information and experience exchange between technological parks, centres and business incubators and promotes an innovative environment in the country
Latvian Guarantee Agency	- state-backed institution whose goal is to assist in attracting investments into Latvian economy, addressing the issue of inadequate security in commercial banks - activities are aimed at supporting SMEs, making credit resources more accessible, providing security for medium-term and long-term loans for financial institutions registered in Latvian Republic and abroad, which finance these companies
Baltic Small Equity Fund (BSEF)	- offers financial and technical support to private SMEs owned by Baltic citizens
Latvian Business Consultancy Fund	- promotes medium-sized enterprise development in Latvia
Mortgage and Land Bank of Latvia (Hipoteku Banka)	- implements the State SME Development Funding Project (backed by EU and Latvian Government among others) which provides loans to SMEs

LITHUANIA	
Agency/Organisation	**Main Responsibilities**
Lithuanian Development Agency for Small and Medium Enterprises (SMEDA)	- public institution, founded in 1996 by the Ministry of Economy - seeks to create favourable conditions for development of SMEs - analyzes the economic and legal environment for SMEs; updates and disseminates information on SME development - coordinates implementation of National Small and Medium Business Development Plan and intiates delivery of the Programme's Action Plan - updates and disseminates information on sources of finance for SMEs; coordinates State-supported consultancy and training of entrepreneurs - participates in other international programmes and projects - implements EU PHARE programme support to SMEs and regional development in Lithuania
Lithuanian Innovation Centre (LIC)	- established in 1996 based on the innovation promotion programme initiated by the UNDP and supported by the Ministry of Education and Science - mission is to support and promote commercialization of scientific and technological achievements and assist in technology transfer to Lithuanian and international market - one of the main actors promoting horizontal innovation relationships between scientific and industry agents at the operational and policy level - developed the programme Innovation in Business - manages IRC Lithuania, the Innovation Capacity Twinning project, and the SINO (Support to the Innovation Structure in Lithuania) project
Regional Innovation Centres	- consulting services to innovative companies; market research and analysis - represents innovative companies and their innovations in international events - gathers and disseminates information on innovations
Lithuanian Development Agency (LDA)	- develops projects aimed at attracting foreign capital - provides information about business and economic environment in Lithuania
Business Advisory Centres (6)	- provide service infrastructure for start-up enterprises: office and other space, consulting, technical and administrative services, information, etc. - network activities are coordinated by SMEDA
Business Information Centres (20)	
Business Incubators (7)	
Euro info Centres (2)	- provide information and support available through European programmes
Techno parks (2)	- provide infrastructure for high-tech firms and related new established companies in industrial areas - promote cooperation between industry and R&D sphere, aimed at development of new technologies, prototype production and creation of innovative high-tech products
INVEGA (CSC Investments and Business Guarantees)	- risk financing experts
Financial support funds (4)	- provide direct financial support for innovative activities, insurance of credit, subsidize activities direct towards training and education of entrepreneurs - main financial sources of funds are foreign organizations (75%), which are founders of these funds

POLAND	
Agency/Organisation	**Main Responsibilities**
Polish Agency for Enterprise Development (PAED)	- created in 2001 out of the Polish Foundation for SME Promotion and Development (established in 1995) - apart from carrying out programmes financed from various sources (e.g. Phare, etc.), PAED is aimed at creating conditions conducive to the development of the SME sector as a strategic component of the Polish economy at the national, regional and local levels through more than 150 consulting and advisory centres (PKDs) nationwide (most of which operate within the KSU network, explained below) and 16 regional financing institutions (RIF) - provides innovation grants to SMEs for consulting and investments, and offers loans to cover investments for new technology - development of a national innovation network to serve as umbrella organizations for non-profit pro-innovation services (organizations have to be certified to qualify) - upon EU accession, will be one of the implementing institutions of the EU Structural Funds in Poland, being the main provider of support and development programmes directed towards SMEs
National SME Service Network (KSU)	- established in 1996 and working within the PAED structure, the KSU was created as a network of 136 independent centres realising coordinated activities for SMEs – providing four types of services: • consulting services (basic consulting for starting-up and specific consultation in marketing, finance, law, planning & management, human resources implementing innovations, export promotion, quality improvement and environmental protection) • training services (management, language, computer) • information services (linking to trade partners, verification of company credibility, information on trade fairs, etc.) • financial services (loan and credit guarantee funds) - within the KSU network, there are 12 Euro Info Centres (EIC) and 22 centres of the Business Information Network (BIN), who have databases containing information on companies and facilitate cooperation between companies based on a 'cooperation profile' - also within the KSU network, a separate group of centres will be established to form the National Innovation Centres (KSI), which will provide assistance in the realm of establishing conditions for the transfer and launching of new technological initiatives, as well as implementing innovative undertakings in the SME sector
Centres for Innovation and Entrepreneurship (led by the Association of the Organizers of Innovation and Entrepreneurship Centres in Poland)	- exclusively local and regional initiatives - 142 advisory training centres; 20 technology transfer centres; 57 local guarantee funds; 44 entrepreneurial incubators and technological centres; 4 technological parks
National Credit Guarantee Fund	- established in 1997 to guarantee bank credits for Polish companies and municipalities
Polish Main Statistical Office (GUS)	- conducts national surveys, providing extensive statistical information on SMEs
Bilateral Programmes	- venture capital funds (RENAISSANCE, FINFUND, BUNT, SPEED, etc.)

Sources: European Commission (2001c, 2001d, 2003d, 2003e); UNECE (2003); national agencies' internet sites

From the private sector, the **chambers of commerce** in the B4 are quite active (see Table 17 below), providing data and statistics on companies, sectors and markets, as well as serving as a lobbying arm from the private sector to policymakers. In addition to the chambers of commerce, **employer confederations and industry/sector associations** are active in representing the interests of the private sector. These organisations, like the chambers of commerce, strive to create favorable conditions for the development of private enterprise, work to expand markets and improve export conditions, and initiate contacts with counterparts abroad through international conferences and trade fairs.

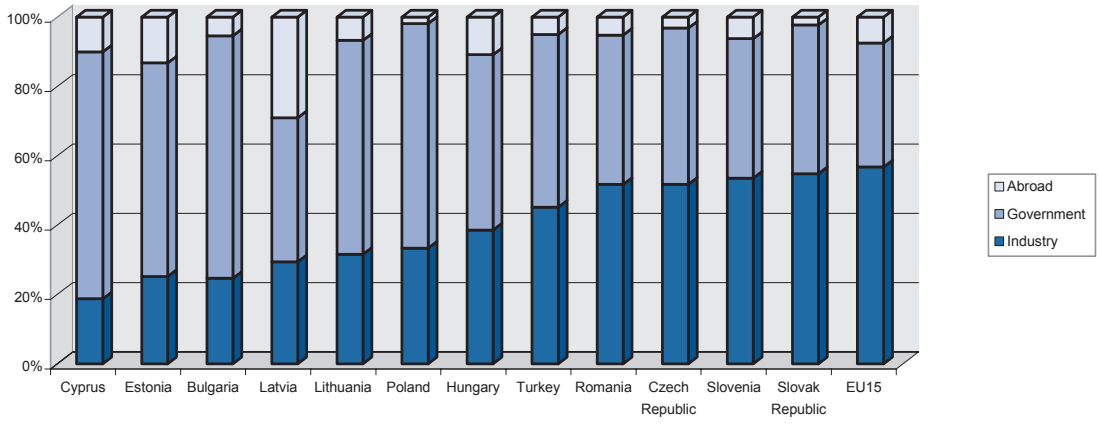
Table 17: Chambers of Commerce in the B4

	Number of Member Companies	**Number of Regional Offices**	**Example of Activities**
Estonia	2850 (10% of total companies; 99% SMEs)	4 regional branches	- representing companies in dialogue with regional/national government - information/advisory services - organizing training/seminars - information on EU legislation and regulations
Latvia	860 (8% of total companies; 88% SMEs)	7 branch offices	- issuing foreign trade documents - training - networking - arbitration
Lithuania	1500 (95% SMEs)	5 branch offices	- issuing bar codes for goods - supervision of vocational training - information on economic legislation - business seminars, lectures, training courses
Poland	400.000 (20% of total companies; 90% SMEs)	90 branch and bilateral chambers; 60 regional chambers	- representation, lobbying, and cooperation on behalf of Polish entrepreneurs with Parliament, Government, and other public institutions - cooperation with international business entities - consulting & advisory services (legal, financial, tax, EU, etc.) - seminars, conferences, and training courses

Source: Eurochambres (2003)

The B4 also have an active **academic research sector**, growing out of the long-established **Academies of Science** in these countries. Academics often participate in ad-hoc committees and working groups appointed by the government to review or recommend policy action. The B4 countries generally have a great deal of publicly-funded research, but have lower R&D investments from the private sector. Of the B4 countries, Poland has the most private sector investment in R&D. Latvia has the most R&D funding from foreign sources.

Figure 16: Shares of R&D by Funding Sources (2000 or nearest)



Source: European Commission (2003c)

In addition to the low level of private sector R&D investment, the fact that there is a low amount of collaboration between public and private sector R&D activities is a concern. SMEs are rarely able to make considerable investments in R&D as individual companies. And the research sector is rarely able to commercialize its scientific knowledge without a closer understanding of the market. With a large proportion of SMEs in the B4, and a considerable wealth of knowledge in the academic and research sectors, there appears to be an untapped potential for collaboration between these two groups. Without closer collaboration on R&D and a greater focus on commercial innovation, the R&D investments that are currently being made are less likely to deliver returns. In general, there is a low amount of collaboration between government, academia and the private sector; however, the trend towards more and closer collaboration can already be seen in certain instances (see Box 10).

Box 10: SPINNO Scheme on Entrepreneurial Research Activities in Estonia

In 2001, the Estonian Technology and Innovation Unit (within the Ministry of Economic Affairs and Communication) developed a series of schemes and initiatives based on international policy learning and benchmarking analysis. One of the schemes was the SPINNO scheme, targeted at developing the innovation support system as opposed to direct funding support to enterprises of R&D institutes. SPINNO aims, instead, at developing the entrepreneurial activity-oriented supportive role of universities and R&D institutions by supporting related activities, namely: development of legal framework within universities and R&D institutes which influence application of research results; creation of spin-off enterprises; patenting and licensing policy development; activities related to financing and access to capital markets; enhancing of contract research and R&D related cooperation; improving exchange of information and cooperation between local and international partners.

Approximately 1,6 million has been allocated to this programme during 2002 and 2003. There are currently two SPINNO projects running: one at Tallinn Technical University and another in Tartu, bringing together Tartu University and other regional actors. An evaluation of the programme was scheduled at the end of 2003 to determine results achieved and possible continuation.

On the whole, the B4 have relatively active lobbying and support networks for SMEs, both publicly- and privately-led. The primary issue is not the lack of adequate governance mechanisms for SMEs and innovation policies, but rather the lack of coordination between the different actor groups.

Programmes, Policies and Progress

As with the institutional structure, programmes and policy mechanisms focused on SMEs have developed rapidly over the past several years. EU accession (and PHARE funds) has served as a guiding and catalysing force in this area. In each of the B4 countries, there are several key policy documents establishing priorities for action to support SMEs. In most of the B4 countries, SMEs are specifically mentioned in the context of their national innovation programmes. An overview of programmes supporting SME development, although not exhaustive, is provided in Table 18 below.

Table 18: Overview of Selected Programme/Policy Documents Affecting SMEs in the B4

ESTONIA	
Programme/Policy Document	**Areas of Focus/Policy Instruments**
Enterprising Estonia – National Policy for the Development of Small and Medium-Sized Enterprises in Estonia in 2001-2006	- development of human resources through support for re-training and continued education - improved access to finance through non-repayable start-up aid, and SME credit and leasing guarantees - development of business support infrastructure through advisory services and business training - improved access to business information - reduction of administrative barriers - establishment of incubation centres and industrial parks
Estonian Research and Development Strategy 2002-2006 "Knowledge-based Estonia"	- approved in 2001 with the aim of turning Estonia from an investment-based economy into an innovation-driven economy by updating the pool of knowledge (one target is to increase R&D expenditure to 1.5% of GDP by 2006) and by increasing the competitiveness of enterprises
Competence Centres Programme	- launched in January 2003 to develop cooperation between R&D institutions and enterprises - enhancing R&D cooperation and technology development, and aligning it to the needs of industry - increase competitiveness of enterprises through more intensive and strategic RD&I cooperation between the research and business sector - foster clustering through bringing together people dealing with the same technology area from both business and research sectors to develop new competitive products and services
InnoAwareness Programme	- launched during 2003/2004 for innovation capacity building in SMEs - provides resources and knowledge on innovation management

LATVIA	
Programme/Policy Document	**Areas of Focus/Policy Instruments**
National Innovation Programme 2003-2006	- approved by the government in April 2003 - an action plan for national innovation, including goals and activities to: - raise public awareness - accelerate the development of knowledge-based sectors and growth of products with high-added value - emphasize the necessity for creating a favorable environment for innovative activity and promoting growth of state innovation capacity - increase # SMEs per 1000 inhabitants from 16 to 30 by 2005
National Programme for Development of Small and Medium-Sized Enterprises (2002-2006)	- improve the environment for entrepreneurship - promotion of access to capital for SMEs – encouraging more active involvement of commercial banks in offering loans to SMEs - ensure availability of necessary non-financial support services, as well as developing human resources - promote SME competitiveness - promote origination of new entrepreneurial initiatives and SME development in territories with low index of socio-economic development
National Development Plan (2003-2006)	- adopted by the Cabinet of Ministers in December 2001 - aimed at supporting the formation of industrial parks in Latvia - total financing for science/research/innovation of €123 million from state budget
Latvian National Employment Plan	- employment rate enhancing actions including establishment of territorial councils for professional education - support to market oriented research projects taken on by institutes, laboratories and practical research by companies
Crediting Programme for Development of SMEs	- funding of start-ups and projects without adequate financing - has been approved for phase two activities, with a long-term goal to ensure SME development by enhancing opportunities for receiving financing and to establish an effective SME support mechanism - The State will offer 34.3 M Euro to Latvian Mortgage and Land Bank to offer SMEs loans on special conditions

LITHUANIA	
Programme/Policy Document	**Areas of Focus/Policy Instruments**
Innovation in Business Programme II (2003-2006)	- increase international competitiveness of Lithuanian business while promoting application of new scientific knowledge, technology developments and organizational incentives in business - promotion of innovation and awareness-raising - encouragement of science-business cooperation - strengthening of research and technology basis, improvement of its efficiency - improvement of financial environment for innovations and development of support infrastructure - strengthening of coordination activities and administration capacities of the institutions involved in innovation and R&D policymaking
SME Business Development Strategy (until 2004)	- initiate and finance business development projects - promote favorable legal and economic environment for SME development - SME promotion fund supports business incubators, business centres, technology parks, technical support to SMEs, information and training services for SMEs, business development research and SME business projects support
Sunrise Programme	- initiated in 2000 as a result of the FIAS review, focusing on improving the business environment in Lithuania - business organizations and public institutions work in collaboration to recommend changes/ improvements to taxes, custom procedures, etc. - working group focused on specific concerns of SMEs also established

POLAND	
Programme/Policy Document	**Areas of Focus/Policy Instruments**
Increasing the Innovativeness of the Polish Economy until the year 2006	- approved in 2000 - outlines priority tasks both for central institutions and regional units/entrepreneurs - includes initiatives such as: creation of "Innocentrum" to promote and support the creation of new, innovative firms; design promotion (including financing support for advisory services for SMEs in the field of industrial design); creation of technology and industrial parks; stimulating innovative attitudes; and promotion of SME research networks
National Programme of Preparation for EU Membership	- increase the innovativeness of SMEs by increasing competitiveness and creating conditions for growth of investment expenditures and exports in SME sector - develop institutions which support SMEs
Government Policy Guidelines for Small and Medium-sized Enterprises in the years 2003-2006	- approved by the government in February 2003 - established that policy will be based on the following assumptions: o activities will be of horizontal character and will be addressed to all SMEs regardless of place of business activity, legal form, and type of business o activities will aim to promote entrepreneurship, especially among the young, women, the handicapped and unemployed o support will be addressed to business environment institutions that fulfill specific requirements o activities will be financed by the state budget, aid funds, Structural Funds, private funds of SMEs and international bank credits o activities will be realized based on directives from the European Charter for SMEs o beyond these guidelines, regional activities will be realized as well
Grants for entrepreneurship development	- intended as support to SMEs - administered by PAED and financed from both state budget and EU funds - entrepreneurs who receive grants are also eligible for other forms of support (e.g. tax relief) - grants are designed to co-finance both entrepreneurial investments and consulting & advisory services

Sources: European Commission (2001c, 2001d, 2003d, 2003e, 2003m,n,o,p); UNECE (2003); national agencies' internet sites

The national programmes are followed up within the framework of the EU's *Multiannual Programme for enterprise and entrepreneurship*. Thus, each year, countries' progress towards fulfilling the objectives in the 10 areas of the *European Charter for SMEs* is followed up in an annual survey. According to the latest surveys (see Table 19 below), SME needs in the B4 are primarily in the areas of legislation and regulation, taxation and financial matters. The areas with highest impact are taxation and financial matters, availability of skills, and strengthening the technological capability of small enterprises. The B4 countries report that SME policies are most developed in the areas of education and training for entrepreneurship, cheaper and faster start-up, availability of skills, and taxation and financial matters. The areas where the B4 foresee most policy action in the coming 12 months include: cheaper and faster start-up, availability of skills, more out of the single market, and strengthening the technological capability of small enterprises.

Table 19: B4 National Rankings of Areas of the European Charter for SMEs

Area of the Charter	In which areas do SME needs tend to fall?	Which areas have highest structural impact on improving the business environment in your country?	In what areas to you believe your small business environment is most developed?	In what areas to you foresee most policy action in the coming 12 months?
1. Education and training for entrepreneurship	-	2 (E) 2 (PL)	1 (PL)	3 (LT)
2. Cheaper and faster start-up	1 (PL)	2 (LV) 3 (PL)	1 (LV) 2 (LT)	1 (PL)
3. Better legislation and regulation	3 (LV) 2 (LT) 2 (PL)	3 (E)	2 (LV) 3 (LT)	3 (E) 2 (LV) 2 (PL)
4. Availability of skills	3 (E)	1 (E) 3 (LT)	3 (E) 1 (LT)	1 (E) 2 (LT)
5. Improving online access	-		2 (E) 2 (PL)	3 (LV)
6. More out of the single market	1(E)	3 (LV) 2 (LT)		1 (LV)
7. Taxation and financial matters	2 (E) 2 (LV) 1 (LT) 3 (PL)	1 (LV) 1 (PL)	1 (E) 3 (LV)	3 (PL)
8. Strengthen the technological capacity of small enterprises	-	1 (LT)	-	2 (E) 1 (LT)
9. Sucessful e-business models and top-class business support	3 (LT)	-	-	-
10. Develop stronger, more effective representation of small enterprises' interests	1 (LV)	-	3 (PL)	-

Source: European Commission (2003s)

Overall, it appears that the B4 countries have focused on and made much progress with developing those areas where SME needs and structural impact are greatest, namely in the areas of better legislation and regulation, cheaper and faster start-up, and taxation and financial matters. In the future, policy action will need to expand its focus to include other mechanisms to foster SME development, namely education and training for entrepreneurship, availability of skills, more out of the single market, and strengthening the technological capacity of small enterprises.

EU Structural Funds

Within the framework of the EU Structural Funds, some €16 billion[23] are being spent on SME-targeted projects in the period 2000-2006. Approximately one third of this Community aid to SMEs

[23] This corresponds to approximately 11% of the total budget of the Structural Funds.

is dedicated to advisory services, to shared services, and to shared business services such as incubators, networking, and clusters (see Table 20 below). In addition, this Community aid is triggering large matching support from national funds (European Commission (2003q, 2003r)).

Table 20: Structural Funds – Community Contribution in Favour of SMEs

Area of Activity	**Programming period 2000-2006, 80% of available funds** (in € million)	
Assisting SMEs and the craft sector (not allocated to more specific sub-areas below)	3126	20%
Investment in physical capital (plant and equipment, cofinancing of state aids)	5380	34%
Environmentally friendly technologies, clean and economic energy technologies	516	3%
Business advisory services (information, business planning, consultancy services, marketing, management, design, internationalization)	2026	13%
Shared business services (business estates, incubator units, stimulation, promotional services, networking, conferences, trade fairs)	2597	16%
Financial engineering	929	6%
Services in support of the social economy (providing care for dependents, health and safety, cultural activities)	586	4%
Vocational training	843	5%
Total	**16004**	**100%**

Source: European Commission (2003r)

Furthermore, there are other programmes which support the development of SMEs both directly and indirectly (see Box 11). Many of the Candidate Countries are counting on the Structural Funds as being a key tool that will allow them to improve their already existing programmes for SMEs which, in turn, will improve performance and economic growth.

Box 11: Structural Funds to the Candidate Countries

Phare (since 1990) provides assistance for restructuring the economy (actions for preparing accession). Between 2000-2006, 1.56 bn€ per year has been allocated to the Candidate Countries, of which 70% is earmarked for investment projects and 30% for institutional development. Of this total, approximately 450 m€ per year (nearly one-third) has been allocated to Poland.

ISPA (Instrument for Structural Policies for Pre-Accession) aims at supporting large-scale investments in environmental protection and transport. 1.04 bn€ per year has been allocated for 2000-2006. Poland could receive 312 – 386 m€ per year.

SAPARD (Special Accession Programme for Agriculture and Rural Development) aims at assisting the modernization of agriculture and the development of rural communities. 520 m€ per year has been allocated for 2000-2006. Approximately 175 m€ per year of this is designated for Poland.

All three of these funds are to be divided among 10 Candidate Countries (Bulgaria, Czech Republic, Hungary, Estonia, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia). The total value of EU assistance to the ten CCs in 2000-2006 amounts to 3.12 bn€ per year.

Funds set aside for 10 new member states (1999 prices, m€)

	2004	**2005**	**2006**	**Total**
Structural Funds	3453	4755	5948	14156
Cohesion Fund	2617	2152	2822	7591
Total	6070	6907	8770	21747

Source: European Commission

This optimism may be well placed, but should also be balanced with a touch of concern or skepticism regarding the effects of the Structural Funds. Aside from the economic impact of the inflow of such sums, which in itself is not unproblematic from an economic perspective, the practical impact must be considered. As the Candidate Countries look to the Structural Funds as a tool for improving growth and competitiveness, their companies and institutions are spending much of their time trying to understand the various programmes, application processes and requirements, financial impact, etc. – while at the same time trying to manage their everyday operations. In particular, it is not unreasonable to expect that, upon EU accession, the administration of grants and other policy measures, financed through the Structural Funds, will account for a significant share of the activities carried out by the government agencies in charge of promoting SME development in the B4 countries. Given the relative newness of both the organizations and their operational programmes, there is a risk that the time and energy it is taking to understand and distribute the Structural Funds may hinder these countries' ability to make progress on the goals/programmes already in place, in effect blurring their view of the larger picture.

The B4 (and all Candidate Countries) would benefit from candid tips and "lessons learned" from other countries that have already been through this process – helping to ensure that the Candidate Countries can learn from, rather than repeat mistakes made, and assist the Candidate Countries in applying the Structural Funds in a more effective manner.

Priorities for Policy

Overall, one conclusion to be reached when examining policies in the B4 countries, is that much has been achieved when it comes to improving the administrative and regulatory framework and expanding the network of support services to SMEs. Furthermore, there is increasing focus on changing attitudes and building entrepreneurial/management skills, as well as on capitalizing on the vast knowledge base in these countries. At the same time, however there are still many hurdles to jump. SMEs have a tougher time accessing foreign investment (as most is geared towards large multinationals), and do not often have the option of seeking venture capital (as there is virtually no seed capital in these countries; see Box 12). Instead, SMEs must seek partnerships with other companies and research institutions in order to innovate. Yet the policy mechanisms supporting these linkages and cooperation forms (e.g. technoparks and innovation relay centers) are still young and are not yet achieving the goals they set out to achieve.

Thus, according to one expert interviewed, technoparks are "filled with companies seeking tax breaks, and that are not catalyzing the formation of clusters and research partnerships as envisaged". Innovation relay centers are accessing thousands of possible international partners for technology development and innovation, yet spend much of their time confirming credibility and establishing trust between possible partners. Although ICT has eased communication between international partners, the ability to truly form a long-lasting partnership still has everything to do with relationships.

Box 12: On SMEs and Financing

It does not come as a surprise that companies (of any size) claim that "lack of funds" is a barrier to their ability to innovate and grow. Access to capital is, of course, a basic need for all companies. However, the terms governing this access (e.g. proof of credit history/collateral, level of interest rates, terms of repayment, etc.) are generally more favorable for larger, more established companies than for SMEs.

A common "first line of action" for companies located in transition economies is to seek **FDI**. FDI is generally geared toward larger companies. Companies may then look toward **commercial banks** for capital, yet with strict requirements on collateral/repayment, and generally high interest rates (to account for the high risk of the investment), the cost of this capital is generally too high. Companies can then seek **venture/risk capital**. In the B4, the venture capital sources are generally not fully developed, meaning that the earliest stages of investment (seed capital) are either non-existent, or at minimum levels of investment (500.000 is generally considered a low minimum investment) which are well beyond the needs of new SMEs.

The public sector in these countries have taken steps to ameliorate this condition, establishing micro loan/grant facilities and special credit funds for SMEs, yet results have shown that, on average, the larger companies are those who are receiving a greater proportion of public assistance (see table below).

Public Funding in the EU among enterprises with innovation activity, by size-class, 1998-2000

	INDUSTRY					SERVICES				
		Proportion of enterprises having received public funding (%)					Proportion of enterprises having received public funding (%)			
		All	Small	Medium	Large	Absolute figures	**All**	Small	Medium	Large
Received funding	45128	35	32	35	57	13727	19	18	21	26
Local or regional	22704	17	18	15	22	7718	11	11	12	12
Central government	23859	18	15	21	41	6116	9	8	10	16
EU	10141	8	6	8	22	3504	5	4	7	14
4th or 5th RTD	5357	4	3	4	17	2560	4	3	6	10

Source: Eurostat (2004c)

In fact, surveys in both Estonia and Latvia have shown that the smaller the company, the lower the occurrence of having external (i.e. excluding family and friends) financing, and, hence, the lower the intensity of innovation expenditure. It has also been shown that micro enterprises apply less frequently to those business guarantees that are specifically designed for their needs (Jürgenson et.al. (2003), p. 56). This can be due to a lack of awareness (stemming from lack of internet access) or due to the belief that they would not be approved for such guarantees. Whatever the reason, it is obvious that financing (especially for the smallest of companies) continues to be a problem for young SMEs. The problem does not appear to be a lack of capital supply (in fact, 20% of VC funds raised in Poland during 1998-1999 are still available for investment), but rather a lack of awareness and entrepreneurial/management/business knowledge on the part of these (smaller) companies. SMEs are not aware of the available alternative sources of financing, nor can they (when made aware) fulfill the general requirements (e.g. submission of business plan and financial forecasts) to access these funds, as they do not typically have the business/management education. This is a definite area for public policy intervention. One example of such policy intervention could be to offer SMEs a diagnosis and assistance package, tailored to their specific needs.

Source: Central Statistical Bureau of Latvia (2003), Jürgenson et.al. (2003), Eurostat (2004c), Polish Private Equity Association (2003)

These realizations, affecting the way the B4 countries will need to prioritise their activities in support of SMEs over the coming years, are coming at a time when all institutions are busy trying to understand the impact of and possibilities associated with accession to the EU. After a period of intense activity and much progress, the B4 countries should have the opportunity to "take stock" and adjust policy mechanisms in order to achieve the optimal result. Policymakers must incorporate the SME agenda into the wider context of their country's national innovation and/or competitiveness strategy. It seems, however, that this may be increasingly difficult to achieve now, as there is so much parallel focus on other priorities, which include accessing Structural Funds.

Based on our overview of existing policies in the B4, and placing them in the wider context of spurring innovation to increase national competitiveness and economic growth, we have identified a number of key policy issues or priorities which we believe deserve the particular attention of policymakers:

1) **The role of policymaking – the possibilities and the limitations.** Policymaking plays a fundamental role in affecting/determining basic conditions for enterprise development and innovation, investment climate, etc., and thus, in enabling long-term economic growth and competitiveness. At the same time, however, policymakers should not overestimate the ability of policies to 'create' economic growth or innovation. As observed by Kuhlmann, one of the fundamental pitfalls when it comes to devising sound policies for innovation and enterprise development is the fact that economists tend to ignore political realities, while policymakers tend to overestimate the ability of public policies to stimulate the innovation system (Kuhlmann in European Commission (2003a), p.40). Policymakers seeking to design policies that will contribute to long-term economic growth and competitiveness need therefore to be highly aware of both the significant possibilities of policymaking but also of its limitations. This dichotomy is particularly important in countries with a strong faith in the ability of the government to intervene in markets, or with a long tradition of economic 'dirigisme' or planning, where there is a bias towards overestimating the ability of policies to steer economic development.

2) **The organisation of policymaking.** Effective innovation enterprise policies require a horizontal and cross-sectoral approach to, and coordination of, policymaking. However, while national conditions for innovation and enterprise development are influenced by a broad spectrum of factors, - ranging from education, interest rates, incentive structures, to social structures and cultural aspects -, the institutions charged with designing and governing innovation policies tend to be narrow and vertical in their thematic focus. As a result, overall policy design is often characterised by fragmentation, overlap and rivalries or competition for resources and decision-making powers and competences. As stated by the European Commission, in most Candidate Countries, "The formulation and delivery is hindered by a lack of appropriate procedures, and by conflict between the various lobbies participating in the policymaking process" (European Commission (2002c). The experiences with innovation policy in both the B4 and other countries presented and discussed at the workshop (see Appendices I-III), indicate that there is a need to coordinate, evaluate, and possibly phase out some of, the numerous initiatives, and organisations, directed at promoting or facilitating innovation and SME development.

3) **Evaluation of policymaking.** Directly linked to the organisation of policymaking is the importance of establishing procedures and strategies for evaluating and monitoring innovation and enterprise policies. Whereas most European countries have implemented a number of policies aimed at promoting innovation and enterprise development, many countries have no strategies or mechanisms for systematically assessing the effectiveness and usefulness of these policies. Evaluation should be included as an integral part of innovation policy design. Good recent

examples of evaluations of national innovation policies and/or innovation systems can be found in Estonia, Sweden and Finland.

4) **Understanding the role of the public sector in and the importance of competition for innovation.** European economies tend to distinguish themselves from other economies and regions by the fact that relatively large sectors, usually but not only the public sector, are sheltered from competition. The size of the public sector in Europe increases its role in innovation-diffusion, "both as a user of technology and as a provider of skills, infrastructure and services" (Fagerberg in European Commission (2003a), p.19). In addition, however, it underlines the importance of the public sector's capacity to understand and, when appropriate, adjust policy to changes in technology, organisational structures, nature and forms of innovation (networks, etc.), business strategies and practices, ways of doing business, consumer patterns and demands, etc. Thus, the ascent of the knowledge economy and a well-functioning innovation system put new and high demands on the ability of all actors, incl. academia and the public sector, to learn, absorb, adapt and innovate.

5) **The focus of policymaking:** As innovation policy matures in the Baltic and Nordic countries, there is a realization that policy initiatives have a tendency to focus on / or to be directed at research performers, 'the top 10%' of companies, not the bulk of enterprises. This is particularly the case for SMEs. In addition, when it comes to measuring, as well as designing and implementing policies for promoting innovation, there also appears to be a bias in favour of technological innovation as opposed to other forms of innovation (process or organisational innovation, for example). Future policies need to include measures targeted at encouraging or facilitating innovation in 'traditional' (as opposed to hi-tech or knowledge-intensive) enterprises and sectors.

6) **The instruments of policymaking:** In designing policies for strengthening innovation and enterprise development, there is a tendency in many European countries to focus on policy measures which fall within the realm of the ministry officially in charge of innovation policy, generally either the Ministry of Industry/Economy or the Ministry of Research/Education. Thus, measures aimed at promoting innovation and enterprise development tend to be focused on providing startup assistance to SMEs, creating institutions for promoting industry-academic linkages, networking, commercialisation of R&D, etc. While these are important tools for strengthening national innovation systems, they tend to be overemphasized in policymaking at the expense of other equally important areas, such as opportunities or possibilities (in terms of access to venture capital, for example), capacities, and incentives for innovation and enterprise development.

Summary

In line with their economic development, it can be said that the B4 countries have made significant progress on institution-building and policymaking in support of SMEs over the last ten years. Each of the B4 countries has both well-developed goals and programmes, and capable institutions for implementation. The main concern is that these institutions are often acting on an independent path, rather than in a coordinated system. SME policies/actions are treated as independent variables, rather than as a part of the national innovation system.

Policy mechanisms have focused primarily on improvements to the administration, legal and regulatory framework, and providing entrepreneurial/management training and consulting assistance to SMEs. There have been relatively fewer actions in the areas of financing (e.g. venture/seed capital, investments for innovation/technology upgrading) and national/international network-building (e.g. public-private research collaboration, clustering).

In addition, over-arching issues such as the organisation and evaluation of policymaking, and the overall focus of policymaking, need to be addressed. The policy agenda for SMEs must be worked into the wider context. In the next chapter, we address the general and specific challenges facing SMEs in the B4, and provide recommendations for addressing these challenges.

CHAPTER 4:
CHALLENGES AND RECOMMENDATIONS

"Enterprise policy is a key area that will play a major role in setting the conditions for this objective (of the EU becoming the most competitive and dynamic knowledge-driven economy in the world) to be met. In particular, the promotion of small and medium-sized enterprises (SMEs) is thought to be fundamental in fostering an environment that encourages economic growth and job opportunities."

Eurostat (2002b)

Introduction

Enabling the development of innovative and internationally competitive SMEs that are both willing and able to grow is a challenge for nearly all countries in the EU, both existing and acceding. It is a topical issue and policy priority throughout Europe. Given this common challenge, countries can benefit immensely from a structured exchange of policy experiences in this field.

At the same time, however, the conditions for SMEs and SME development in the new Member Countries differ significantly from those of the existing Member Countries in some important aspects. Compared with countries with a longer tradition of market economy, SMEs in the B4 countries tend to be very young, both individually and as a sector. One should point out here that, as in the case of Poland, for example, there had already been some reforms prior to 1989 that liberalized small private business activity and foreign trade and investment, to a certain degree (Balcerowicz et.al. (1998)). It would therefore be misleading to assume that private business activity appeared 'out of nowhere' in 1990 in these countries. Nonetheless, it is fair to say that SMEs as a category and as a policy target group are a very recent phenomenon in the B4 countries. This fact has implications for attitudes to entrepreneurship, managerial capabilities, etc.

One might generally assume that the bulk of SME challenges come from their small size – lack of critical mass to make longer-term investments (e.g. R&D), lack of international reach, or lack of adequate human resources/skills. In fact, the proliferation of ICT and the increasing trend for international networking/clustering among SMEs has opened up new ways for SMEs to address or even overcome these challenges. Instead, SMEs in the B4 experience difficulty in combatting attitudes towards commercialisation, securing adequate sources of financing, and finding the appropriate partners to lift the level of innovation in their companies/sectors. But they are also struggling with a relatively large burden of meeting regulations (compliance costs) and bureaucracy.

SMEs in the B4, and particularly in Poland, are smaller than in the existing EU Member States. They face greater challenges than SMEs that are already in the Single Market – the double challenge of increased competition, and having to raise standards, adjust their processes, production and organisation to meet the EU regulations.

SMEs in the B4 tend to be have little experience with formulating and lobbying for their needs vis-à-vis government. The local, regional and national organisations aimed at providing support for SMEs are also new and relatively inexperienced. In addition, academic institutions, which potentially provide important access to knowledge and to human capital, are not used to interacting with SMEs or meeting the needs of SMEs. The interviews conducted in connection with this study confirmed

that research institutes and universities have no or little tradition, structures or incentives for cooperating with SMEs, or for taking into consideration the needs of SMEs.

As pointed out in Chapters 1 and 2, the rapidly growing importance of knowledge for economic welfare and competitiveness puts increasing pressures on all countries to maximize the ability of their firms to innovate. A number of factors affect countries' and firms' innovative capabilities:

- access to knowledge,
- the ability to transform knowledge into competitive products and services,
- the willingness to innovate (in terms of products, processes and services)

The above-mentioned factors, in turn, are strongly influenced by a range of national, regional and locally determined conditions. Table 21 below summarizes some these critical conditions and identifies some of the indicators which might be useful for assessing the extent to which these conditions are fulfilled. In this section we identify some of the most important challenges for SMEs in the B4.

Table 21: Determinants of Firms' Innovative Capabilities

Key Determinants	**Contributing Factors**	**Indicators**
Access to knowledge	• national science base (strength and access through industry-academic cooperation) • private sector R&D • ability to tap into international sources of knowledge generation through ICT (information and communications technology)	• expenditure on R&D • scientific publications • researchers in the labour force • ICT access and usage (telephone, mobile phone, internet penetration) • ICT expenditure as & of GDP • human development indicators • international cooperation on R&D
The ability to transform knowledge into products and services	• human capital and education • competitive private sector • access to capital • innovative activities	• education statistics • patenting activity • venture capital supply • FDI • international competitiveness rankings • growth/development of SMEs • sector composition of manufacturing • level and composition of foreign trade
The willingness to innovate	• stable economic and political conditions • entrepreneurship • attitudes and cultural values • incentive structures • collaboration between private sector and academia • clustering and international networking activities	• political and macroeconomic framework conditions (GDP growth, inflation, corruption, informal economy, etc.) • number of start-ups • number/performance of incubators, science or technoparks (or the like) • regional development and clustering activities

General challenges

Based on our own analysis, the working group meeting carried out in Riga in June 2003 (see Appendices I-III), and the interviews we conducted (see Appendix V), we have identified four general challenges to policymaking:

- *The coordination, organisation and evaluation of policies.*

In recent years a number of strategies and policies aimed at strengthening innovation and promoting SME development have been implemented in the B4 countries. As a result, some countries are currently experiencing an overlap, fragmentation and even competition of policy measures and institutions claiming to be in charge of innovation and/or SME policy. In order to ensure efficient and effective policymaking, there is a need for a horizontal, systemic approach to innovation and enterprise development. Governments should therefore continuously strive to ensure the coordination and improve the organisation of innovation and SME policies. Furthermore, evaluation and monitoring should be included as integral parts of innovation policy design.

- *Innovative, entrepreneurial, absorptive and managerial capacities in the private sector, academia and the public sector.*

The knowledge economy puts new and high demands on the ability of all actors to adjust and respond to changes in technology, organisational structures, nature and forms of innovation, business strategies and practices, ways of doing business, consumer patterns and demands, etc. A functioning innovation system therefore requires that all actors, - private sector, academia and the public sector -, have the skills and organisational and institutional structures necessary to learn, absorb, adapt and innovate. A common challenge to the private sector in all of the B4 countries appears to be the need to capitalize on a very rich scientific and technical base, while gearing toward a more competitive market economy and strengthening management and entrepreneurship competencies. This dual challenge is quite difficult to address, as the cultures of the research and commercial worlds are quite different. Particular areas in this context that should be addressed include venture capital (markets and policies), cluster policies, as well as human capital and entrepreneurship issues.

A public sector capable of responding to the demands of the knowledge-based economy is thus a vital building block of a strong national innovation system. At the same time, innovation is considered a vital prerequisite for ensuring an effective and efficient public sector, the latter of which is a critical challenge for economies at all levels of economic development.[24] As pointed out in a report prepared in the UK Cabinet Office, while innovation is sometimes considered an "optional luxury" or "added burden" in the public sector, it should instead be seen as a "core activity … to increase the responsiveness of services to local and individual needs … and to keep up with public needs and expectations" (Cabinet Office (2003), p.5).

When it comes to the B4 countries, although there have been significant efforts to reform the public administration systems, there are still some remnants of authoritarian structures and, perhaps more importantly, 'mindsets', that were inherited from the socialist era. These structures and mindsets are not conducive to public participation or stakeholder involvement in policymaking, which is one of the pillars of a functioning national innovation system (see, for example, Jacobs (2004)). The public sector is one of the key actors in the national innovation system (see also box on triple helix model), and public administration reforms should seek to improve the structural ability of the public sector to

[24] An interesting assessment and comparison of public sector efficiency in different countries can be found in Alfonso et.al (2003).

function as such. Areas to be addressed in this context include the management and organisation of institutions and processes as well as the development of appropriate human resource strategies.

- *The general awareness of innovation policy and of its importance for economic growth and competitiveness.*

As pointed out in a recent evaluation of innovation policy in the Candidate Countries, "innovation, in its broadest sense, remains a poorly understood, and even accepted, concept" ((European Commission 2001a), p.158). There is a need to increase and improve the general awareness and understanding of innovation and innovation policy, and of its importance for economic growth and competitiveness. Increased awareness and understanding is vital for ensuring the coordination and the effectiveness of policies.

- *Improving methods and data for measuring and comparing innovation performance.*

In order to ensure the design of effective and resource-efficient innovation policies, there is a need to improve data and methods for assessing and comparing innovation performance and capacity, particularly with regard to SMEs.

Specific challenges

Turning to the specific challenges for policymakers striving to promote SME development in the B4 countries, a number of areas where there is still considerable room for improvement can be identified[25]:

- *Insufficient access to start-capital and long-term investment sources*

Lack of access to capital, as one of the principal barriers for starting new companies and expanding companies, is a problem which is by no means unique to the B4. In business surveys conducted in, and analyses carried out on, the EU-15, for example this factor is generally listed as one of the major challenges facing SMEs (see, for example, European Commission (2004), p.5; and European Commission (2003u), p.22). Similarly, a recent business survey analysis concluded that "almost all European businesses feel that national governments and/or the European Union could do more to help small enterprises to get access to finance" (European Commission (2003t), p.41). Having said that, however, in our analysis we have found strong indications that insufficient access to start capital and to long-term investment sources is a greater problem for SMEs in the B4, than in existing EU Member States. Start-up companies have neither collateral nor a credit history, and often lack experience in completing loan applications. Financing for high-risk projects is generally inaccessible, or is so limited that only a few, select business projects receive financing. A number of specific problems can be identified in this context. Firstly, banks in many of the B4 appear to lack both the experience and the organisational, institutional and managerial means required to function as effective financing sources for SMEs.[26] Secondly, while there are provisions for receiving start-up loans or grants (from PAED, SMEDA, LDA, Enterprise Estonia, among others in Poland, Lithuania, Latvia and Estonia, respectively), these grants are generally limited to standard sums which often do not meet the needs for starting up hi-tech companies or other companies, which might have a strong potential to grow, but which also require significantly higher initial capital investments than those available through

[25] Sources for this summary list include UNECE report on SMEs in Countries in Transition, 2003; European Commission Report on the Implementation of the European Charter for Small Enterprises in the Candidate Countries for Accession to the European Union; and individual country input from Workshop on Designing Policies for Innovation and Enterprise Development June 16/17 2003 in Riga.

[26] See, for example, presentation by Emmanual Berck, DG Enterprise at CEI Summit Economic Forum, 2003 http://www.google.com/url?sa=U&start=1&q=http://www.ceinet.org/download/sef_2004/sSU_%2520Berck.ppt&e=7704 . This finding was confirmed in our interviews with policymakers and representatives of the banking sector in the B4.

the above-mentioned channels.[27] Once a company has been started, the third challenge in the B4 is the lack of functioning pre-seed, seed and venture capital and secondary capital markets. Overall, the financial structures that would be necessary for enabling the start-up and development of innovative, and often high-risk, projects and companies are not in place or too fragmented or weak (see Box 12 above and Box 13 below).

Box 13: Good Practice Example of Public Intervention in Venture Capital*

In recent years, the general view on the public sector's role in venture capital markets has transformed. Previously, it was widely viewed that the public sector should abstain from getting actively involved in capital markets, and that the market forces of supply and demand should govern capital market movements. However, recent market trends have led to a more risk-averse attitude and a decrease in funds in the earliest (seed and start-up) investment stages. This has a strong impact on the newest and smallest companies, limiting their ability to invest for innovation and growth. Within the public sector, there is growing attention to this "market imperfection", and a desire to address the financing needs of young, innovative (and most often, small) companies.

Vaekstfonden in Denmark provides a good example of constructive and successful public sector intervention to support and develop venture capital markets, providing better access to funds for newer, smaller companies.

Vaekstfonden was established in 1992 as a state-backed investment company, providing finance to fast-growing Danish companies and acting as a fund-of-fund investor in the private equity sector in the Nordic region. Its mission is to strengthen development and renewal in the Danish economy by procuring financing for promising projects in small- and medium-size businesses. Investments are focused on early stage ventures mainly within life science, med- and high-tech companies, as well as mezzanine financing to a broad range of branches. Vaekstfonden has a capital base of 400 billion, making it one of the largest players on the Danish VC market, and is the largest early-stage investor in Denmark.

A recent strategy shift in 2001 supports three main actions: the activation of a passive capital base to ensure that capital reaches the segments where the financial markets hesitate to invest; establishment of a fund-of-funds to build a stronger Danish venture market; and increased use of equity in direct investments to ensure that Vaekstfonden gets its fair share of future upside returns. Vaekstfonden's three business areas include direct investments, fund-of-funds and Vaekstaution (a loan guarantee scheme for SMEs). More information about Vaekstfonden can be found on their internet site at: www.vaekstfonden.dk.

* A recent IKED article on The Role of Public Intervention in Venture Capital can be found on the World Bank's Knowledge Economy Development Gateway at: http://www.developmentgateway.org/node/130667/sdm/docview?docid=932271

[27] Examining the challenges for high-tech SMEs in the EU-15, a report commissioned by the European Commission found that *[t]he situation of highly innovative SMEs with regard to obtaining finance is characterized by a number of specific features, which in principle make it more difficult for them to access finance and which may cause market failures (e.g. risk/uncertainty, long development periods, intangible rather than tangible assets, information asymmetry) (European Commission (2002g), p.48).*

- *Lack of cooperation between businesses, research institutions and state agencies, and lack of cross-border SME partnerships*

In recent years, researchers and policymakers are increasingly recognizing that innovative SMEs are the foundation of a strong national innovation system and a principal driver of competitiveness and growth. In addition, and perhaps more importantly, there is a growing understanding that networks and linkages – sometimes referred to as clustering – between SMEs but also between SMEs and LSEs, between SMEs and universities and research institutions, and between SMEs and the public sector, are important, and often crucial for enabling the development of innovative and internationally competitive SMEs.[28] Although many of the B4 countries have the basic components needed to develop SMEs, they all (except for Poland) lack the size and scale to compete independently. In order to succeed, the individual actors need to cooperate more closely, and seek networking partners beyond national borders.

- *Low national investment in R&D*

R&D investment is viewed as the best proxy for innovation, as it indicates the level of potential future output in terms of new products and processes. As shown in Chapter 1, the B4 have a much lower average investment in R&D (as a % of GDP) than Member Countries in the EU, and are thus considered as having a lower innovative potential. Policymakers in the B4 understand that this is a key challenge and have prioritised action in this area in their National Innovation Programmes - with goals of increasing the national level of R&D investment. It is not sufficient, however, simply to increase the level of public investment in R&D. An increase is needed from both the public and private sectors. As shown in Chapter 3, the private sector's investment in R&D is low in the B4, both in terms of its percentage of GDP and in terms of its share of total national expenditure on R&D (ranging between 20-30%, compared to approximately 55% in the EU-15). To address this specific challenge, the B4 governments must identify the barriers hindering private sector investment in R&D, and find ways to "turn the tide". Specifically, policymakers should consider dismantling existing disincentives to R&D investment (e.g. fiscal measures such as taxes on R&D expenditures), and possibly establishing appropriate incentives/fiscal measures to increasing private sector investment (and collaboration between the public and private sectors) in R&D.

- *Entrepreneurship not seen as a key competence*

Many of the B4 countries still treat entrepreneurship as a topic for vocational education, rather than a key component of the basic education curriculum. More efforts need to be made to promote an entrepreneurial culture.

- *Fragmentation and poor availability of business information and business services*

All of the B4 countries have initiated a number of activities to support businesses (business development and innovation centers, advisory and information offices, business incubators and technology parks). However, the general view from SMEs is that there is still a need for strengthened skills in international market entry, marketing and promotion.

- *Insufficient access to new technology*

Even though internet penetration, telephone and cellular access have increased significantly in all B4 countries over the past years, there is still a gap in access to new technology when compared with

[28] For a more in-depth discussion of the importance of clusters and clustering in this context, see, for example, Andersson et.al. (2004c).

the EU average and particularly with internationally leading countries, such as the Nordic countries. With regard to ICT access and usage, Estonia is considerably more advanced than the other B4 countries. Latvia's performance has dramatically improved in a number of areas in recent years. Of the four countries, Poland seems to be faced with the largest challenges in this aspect. (For a practical example of addressing this issue, see Box 14.)

Box 14: Window to the Future initiative in Lithuania

In May 2002, leading Lithuanian businesses (fixed and mobile telecommunications, banks, and IT companies) came together to form the Window to the Future alliance. The goal was to achieve the same average internet penetration in Lithuanian as in the European Union within three years through three fields of activity: broad public access, training on computer usage and internet, development of electronic content and services relevant to civil society. At the end of 2002, the Lithuanian government joined the alliance, agreeing to establish 300 new internet access locations and allocate LTL 5.6 million to the project over three years.

During 2003, 66 public internet access points were established throughout Lithuania, enabling citizens to spend over 1.500.000 hours on the internet. A free internet training course is planned for 20.000 people. It is the alliance founders' goal that the project will prompt closer collaboration between the public and private sectors on the development of the information society, and will provide a base for local governmental institutions to act in this area, stimulating municipalities to take further steps in developing and refining public internet access points according to local needs.

Source: Windows to the Future internet site: www.langasiateiti.lt

- *Insufficiently competitive business environment (competing on cheap products)*

The basic math and science education is viewed as a major asset in all the B4 countries. The Acceding Countries are catching up to the EU average with approximately 21% of their total population working in an S&T occupation or having a tertiary education level, compared to approximately 27% in the EU, and with a faster expansion in the number of graduates than in the EU (Eurostat (2003d)).

There is an increase in the total number of graduates. On average, however, currently only approximately one half of graduates go on to work in an S&T occupation raising the question of whether the scientific base is being leveraged appropriately. Thus, although the B4 have strong, traditional research and science bases, and are catching-up in tertiary graduates, the benefit of this has not yet been seen in terms of national competitiveness. There are indications that this is changing, but overall, these countries are still competing on low labour costs and cheap products rather than on their ability to design and sell unique products, processes or applications of their own. To some extent, this tendency is reflected in the patterns of FDI flowing into the Candidate Countries. According to Barry, the evidence suggests that "[m]ost current CEE [Central and Eastern European]-bound FDI comes from Europe rather than the US, is market seeking rather than export-oriented, and is relatively low-tech" (Barry (2002)).

- *Linking Structural Funds with national innovation policies in an efficient and effective matter*

After accession, the Structural Funds will be one of the principal policy tools for stimulating SMEs, both in terms of funds and in terms of administration. The SME development agencies, in particular PAED, SMEDA, LDA and Enterprise Estonia, expect that the implementation and administration of the Structural Funds will become one of their principal activities following accession (if it isn't already today). One of the principal challenges in this context will be to ensure that the Structural Funds can be linked with national innovation policies and strategies so as to ensure that Structural Funds will provide complementarity and value-added. An example of how Sweden has used national funding to promote innovation is presented in Box 15 below.

Box 15: VINNVÄXT - Regional Growth through Development of Dynamic Innovation Systems

VINNOVA's mission is to promote sustainable growth by financing R&D and developing effective innovation systems. VINNOVA's efforts to create effective innovation systems have international, national, sectoral and regional perspectives.

VINNVÄXT is a programme based on the idea of regional growth through dynamic innovation systems. The purpose of this programme is to stimulate the sustainable development and international competitiveness in functional regions through the long-term promotion and strengthening of the innovation system (including R&D funding) within selected strategic areas. Thus, the programme seeks to concentrate efforts and actors within a region around a strategic idea. Regions and initiatives to be included in this programme are selected in a national competition according to quality of the proposal, growth potential, and the ability to mobilize regional efforts and to secure regional co-financing, among other things. The winning teams receive up to 10 million SEK (approx. 1.1 million €) per year for 10 years from VINNOVA, plus matching regional co-funding.

VINNVÄXT differs significantly from earlier regional development initiatives in Sweden with its long-term perspective, its process support and the fact that the programme selection procedure is competitive.

Following the general positive reactions to VINNVÄXT, VINNOVA has increased its total budget of the programme from initially 400 to 600 MSEK for the ten-year period. This sum is matched by regional co-funding of at least the same amount.

Recommendations

Based on the challenges identified in the above section, we present here some general and specific recommendations for policymaking. It should be pointed here that, rather than claiming to provide absolute truths or to constitute an exhaustive list, these recommendations should be seen, and are intended to serve, as starting points for constructive and action-oriented discussions among policymakers, experts and stakeholders in the B4 on possible future policy directions and initiatives.

1. **Strengthening policymaking:**

   a) Improving the formation, coordination, organisation, implementation and evaluation of policies

   - *Adopt a horizontal, innovation system perspective*
   - *Include stakeholders in the policy formation process (triple helix task forces with a clear mandate to recommend policies / reforms / initiatives)*
   - *Improve mechanisms for evaluating policies during their implementation, and thus integrating evaluation into the policymaking process, rather than merely carrying out formalistic evaluations after the fact*

   b) Supporting policy learning

   - *Create fora for structured high-level policy exchange and learning (both within countries and between countries)*

   c) Adjusting policymaking (institutions, organisation and processes) to the demands of a knowledge-based, innovative economy and society

   - *Evaluate the innovative capacity of the public sector and policymaking institutions*
   - *Adopt strategies for improving 'innovation in the public sector' (recruitment strategies, decision-making processes and organisational structures, incentive structures, team-building issues, etc.)*
   - *Assess / design / adjust public procurement strategies to ensure that public procurement is efficient, effective and contributory to strengthen the national innovation system; public procurement can have a critical impact on the national innovation system, either promoting or hampering strategic technological development in a country, through the sheer size of many public procurement contracts (e.g. software solutions used by public sector) and through its signalling effect*

   d) Improving methods and data for measuring and comparing innovation performance.

2. **Improving the access to knowledge**

   a) Strengthening the national science base

   - *Develop strategies for government expenditure on R&D based on an innovation system approach (see, for example, the role and mandate of the Swedish Agency for Innovation Systems, Vinnova, or Tekes in Finland; an example of Vinnova's programmes can be found in Box 15)*
   - *Examine the possibility of creating national centres of excellence in specific areas*

b) Stimulating private sector R&D (both investment in and carrying out R&D)

c) Promoting international cooperation on R&D

3. **Improving the ability to transform knowledge into products and services**

a) Improving the functioning of capital markets and the 'capital supply chain'

- *Set up a task force for "financing innovative SMEs", consisting of high-level representatives from policymaking, business sector, financial sector and international experts, which is given a wide mandate to analyse the shortcomings of capital markets when it comes to enabling the development and growth of innovative SMEs*
- *Based on the recommendations of the taskforce, undertake reforms, if necessary, of taxation systems, legal structures or other 'framework conditions' that might account for some of the problems of capital supply*
- *Based on the recommendations of the taskforce, examine possibilities for setting up public-private venture capital funds, strengthening provisions for pre-seed and seed funding, improving financing facilities for SMEs in general and for innovative and/or high-tech SMEs in particular*
- *Create or strengthen business angel networks and activities*

b) Strengthening human capital (education systems, labour markets, competencies and particularly the need for upgrading competencies within SMEs, etc.)

c) Improving linkages and cooperation between industry and academia

4. **Strengthening the willingness to innovate (and grow)**

a) Raising the general awareness of innovation policy and of its importance for economic growth and competitiveness

b) Promoting clustering (again, this does not necessarily mean financially supporting specific clusters)

c) Promoting entrepreneurship (through policies aimed at raising awareness, through incorporating entrepreneurship into secondary school and university curricula, etc.)

d) Examining incentive structures affecting innovation and entrepreneurship (including possible fiscal instruments for innovation)

CHAPTER 5:
A VISION OF A NORDIC-BALTIC INNOVATION REGION

The Nordic countries are widely regarded as world leaders as far as innovation and technology policies are concerned. They generally rank highly both in terms of investing in and making use of new technology. At the same time, however, the Nordic countries are currently facing a number of structural challenges – an ageing population, a high incidence of sick leave among the working population, fragmented labour markets, high reliance on increasing mobile tax bases for sustaining large public sectors, and problems with integrating the significant number of foreign-born inhabitants into the workforce – which pose serious potential threats to the stability and viability of their social welfare systems and economic development in the coming decades. In addition, on average, the Nordic countries, with the exception of Finland, appear to receive relatively low returns on their investments in R&D in terms of economic growth and job creation.

Both the Baltic and the Nordic countries are looking to innovation policy as pivotal for tackling the structural challenges facing their economies. In addition to their common search for innovation policy solutions and close traditional cultural links, the Baltic and Nordic countries share many other priorities and interests: they are striving for sustainable economic development around the Baltic and North Seas, they are generally small, open economies (with the exception of Poland which has a large domestic market), they have close commercial ties with each other, and tend to have a well-educated labour force.

Furthermore, there are numerous indications, firstly, of complementarities and synergy potentials of the economic strengths of the countries bordering the Baltic Sea, and, secondly, of linkages between these countries' innovation systems. In light of these factors, and, given the end of the East-West division of Europe, there is now a historic opportunity to lay the framework conditions that will enable the Baltic Sea region to become an economically strong, highly integrated and dynamic region, characterised and connected by regional specialisation processes, cross-border clusters and public-private partnerships, and large foreign direct investment flows.

Summing up, these two areas within the Baltic Sea region stand to benefit significantly from exchanging policy views and experiences regarding innovation and enterprise development, and from discussing and agreeing on common initiatives and policy solutions for strengthening their innovation systems and the overall competitiveness of the Nordic and Baltic Sea countries. Furthermore, such cooperation will strengthen the regional economic integration of the Nordic/Baltic Sea area and enable continuous synergy effects between these two regions.

Baltic and Nordic Countries – Similarities and Differences

The Baltic and Nordic countries share a number of common interests, strengths and challenges. At the same time, there are also some noteworthy differences in factors regarding and affecting innovation and enterprise development.

As regards similarities, both country groups tend to be characterized by small domestic markets (with the exception of Poland), and, consequently, dependency on external markets for selling their goods and services, particularly when it comes to high-tech or highly specialised products (see Table 22).

Table 22: Size and Export Orientation

	Population (million inhabitants)	Exports as a Share of GDP (2001)
Denmark	5,4	30,8%
Estonia	1,4	60,5%
Finland	5,2	32,7%
Latvia	2,4	25,8%
Lithuania	3,5	38,1%
Norway	4,5	34,2%
Poland	38,6	20,5%
Sweden	8,9	36,0%

Source: World Economic Forum (2003)

Secondly, while SMEs are widely regarded to be the backbone of the economy in these countries – and the motor for growth and employment – they are not the drivers of innovation. Thus, similar to the findings for the B4 presented in the chapter 2, recent studies identified a shortage of innovative SMEs as one of the main weaknesses of the Finnish innovation system (Georghiou et.al (2003), European Commission (2001b)). This is interesting given the fact that Finland is generally regarded to be a highly effective and well-functioning system.

Another factor identified by policymakers both from the Nordic and Baltic Sea Countries was the perception of a 'dual nature' or 'polarisation' of innovation and economic development. Thus policymakers regarded their countries to be characterised, on the one hand, by metropolitan areas (Stockholm, Helsinki, Tallinn, Riga, etc.) and large, and in the case of the Baltic Sea countries frequently foreign-owned, companies, both of which are internationally at the forefront in terms of innovation and economic development. On the other hand, policymakers were faced with rural areas with very low levels of growth, employment and economic development. Nordic and Baltic policymakers argued that these perceived disparities when it comes to regional economic growth and innovation placed unique demands on policymakers seeking to design national policies for innovation and enterprise development. However, it should be pointed out here that, compared to other EU Member States, including the New Member States, the countries in question display rather small regional disparities when it comes to unemployment or GDP per capita (see European Commission (2003j)).

Turning to the differences between the Nordic countries on the one hand and the Baltic countries and Poland on the other, one of the most notable discrepancies, from an innovation system perspective, is the level of expenditure on R&D. As could be seen in chapter 1, the Nordic countries tend to invest a considerably higher share of GDP in R&D than the EU average, while the Baltic Sea countries tend to invest far less, both in terms of private and public expenditure on R&D.

Perhaps even more important than R&D, from the point of view of economic growth is the fact that, according to the available indicators, there is a considerable gap between the Nordic and the Baltic economies when it comes to innovation or innovativeness.

According to the indicators for innovation established so far, the Nordic countries generally emerge as top performers in most categories. Table 23 shows a number of indicators which illustrate the Nordic countries' leading positions both when it comes to investing in and making use of new technology. Nordic countries top the international tables for investing, patenting, and publishing R&D. In

addition, they are the most advanced countries in the world in terms of ICT penetration, investment and usage. According to the European Innovation Scoreboard, the Nordic countries are ahead of other European countries, and the United States, when it comes to internet access, investment in R&D, ICT expenditure, and patenting activity, among other things (European Commission (2002a, 2002b)).

In contrast to the Nordic countries, which top most international rankings for innovation, science and technology indicators, the B4 tend to find themselves far below the EU and OECD averages, when it comes to innovation and innovativeness. Table 24 (Innovation and Competitiveness rankings) compares the Baltic and Nordic countries according to several aggregated indices for measuring national innovative and competitive ability.

Table 23: The Nordic Countries in International Comparison (selected indicators and countries)*

	Mobile Phone Subscriptions per 100 Inhabitants 2001	PCs per 100 Inhabitants 2001	Internet Hosts per 1000 Inhabitants 2001	Internet Users per 1000 Inhabitants 2001	R&D Exp. % of GDP 1999	Researchers per 10 000 in the Labour Force 1999	Patent Appls. with EPO per million Inhabitants 1998	Exp. on Univ. Educ. per Student 1998 (PPP $)
Denmark	74	43	105	447	2,09	64	139	9562
Finland	78	42	171	430	3,22	99	216	7327
Iceland	82	42	**190**	**679**	2,33	**101**	70	..
Norway	**83**	51	67	596	1,7	78	70	10 9184
Sweden	77	**56**	83	516	**3,78**	91	**226**	**13 224**
United States	44	**62**	**371**	500	2,66	815	97	**18 493**
France	61	34	13	264	2,19	61	111	7005
Italy	70	19	12	276	1,04	28	56	62954
Germany	68	34	29	364	2,44	64	**233**	94665
OECD	64	32	66	319	2,21	62	82	11 464
EU	75	33	54	317	1,86	53	115	..

* Countries with the highest number or percentage of a given indicator (either among the Nordic countries or internationally) are marked in bold.
Source: International Telecommunication Union (ITU) 2002; OECD, MSTI database 2001; OECD (2001a).

The B4 rank considerably lower than the Nordic countries, both in the innovation subindex, which seeks to explain the elements of innovation that are linked to economic growth, and in the innovative capacity index which seeks to capture the underlying factors that contribute to innovation (Cornelius et.al. (2003), p.8).

Table 24: Innovation and Competitiveness Rankings

	Innovation Subindex 2003 (out of 102 countries)	Innovative Capacity Index[1] 2002 (out of 73 countries)	Growth Competitiveness Index 2003 (out of 102 countries	Business Competitiveness Index 2003 (out of 101 countries)
Finland	3	3	1	1
Sweden	4	7	3	3
Norway	12	19	9	22
Denmark	11	12	4	4
Latvia	22	44	37	29
Estonia	26	29	22	29
Poland	29	35	51	47
Lithuania	30	31	40	40

Source: World Economic Forum (2003), [1] Porter and Stern (2003).

Confirming the impression derived from the above indicators, the Business Environment and Enterprise Performance Survey (BEEPS) mentioned in chapter 2 indicates that the level of innovation in enterprises in the Baltic countries and Poland is relatively low.

In addition to high average GDP growth in recent years, there are a number of indications that the B4 are making rapid progress increasing the use of and investment in ICT. Compared with the much slower rate of change in selected indicators for ICT development in the European Union countries, including the Nordic countries, one of the salient features of the B4 is a clear trend towards reducing the innovation gap and the rapid progress towards a knowledge economy (see chapter 1).

Box 16: Nordic and Baltic Countries – Similarities and Differences

Similarities

- Small domestic markets and export orientation
- SMEs considered the backbone of the economy but are not the drivers of innovation (innovation takes place elsewhere)
- Perceived polarisation / dual nature of innovation and economic development within the countries

Differences

- Expenditure on R&D: much higher in Nordic countries than in the Baltic countries
- Innovativeness: Nordic countries rank very highly internationally, and much higher than Baltic countries, in terms of their ability to innovate.

Networking Economies – The Case for Strengthening Baltic/Nordic Cooperation

Aside from these common characteristics pointed out in the previous chapter, there are several indications of increasing economic interaction and integration between the Baltic and Nordic

countries. One such sign is the rapid increase in foreign direct investment (FDI) by the Nordic countries particularly in Estonia, Latvia and Lithuania (see Table 25).

In 2002, the Nordic countries were the main foreign director investor countries in Latvia, Lithuania and Estonia, accounting for between 31% and 71% of total FDI stocks in these countries. In the case of Poland, which attracts large FDI from France, Germany and the United States, Sweden was nevertheless the seventh largest foreign director investor in 2001 with 2.3 bn US$. Together the four Nordic countries together accounted for 4.2 bn US$ or 7.5% of total FDI stocks.

Table 25: Foreign Direct Investment in the Baltic Sea Countries, by primary investor countries

	Largest Investor Countries, end 2002		Inward Stock % of GDP, 2000	Inward Stock (bn US$), 2001
	Country	% of total		
Latvia			29.5	2.3
	Germany	12.8		
	Sweden	12.4		
	Denmark	10.8		
	Finland	7.2		
	United States	7.0		
Lithuania			20.6	2.7
	Denmark	17.2		
	Sweden	15.3		
	Estonia	11.7		
	Germany	9.6		
	United States	8.7		
Estonia			53.2	3.4
	Sweden	40.9		
	Finland	26.9		
	United States	8.1		
	Netherlands	4.0		
	Norway	3.3		
Poland			21.7	34.2
	France[1]	18.0		
	United States[1]	13.7		
	Germany[1]	12.6		
	Netherlands[1]	8.1		
	Italy[1]	6.2		

[1] Figures are for 2001.
Source: Statistics Lithuania (2003) and UNCTAD (2003).

Whereas there is a big gap between the Nordic countries and the B4 when it comes to ability to innovate, one could argue that these two country groups are much closer when it comes to the level of maturity of innovation policy in their national contexts. In the past years, governments in both the Nordic countries and the Baltic countries and Poland, have worked actively to design or improve national policies for innovation and enterprise development. Thus, the Norwegian and Swedish governments are currently in the process of formulating national innovation strategies, while Finland

and Estonia have recently evaluated their national innovation policies and/or national innovation systems (Georghiou et.al. (2003), Reid (2003)).[29]

Overall, similar to the Nordic countries and in contrast with a number of other Candidate Countries, innovation policy, and its importance for competitiveness and economic development is not a new concept in the B4 (for an overview over innovation policies in the Candidate Countries see European Commission (2001a), (2001c), (2001d) and (2003b), and Reid (2003)).

In light of the combination of the common interests, challenges and innovation policy issues, both the Baltic and Nordic countries stand to benefit significantly from exchanging policy views and experiences and for discussing and agreeing on common initiatives and policy solutions for strengthening their innovation systems and overall competitiveness. Furthermore, such cooperation will strengthen the regional economic integration of the Nordic/Baltic Sea area and create important synergy effects between these two regions.

In order for Nordic-Baltic cooperation on innovation, enterprise development and competitiveness to be effective and policy-relevant, discussions on and processes for strengthening innovation systems in the Baltic and Nordic countries should involve all relevant actors and stakeholders. In particular, they should include representatives from policymaking, academia and the business sector (according to the triple helix model; see Box 6). In addition, they should be based on a systemic, cross-sectoral or horizontal policy perspective and involve top level decision-makers.

The cooperation could address the following issues:

- Barriers to and possibilities for Nordic-Baltic cooperation on innovation
- Human capital issues (training, education, lifelong learning)
- Innovation policy: awareness and governance issues
- Entrepreneurship
- Cluster policies: models, best practices, directions for future policy design
- Venture Capital: markets, policies, experiences
- EU Structural Funds: How to use EU Structural Funds to strengthen innovation, competitiveness and convergence?
- Commercialisation of R&D: How can researchers and the private sector work together to gain a return on investment?

A strengthened cooperation between the Nordic and Baltic countries on these issues, could make a significant contribution to strengthening the conditions for innovation and enterprise development and thus for long-term prosperity and welfare in the region as a whole. In the more immediate future, this initiative would contribute substantially to ensuring a successful accession of the New EU Member Countries in the Baltic Sea Region to the Internal Market.

[29] For evaluations of the Swedish and Norwegian innovation systems, see Andersson et.al. (2002) and (2003a).

CONCLUSIONS

EU accession will not result in a dramatic dwindling of SMEs in the New Member Countries in general, or in the B4 in particular. In this context, the pessimism of Polish companies as reflected in Eurochambres' business survey (see Box 5), is probably exaggerated. However, EU accession will bring significant new challenges for SMEs in the B4 countries. Furthermore, these challenges will be heightened by the structural changes, summed-up in the term 'knowledge-based economy', which is currently reshaping the world economy. Together, these two factors will exert increasing pressures on enterprises to be innovative, in order to be competitive.

The B4 countries have undergone, and are still in the process of undergoing the transition from planned economies to functioning and thriving market economies. The B4 have made substantial and impressive progress in this process, by implementing a number far-reaching structural reforms and establishing the institutions necessary for the development of functioning markets. The progress is reflected in significant and rapid increases in the use of ICT with some countries – which initially started out a dramatically lower level – rapidly approaching the levels of some of the existing EU Member States. It is also reflected in the high average GDP which particularly Estonia, Latvia, Lithuania, and Poland have experienced since 1995, and in the ability of these countries to attract substantial foreign direct investment.

Policymakers in the B4 are increasingly recognising the importance of innovation policy for competitiveness and economic development. Similarly, the importance of a dynamic SME sector, for economic growth and job creation, is widely acknowledged. In the past years, the governments in these countries have worked actively to design or improve national policies for innovation and enterprise development.

Nonetheless, a number of important policy challenges remain with regard to enabling the development of a critical mass of innovative SMEs which are able to contribute to ensuring the competitiveness and vitality of the B4 economies in the Single Market in the long term.

This report has established that SMEs play a significant and growing role for the economies of the B4. Furthermore, SMEs are of crucial importance, as agents of economic renewal and innovation, and for securing the future competitiveness of the transition economies. Recent evidence shows that there is a clear need to strengthen competitiveness and innovation in the B4 in general, and particularly in the SME sector. Given that compliance costs in connection with accession weigh relatively more heavily on SMEs than on larger companies, and given the shortage of capital, lack of management capabilities and other human capital resources, and other barriers felt most acutely by SMEs, there is a considerable risk that a significant number of SMEs might never make it to the stage where they can capitalise on the significant opportunities offered by the Single Market and the knowledge-based economy.

At a time when they are still in the process of completing the transition to functioning market economies, the people, companies and institutions of the B4 countries are facing the next daunting task of adapting to the challenges presented by accession to the Single Market and the rapidly increasing importance of knowledge and innovation for competitiveness and economic growth. One of the key challenges for policymakers is to act in support of SMEs, by designing and implementing policies that will promote the ability and willingness of a critical mass of SMEs to engage in innovative activities.

Given the coinciding factors described in the previous two paragraphs, it is crucial for policymakers in the B4 countries, and in the Accession Countries in general, to act now to ensure that temporary obstacles arising from this unique situation do not prevent their SME sectors from seizing the significant opportunities (e.g. of capturing niche markets globally) which are potentially within their reach.

Given their impressive progress made in the past 15 years, given their documented dynamism and ability to adjust to rapidly changing conditions, and provided they have the resolve and vision to act now to put into place critical conditions for enabling innovation and enterprise development in general and for SMEs in particular, the B4 countries have the opportunity to reap substantial and lasting economic and social benefits from both their accession to the European Union and the ascent of the knowledge-based economy.

REFERENCES

Alfonso, Antonio, Ludger Schuknecht and Vito Tanzi (2003), *Public Sector Efficiency: An International Comparison*, European Central Bank Working Paper Series, Working Paper No. 242, http://www.ecb.int/pub/wp/ecbwp242.pdf .

Andersson, Thomas, Ola Asplund and Magnus Henrekson (2002), *Betydelsen av Innovationsystem: Utmaningar för Samhället och för Politiken*, VINNOVA, Stockholm.

Andersson, Thomas, Johan Kind, and Collette Logan-Andersen, (2004a), *Towards a New Growth and Innovation Policy in Norway*, IKED, Malmö.

Andersson, Thomas, Sylvia Schwaag Serger, and Emily Hansson (2004b), *Turkey's Strides Towards Greater Prosperity and Competitiveness*, Working Paper, IKED, Malmö.

Andersson, Thomas, Jens Sörvik, Emily Hansson and Sylvia Schwaag Serger (2004c forthcoming), *The Cluster Policies Whitebook*, IKED, Malmö.

Arnold, Erik, Stefan Kuhlman, and Barend van der Meulen (2001), *A Singular Council? Evaluation of the Research Council of Norway*, Synthesis report, Technopolis, Brighton.

Balcerowicz, Leszek, Barbara Blaszczyk, and Marek Dabrowski (1998), *The Polish Way to the Market Economy 1989-1995*, in Woo et. al. (eds.) (1998), pp.132-160.

Barry, Frank (2002), *EU Accession and Prospective FDI Flows to CEE Countries: A View from Ireland*, Working Paper, University College Dublin.

Cabinet Office, Strategy Unit (2003), *Innovation in the Public Sector*, Version 1.9, October 2003, http://www.strategy.gov.uk/files/pdf/pubinov1-2.pdf .

Central Statistical Bureau of Latvia (2003), *Innovation Survey Results Statistical Bulletin*, Riga.

Cornelius, Peter K., Jennifer Blanke and Fiona Paula (2003), *The Growth Competitiveness Index: Recent Economic Developments and the Prospects for a Sustained Recovery*, in World Economic Forum (2003).

EMOR (2003), *Development Trends of Estonian Small and Medium Enterprises*, Estonia.

Etzkowitz, Henry and Loet Leydesdorff (1997), *Universities in the Global Knowledge Economy: A Triple Helix of University-Industry-Government Relations* (eds.), Cassell, London.

Etzkowitz, Henry and Loet Leydesdorff (2000), *The Dynamics of Innovation: from National Systems and 'Mode 2' to a Triple Helix of University-Industry-Government Relations*, Research Policy 29, pages 9-23.

Etzkowitz, Henry (2002), *Incubation of Incubators: Innovation as a Triple Helix of University-Industry-Government Networks*, Science and Public Policy, volume 29, number 2, April 2002, pages 115-128, Beech Tree Publishing, Surrey, England.

Eurochambres (2003), *The Chambers of Commerce and Industry (Summary) – Chamber Systems in the EU25*, Eurochambres, Brussels.

Eurochambres and Slovenian Bureau and Research Association (SBRA) (2002), *Corporate Readiness for Enlargement in Central Europe. A Company Survey on the State of Preparations for the Single Market 2002*, Eurochambres, Brussels.

European Commission, DG Enterprise, Innovation Directorate (2001a), *Innovation Policy in Six Candidate Countries: the Challenges. Cyprus, Czech Republic, Estonia, Hungary, Poland and Slovenia. Final Report.*

European Commission, DG Enterprise (2001b), *Innovation Policy in Europe 2001 – European Trend Chart on Innovation*, Innovation Papers No 17.

European Commission, DG Enterprise (2001c), *Innovation Policy Profile: Estonia.*

European Commission, DG Enterprise (2001d), *Innovation Policy Profile: Poland.*

European Commission, DG Enterprise (2002a), *2002 European Innovation Scoreboard: Technical Paper No 1 – Member States and Associate Countries.*

European Commission, DG Enterprise (2002b), *2002 European Innovation Scoreboard: Technical Paper No 2 – Candidate Countries.*

European Commission, DG Enterprise (2002c), *Innovation Policy in Europe 2002 – European Trend Chart on Innovation*, Innovation Papers No 29.

European Commission, DG Enterprise (2002d), *SMEs in Focus. Main Results from the 2002 Observatory of European SMEs.*

European Commission, DG Enterprise (2002e), *SMEs in Europe, Including a First Glance at EU Candidate Countries*, Observatory of European SMEs 2002, No.2.

European Commission, DG Enterprise (2002f), *Innovation Tomorrow. Innovation Policy and the Regulatory Framework: Making Innovation an Integral Part of the Broader Structural Agenda.* Innovation papers No.28.

European Commission (2002g), DG Enterprise, *High-tech SMEs in Europe*, Observatory of European SMEs 2002, No.6.
http://europa.eu.int/comm/enterprise/enterprise_policy/analysis/doc/smes_observatory_2002_report6_en.pdf

European Commission, DG Enterprise, Innovation Directorate (2003a), *Future Directions of Innovation Policy in Europe*, Innovation Papers No 31.

European Commission, DG Enterprise, Innovation Directorate (2003b), *Innovation Policy in Seven Candidate Countries: The Challenges. Bulgaria, Latvia, Lithuania, Malta, Romania, Slovakia and Turkey. Final Report, Volume 1*, Innovation Papers No 34.

European Commission, DG Enterprise, Innovation Directorate (2003c), *Innovation Capabilities in Seven Candidate Countries: An Assessment*, March 2003, Brussels.
ftp://ftp.cordis.lu/pub/innovation-policy/studies/slavo_final_report_march_2003.pdf

European Commission, DG Enterprise (2003d), *Innovation Policy Profile: Latvia.*

European Commission, DG Enterprise (2003e), *Innovation Policy Profile: Lithuania.*

European Commission (2003f), *Comprehensive Monitoring Report on Estonia's Preparations for Membership.*

European Commission (2003g), *Comprehensive Monitoring Report on Latvia's Preparations for Membership.*

European Commission (2003h), *Comprehensive Monitoring Report on Lithuania's Preparations for Membership.*

European Commission (2003i), *Comprehensive Monitoring Report on Poland's Preparations for Membership.*

European Commission (2003j), Commission Staff Working Paper *Report on the Implementation of the European Charter for Small Enterprises in the Candidate Countries for Accession to the European Union*, SEC (2003) 57, Brussels. http://europa.eu.int/comm/enterprise/enlargement/charter/report_2003/implementation_en.pdf

European Commission (2003k), Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, *Innovation Policy: Updating the Union's Approach in the Context of the Lisbon Strategy*, COM(2003) 112, Brussels.

European Commission (2003l), Commission Staff Working Paper, *2003 European Innovation Scoreboard*, SEC(2003) 1255, Brussels. http://trendchart.cordis.lu/Reports/Documents/SEC_2003_1255_1_EN_DOCUMENTDETRAVAIL.pdf

European Commission, DG Enterprise (2003m), *European Trend Chart on Innovation – Estonia Country Report* (covering period September 2002-August 2003), Brussels. http://trendchart.cordis.lu/Reports/Documents/Estonia_CR_September_2003.pdf

European Commission, DG Enterprise (2003n), *European Trend Chart on Innovation – Latvia Country Report* (covering period September 2002-August 2003), Brussels. http://trendchart.cordis.lu/Reports/Documents/Latvia_CR_September_2003.pdf

European Commission, DG Enterprise (2003o), *European Trend Chart on Innovation – Lithuania Country Report* (covering period September 2002-August 2003), Brussels. http://trendchart.cordis.lu/Reports/Documents/Lithuania_CR_September_2003.pdf

European Commission, DG Enterprise (2003p), *European Trend Chart on Innovation – Poland Country Report* (covering period September 2002-August 2003), Brussels. http://trendchart.cordis.lu/Reports/Documents/Poland_CR_September_2003.pdf

European Commission (2003q), Communication from the Commission to the Council and the European Parliament, *Thinking Small in an Enlarging Europe*, COM(2003) 26, Brussels.

European Commission (2003r), Commission Staff Working Paper, *Creating an Entrepreneurial Europe – The Activities of the European Union for Small and Medium-Sized Enterprises (SMEs)*, SEC(2003) 58, Brussels.

European Commission (2003s), National reports on the Implementation of the European Charter for Small Enterprises for:
Estonia
http://europa.eu.int/comm/enterprise/enterprise_policy/charter/2004_charter_docs/candidate-countries/report-estonia-2003.pdf,
Latvia
http://europa.eu.int/comm/enterprise/enterprise_policy/charter/2004_charter_docs/candidate-countries/report-latvia-2003.pdf,
Lithuania
http://europa.eu.int/comm/enterprise/enterprise_policy/charter/2004_charter_docs/candidate-countries/report-lithuania-2003.pdf,
and Poland
http://europa.eu.int/comm/enterprise/enterprise_policy/charter/2004_charter_docs/candidate-countries/report-poland-2003.pdf

European Commission (2003t), DG Enterprise, *SMEs and Access to Financ*e, Observatory of European SMEs 2003, No.2.

European Commission (2003u), Commission Staff Working Document, *Benchmarking Enterprise Policy: Results from the 2003 Scoreboard*, SEC(2003)1278, Brussels. http://europa.eu.int/comm/enterprise/enterprise_policy/competitiveness/doc/scoreboard_2003_en.pdf

European Commission (2004), Report to the Council and European Parliament on the *Implementation of the European Charter for Small Enterprises*, COM(2004) 64, Brussels. http://europa.eu.int/comm/enterprise/enterprise_policy/charter/2004_charter_docs/com_2004_64/com_64_en.pdf

Eurostat (2002a), *Information Society Statistics – Data for Candidate Countries* by Richard Deiss, Statistics in Focus, Theme 4 – 17/2002, http://www.eu-datashop.de/download/EN/sta_kurz/thema4/np_02_17.pdf

Eurostat (2002b), *Enterprises in Europe – Does Size Matter?*, by Manfred Schmiemann, Statistics in Focus, Theme 4 – 39/2002, http://www.eu-datashop.de/download/EN/sta_kurz/thema4/np_02_39.pdf

Eurostat (2003a), *Information Society Statistics – PCs, Internet and Mobile Phone Usage in the EU*, by Christian David, Statistics in Focus, Theme 4 – 15/2003, http://www.eu-datashop.de/download/EN/sta_kurz/thema4/np_03_15.pdf

Eurostat (2003b), *Structural Business Statistics in the Accession Countries*, by Petra Sneijers, Statistics in Focus, Theme 4 – 21/2003, http://europa.eu.int/comm/eurostat/Public/datashop/print-product/EN?catalogue=Eurostat&product=KS-NP-03-021-__-N-EN&mode=download

Eurostat (2003c), *High-Tech and Knowledge-Intensive Sectors Creating Employment in Europe*, by Guido Strack, Statistics in Focus, Theme 9 – 10/2003.

Eurostat (2003d), *Catching up with the EU? Comparing Highly Qualified Human Resources in the EU and the Acceding Countries*, by Guido Strack, Statistics in Focus, Theme 9 – 9/2003. http://europa.eu.int/comm/eurostat/Public/datashop/print-product/EN?catalogue=Eurostat&product=KS-NS-03-009-__-N-EN&mode=download

Eurostat (2004a), *SMEs in the Candidate Countries*, by Manfred Schmiemann, Statistics in Focus, Theme 4 – 5/2004, http://europa.eu.int/comm/eurostat/Public/datashop/print-product/EN?catalogue=Eurostat&product=KS-NP-04-005-__-N-EN&mode=download

Eurostat (2004b), *Innovation Output and Barriers to Innovation*, by Anna Larsson, Statistics in Focus, Theme 9 – 1/2004.

Eurostat (2004c), *Sources and Resources for EU Innovation*, by Paul Crowley, Statistics in Focus, Theme 9 – 5/2004.

Fagerberg, Jan in European Commission (2003a), *The Innovative Society*, pp.16-19.

Jacobs, Colin (2004), "The challenge of public sector reform in EC accession countries: reflections from the Baltics, especially Latvia", in *Public Administration and Development*, March 2004.

Georghiou, Luke, Keith Smith, Otto Toivanen and Pekka Ylä-Anttila (2003), *Evaluation of the Finnish Innovation Support System*, Ministry of Industry and Trade Publications 5/2003.

Godin, Benoît (2003), *The Rise of Innovation Surveys: Measuring a Fuzzy Concept*, paper presented at Conference in honor of Keith Pavitt: What do we know about innovation?

Hallberg, Kristin (2000), *A Market-Oriented Strategy for Small and Medium Scale Enterprises*, International Finance Corporation (IFC) Discussion Paper Number 40, The World Bank, Washington, D.C.

Jürgenson, Anne, Andrus Oks, Rena Selliov, Kristina Värno (2003), *Development Problems and State Support Measures of SMEs in Estonia*, Tartu.

Kristapsons, Janis, Martinson, Helle and Ina Dagyte (2003), *Baltic R&D Systems in Transition. Experiences and Future Prospects,* Zinatne, Riga.

Kuhlmann, Stefan (2003), *Future Governance of Innovation Policy in Europe*, in European Commission (2003a), pp.40-48.

Kurik, Silja, Rünno Lumiste, Erik Terk and Aavo Heinlo (2002), *Innovation in Estonian Enterprises 1998-2000*, Innovation Studies 2/2002, Foundation Enterprise Estonia.

Latvian Ministry of Economy (2003), *Economic Development of Latvia*, bi-annual report, Riga, June 2003.

McIntyre, Robert J. (2002), *SME 'Success' in Transition: Policy Research and Ownership Alternatives*, International Association for the Economics of Participation, Brussels. http://www1.miser.umass.edu/ldit/docs/cp_mcintyre_ssit.pdf

McIntyre, Robert J. (2003), *Small Enterprises in Transition Economies: Causal Puzzles and Policy-relevant Research* in McIntyre and Bruno Dallago (eds.) (2003), pp.1-17.

Ministry of the Economy, Labour and Social Policy (2003), *Poland Sectoral Operational Programme: Improvement of the Competitiveness of Enterprises Years 2004-2006. National Development Plan for 2004-2006.*

OECD (2000a), *OECD Small and Medium Enterprise Outlook*, Paris.

OECD (2000b), *Regional Assessments of the Baltic States: Insights from a Decade of Transition*, Policy Brief, in OECD Observer, February 2000. http://www.oecd.org/dataoecd/22/38/1816965.pdf

OECD (2001a), *Main Science and Technology Indicators.*

OECD (2001b), *Enhancing SME Competitiveness*. The OECD Bologna Ministerial Conference.

OECD (2002a), *OECD Small and Medium Enterprise Outlook*, Paris.

OECD (2002b), *High-Growth SMEs and Employment*, Paris.

OECD (2003), *Science, Technology and Industry Scoreboard*, Paris.

PAED (2002), *Report on the Condition of the Small and Medium-Size Enterprise in Poland for the Years 2000-2001*, Polish Agency for Enterprise Development (PAED), Warsaw.

PAED (2003), *Report on the Condition of the Small and Medium-Size Enterprise in Poland for the Years 2001-2002*, Polish Agency for Enterprise Development (PAED), Warsaw.

Perry, M. (1999), *Small Firms and Network Economies, Routledge Studies in Small Business*, Routledge, London and New York.

Polish Private Equity Association (2003), *2003 Yearbook*, Warsaw.

Porter, Michael and Scott Stern (2003), *National Innovative Capacity*, in World Economic Forum (2003).

Reid, Alasdair (2003), *Optimising the Design and Delivery of Innovation Policy in Estonia: An Evaluation of Policy Instruments for Intensifying Business Innovation*, Innovation Studies 4/2003, Ministry of Economic Affairs and Communications of the Republic of Estonia.

Romanian National Institute of Statistics (2003), *CANSTAT Statistical Bulletin No. 3/2003*, National Institute of Statistics, Romania, 2003. http://www.insse.ro/indexe.htm

Sakai, Kentaro (2002), *Global Restructuring: Implications for Small Firms*, STI Working Paper 2002/4, OECD, Paris.

Salazar, Mónica and Adam Holbrook (2003), *A Debate on Innovation Surveys*, paper presented at Conference in honor of Keith Pavitt: What do we know about innovation?

Scase, Richard (2000), *Entrepreneurship and Proprietorship in Transition: Policy Implications for the Small- and Medium-Size Enterprise Sector*, Working Papers No. 193, World Institute for Development Economics Research (WIDER), The United Nations University, August 2000.

Smallbone, David and Anna Rogut (2003), *From Transition to Accession: The Challenge for SMEs in Candidate Countries*, paper presented at RENT XVII in Lodz, Poland, November 2003.

Smallbone, David and Friederike Welter (2003), *Institutional Development And Entrepreneurship In Transition Economies*, paper presented at ICSB 48th World Conference - Advancing, Entrepreneurship and Small Business, 15-18 June 2003 in Belfast (Northern Ireland); http://www.unece.org/indust/sme/institutional%20development.html

SMEDA (2003), *Small and Medium-Sized Business in Lithuania,* Lithuanian Development Agency for Small and Medium-Sized Business (SMEDA), Vilnius 2003.

Statistical Office of Estonia (2004), Statistical Database, Economy.
http://gatekeeper.stat.ee:8000/px-web.2001/I_Databas/Economy/Economy.asp

Statistics Lithuania (2003), *Lithuania, Latvia and Estonia – Key Indicators 2000-2002.*
http://www.stat.ee/files.aw/id=76424/lithuania_latvia_and_estonia_key_indicators_2000_2002.pdf

Teichman, Eufemia (ed.) (2003), *Nowe Pogranicze Europy; Litwa, Lotwa, Estonia.* Polskie Wydawnictwo Economiczne, Warsaw.

UNCTAD (2002), *World Investment Report, Transnational Corporations and Export Competitiveness*, Geneva.

UNCTAD (2003), *World Investment Directory Country Profile for:*
Poland,
http://r0.unctad.org/en/subsites/dite/fdistats_files/pdfs/Poland_profile.pdf
Estonia,
http://r0.unctad.org/en/subsites/dite/fdistats_files/pdfs/Estonia_profile.pdf
Latvia,
http://r0.unctad.org/en/subsites/dite/fdistats_files/pdfs/Latvia_profile.pdf
and Lithuania,
http://r0.unctad.org/en/subsites/dite/fdistats_files/pdfs/Lithuania_profile.pdf

UNECE (2003), *Small and Medium-Sized Enterprises in Countries in Transition*, http://www.unece.org/indust/sme/smepubli.pdf

Watkins, Alfred and Natalia Agapitova (2003), *Creating a 21st Century National Innovation System for a 21st Century Latvian Economy,* Europe and Central Asia Region, World Bank, Washington, D.C.

Woo, Wing Thye, Stephen Parker and Jeffrey Sachs (eds.) (1998), *Economies in Transition: Comparing Asia and Eastern Europe*, MIT Press, Cambridge, Massachusetts.

World Bank (2002), *Transition. The First Ten Years. Analysis and Lessons for Eastern Europe and the Soviet Union*, Washington, D.C.

World Bank and EBRD, Online *Business Environment and Enterprise Performance Survey* (BEEPS), http://info.worldbank.org/governance/beeps/

World Economic Forum (2003), *The Global Competitiveness Report 2002-2003*, Edited by Peter Cornelius, Klaus Schwab and Michael E. Porter.

APPENDIX I:

Agenda for Working Group Meeting, on *Designing policies for innovation and enterprise development*, June 16-17, 2003 in Riga

PROGRAMME

DAY 1: IDENTIFYING THE POLICY CHALLENGE – ESTABLISHING A COMMON FRAMEWORK

9:00-9:30 Registration of participants

9:30-10:00 Welcome address:
Mr. Juris Lujans, Minister of Economics of the Republic of Latvia
Mr. Juris Kanels, Chairman of the Board, LDA
Mr. Arthur Bayhan, Director, IKED
Mr. Kristian Birk, Head of Division, Danish National Agency for Enterprise and Housing (NAEH)

10:00-11:15 SME development in the Baltic States and Poland

CHAIR: Arthur Bayhan, Director, IKED

Poland: Dr. Elzbieta Raciniewska, Expert, Ministry of Economy, Labour and Social Policy
Estonia: Pirko Konsa, Head of Enterprise Division, Ministry of Economy
Latvia: Andrejs Buharins, Director of Department of Entrepreneurship, Ministry of Economy

DISCUSSION

11:15-11:30 Contact break

11:30-12:30 Knowledge intensive SMEs and cluster development in the Baltic States and Poland

CHAIR: Matti Pietarinen, Deputy Director General, Ministry of Industry and Trade, Finland

Dr. Kastytis Gecas, Director, Lithuanian Innovation Centre: "Promoting innovative SMEs in Lithuania"
Dr. Janis Stabulnieks: "National Innovation Programme – instruments for promoting high-tech business development in Latvia"
Jan Maier, Inno-Group: Building Innovative Competence Clusters

Comments**:** (Possible comments by Raimonds Aleksejenko, Director of Industry Department, Ministry of Economy, Enn Metsar, Estonian Ministry of Economic Affairs and Communications, Aleksander Zolnierski, PAED)

DISCUSSION

12:30-14:00 **Lunch**

14:00-15:30 **Lessons/experiences/examples from other countries**

CHAIR: Kristian Birk, Head of Division, Danish National Agency for Enterprise and Housing (NAEH)

SPEAKERS:
Matti Pietarinen, Deputy Director-General, Ministry of Industry and Trade, Finland: "Innovation policy and SME development in Finland: characteristics, insights, developments"
Suzanne Håkansson, Deputy Director, Ministry of Industry, Employment and Communications, Sweden
Tomas Aronsson, Swedish Agency for Innovation Systems (VINNOVA)
Martin Hedman, IDC Coordinator, Sweden: "Industrial Development Centres – experiences and insights from a Swedish concept"

15:30-16:00 **Contact break**

16:00-17:30 **Identifying the policy challenge: what are the main issues facing Baltic and Polish SMEs in connection with the accession to the EU?**

CHAIR: Prof. Dr.oec. Uldis Osis, Member of the National Economic Council of Latvia

SPEAKERS:
Aisling Quirke, Innovation Policy Unit, DG Enterprise, European Commission
Charles Kovacs, Vice Chairman, Business and Industry Advisory Committee to the OECD (BIAC), Committee on Non-Member Economies
Nils Gabrielsson**,** Inno-Group: "Obstacles/challenges for the development of innovative and competitive enterprises in the new Member Countries"

DISCUSSION

17:30-18:00 **DAY 1: Wrap-up and conclusions by Mr. Charles Kovacs**

19:00-21:00 **Dinner Reception hosted by the Ministry of Economy of Latvia / Latvian Development Agency (Conference Centre of Reval Hotel Latvia, Hall Delta, 26th floor)**

DAY 2: POLICY SOLUTIONS

9:30-10:30 Innovation policy and SME development in the Baltic States and Poland: challenges, approaches, ways forward

CHAIR: Charles Kovacs, Vice Chairman, Business and Industry Advisory Committee to the OECD (BIAC), Committee on Non-Member Economies

SPEAKERS:
Maria Vagliasindi, Chief Economist's Office, EBRD, "Innovation Policy Challenges"
Daewon Choi, UNECE: "Industrial Clusters and Knowledge Clusters: Linkages"
Al Watkins, World Bank: "Creating commercially oriented national innovation systems and linkages between university research programs and private enterprises: experiences/ insights from the World Bank Knowledge Assessment Exercises"
Loreta Križinauskien , Managing Director, Alliance "Window to the Future", Lithuania

DISCUSSION

10:30-11:00 Contact break

11:00-12:15 Concluding discussion: What policy measures are required to ensure a successful integration of Baltic and Polish SMEs into the Single Market? What possibilities/mandates/capabilities do the ministries have to design and implement sound innovation and SME policies? – conclusions and recommendations

CHAIR: DaeWon Choi, Head of Knowledge Economy Programme, UNECE

SPEAKERS:
Raimonds Aleksejenko, Director of Industry Department, Latvian Ministry of Economy
Enn Metsar, Technology and Innovation Division, Estonian Ministry of Economic Affairs and Communications

DISCUSSION

12:15-12:30 Wrap up and Conclusion by Sylvia Schwaag Serger

12:30-14:00 Lunch

THE IMPACT OF EU MEMBERSHIP ON SMEs IN THE BALTIC COUNTRIES AND POLAND – DESIGNING POLICIES FOR INNOVATION AND ENTERPRISE DEVELOPMENT

Background

Ten new countries are set to become members of the European Union in 2004. One of the central questions raised in this context is what will be the impact of joining the EU's internal market on small and medium-sized enterprises (SMEs) in the new member states. As a consequence of their integration with the European Union, considerable new opportunities can be anticipated for the SME-sector in these countries. On the other hand, competition in their home markets will intensify, bringing pressures and transition costs. A dynamic and competitive SME sector is pivotal for future economic growth and employment in these countries. What special measures are warranted by policy makers to improve prospects for SMEs to capture the new opportunities while handling the costs of the EU-accession.

IKED, in close cooperation with the Danish National Agency for Enterprise and Housing (Erhvervs- og Boligstyrelsen), the Centre for Economic and Business Research (FORA) in Copenhagen, Denmark, and the governments of the three Baltic countries and Poland, is currently carrying out a multi-country programme that will focus on the impact of integration on Baltic and Polish SMEs into the European Union's Single Market. Building on the work on SME development carried out so far, the Baltic Programme addresses the specific policy challenges of ensuring the development of dynamic, innovative and internationally competitive SMEs once these countries have become members of the EU.

IKED is currently putting together a working group, consisting of high-level policymakers and experts from the Baltic States and Poland, as well as from the Nordic countries, including the representatives from countries who have undergone a comparable transition process in connection with their accession to the EU. In addition, qualified representatives from the European Commission will also be invited to participate.

The purpose of the working group is twofold: In the first instance, it will give experts and policymakers from the Baltic countries and Poland the opportunity to exchange views and experiences with their counterparts in countries, which faced similar opportunities and challenges when they became members of the EU. In the second instance, it will bring together experts, policymakers and business representatives from the countries in question to discuss, and agree on, specific policy proposals for improving SME competitiveness.

Based on the conclusions reached at the meeting of the working group in June 2002, policy recommendations for SME development in the Baltic States and Poland will be presented at the Baltic Development Forum Summit in Riga in October 2003.

APPENDIX II:

Participants in the IKED Working Group Meeting on June 16-17, 2003 in Riga

Latvia:

- *G.Freimanis,* Deputy State Secretary, Ministry of Finance
- *R.Aleksejenko,* Director of Industry Department, Ministry of Economics
- *A.Buhārins,* Director of Entrepreneurship Department, Ministry of Economics
- *U.Osis,* Member of the National Economy Council
- *J.Stabulnieks,* Director, Latvian Technology Centre
- *V.Avotiņš,* Head of Engineering Cluster, Latvian Development Agency
- *J.Dūklavs,* Chairman of SME Commission, Latvian Chamber of Commerce and Industry
- *(I.Šteinbuka,* Public Utilities Commission, Chair)
- *Anda Adamsone*, Latvian Academy of Sciences

Estonia:

- Pirko Konsa, Head of Division, Enterprise Division, Ministry of Economic Affairs and Communications
- Enn Metsar, Technology and Innovation Division, Ministry of Economic Affairs and Communications
- Alar Kolk, Member of Management Board, Enterprise Estonia Foundation,
- Ülari Alamets, Director of Regional Development Agency, Enterprise Estonia Foundation

Poland:

- Aleksander Zolnierski, Specialist in the Analysis and Programming Section, Polish Agency for Enterprise Development (PAED)
- Dr. Elzbieta Raciniewska, Chief Expert, Ministry of Economy,
- Przemyslaw Kulawczuk, Expert, SME sector development support, Polish Chamber of Commerce

Lithuania:

- Dr. Kastytis Gecas, Lithuanian Innovation Centre
- Loreta Križinauskienė, Managing Director, Allianace "Window to the Future"

Finland:

- Matti Pietarinen, Deputy Director-General, Head of Division, Industrial Policy Division, Ministry of Trade and Industry

Sweden:

- Suzanne Håkansson, Deputy Director, Ministry of Industry, Employment and Communications
- Thomas Aronsson, VINNOVA
- Martin Hedman, IUC Coordinator, University of Linköping

Denmark:

- Kristian Birk, Head of Division, Danish National Agency for Enterprise and Housing (NAEH)

- Ejnar Andersen, Head of Section, Danish National Agency for Enterprise and Housing (NAEH
- Ms. Heide Ehlert-Jürgensen, Confederation of Danish Industries

Norway:

- (Jostein Djupvik, Senior Adviser, Ministry of Trade and Industry)

Hungary:

- Charles Kovacs, Vice Chairman, Business and Industry Advisery Committee to the OECD (BIAC), Committee on Non-Member Economies

European Commission:

- Aisling Quirke (TBC), Innovation Policy Unit, DG Enterprise, European Commission

European Bank for Reconstruction and Development (EBRD):

- Maria Vagliasindi, Chief Economist's Office, European Bank for Reconstruction and Development

United Nations Economic Commission for Europe:

- Dae Won Choi, Head of Knowledge Economy Programme, United Nations Economic Commission for Europe

World Bank:

- Al Watkins
- Toms Baumanis

Inno-Group:

- Jan Maier
- Nils Gabrielsson

Baltic Development Forum:

- Niels Vinther, Analyst

IKED:

- Arthur Bayhan, Director
- Sylvia Schwaag Serger, Senior Programme Officer

APPENDIX III:

Conclusions from the IKED Working Group Meeting on June 16-17, 2003 in Riga

Based on the conclusions from the workshop, the following priorities for designing policies for innovation and enterprise development in Estonia, Latvia, Lithuania and Poland (B4 countries) were identified:

1) **Improving the coordination, organization and evaluation of policies.** In recent years a number of strategies and policies aimed at strengthening innovation and promoting SME development have been implemented in the B4 countries. As a result, some countries are currently experiencing an overlap, fragmentation and even competition of policy measures and institutions claiming to be in charge of innovation and/or SME policy. In order to ensure efficient and effective policymaking, the Working Group emphasizes the need for a horizontal, systemic approach to innovation and enterprise development. Governments should therefore continuously strive to ensure the coordination and improve the organization of innovation and SME policies Furthermore, the Working Group recommends that evaluation and monitoring should be included as integral parts of innovation policy design.

2) **Strengthening innovative, entrepreneurial, absorptive and managerial capacities in the private sector, academia and the public sector**. The knowledge economy puts new and high demands on the ability of all actors to adjust and respond to changes in technology, organisational structures, nature and forms of innovation, business strategies and practices, ways of doing business, consumer patterns and demands, etc. A functioning innovation system therefore requires that all actors, - private sector, academia and the public sector -, have the skills and organizational and institutional structures necessary to learn, absorb, adapt and innovate. Particular areas in this context that should be addressed include venture capital (markets and policies), cluster policies, as well as human capital and entrepreneurship issues.

3) **Raising the general awareness of innovation policy and of its importance for economic growth and competitiveness**. As pointed out in a recent evaluation of innovation policy in the Candidate Countries, "innovation, in its broadest sense, remains a poorly understood, and even accepted, concept" (European Commission 2001a), p.158)). The Working Group agreed that there is a need to increase and improve the general awareness and understanding of innovation and innovation policy, and of its importance for economic growth and competitiveness. Increased awareness and understanding is vital for ensuring the coordination and the effectiveness of policies.

4) **Improving methods and data for measuring and comparing innovation performance**. The Working Group pointed out that, in order to ensure the design of effective and resource-efficient innovation policies, there is a need to improve data and methods for assessing and comparing innovation performance and capacity.

Based on the insights gained during the workshop, the Working Group identified the following topics as possible themes for future workshops:

1) Venture capital: markets, policies, experiences
2) EU Structural Funds: How to use EU Structural Funds to strengthen innovation, competitiveness and convergence?
3) Possibilities for Baltic cooperation on issues relating to innovation, knowledge economy and enterprise development
4) Cluster policies: models, best practices, directions for future policy design
5) Human capital issues (training, education, lifelong learning)
6) Innovation policy: awareness issues
7) Entrepreneurship
8) (Innovation in 'non-market' sectors?)

APPENDIX IV:

Summary of the Panel session at the Baltic Development Forum Summit, Riga, Oct.6, 2003:
Competing in the Single Market – the impact of EU Membership on SMEs

One of the important concerns of the new member states in the Baltic Sea Region with regard to their accession to the European Union is that their SMEs will not be able to capture the opportunities nor cope with the challenges that arise from joining the Single Market.

Against this background, the Baltic Development Forum (BDF) and the International Organisation for Knowledge Economy and Enterprise Development (IKED) gathered representatives from politics, academia and the private sector to discuss how to enable a successful transition for SMEs in the New Member States to the Single Market. In particular, the panel discussed the barriers to SME development and how these barriers can be overcome.

The panel consisted of an excellent combination of top-level politicians and policymakers, academics, and business people:

Meelis Atonen, Minister of Economic Affairs and Communications, Estonia
Andris Denins, Director, BDO Invest
Per Eriksson, Director-General, VINNOVA
Marian Geldner, Professor, Warsaw School of Economics
Juris Lujans, Minister for Economics, Latvia
Jorma Routti, Executive Chairman, Creative Industries Mgt.
Thorhild Widvey, Secretary of States, Ministry of Foreign Affairs of Norway

The session was moderated by **Thomas Andersson**, President of IKED.

The panel agreed on the following overall assessment of the situation for SMEs in the Baltic Sea Region:

- **SMEs are the future agents of economic change, growth and employment and thus of prosperity** (one indication of this is the fact that, on average, SMEs account for more than 50% of total employment and GDP and make up more than 90% of total enterprises in the Baltic Sea Region).
- **Accession to the Single Market offers great opportunities for sustainable economic growth and particularly for SMEs in Lithuania, Latvia, Estonia and Poland**
- **A lot is currently being done in these countries to ensure a favourable business climate and environment and to promote innovation and enterprise development** (This can be seen in the far-reaching economic reforms and policy initiatives but also in the high growth rates and the rapid catching up of the Baltic countries and Poland when it comes to indicators for innovation and ICT use).
- **BUT: Significant challenges remain when it comes to enabling the development of a critical mass of innovative and internationally competitive SMEs in the Baltic Sea Region** (One clear indication of this is the relatively low number of economically active enterprises per 1000 inhabitants (in relation to population) and the high rate of uncertainty among SMEs regarding the consequences, opportunities, and effects for them of joining the Single Market; another indication is the relatively low number of economically active enterprises in some of these countries).

The panel identified the following key challenges for / obstacles to enabling the development of a critical mass of innovative and internationally competitive SMEs:

- **SMEs** and the **SME sector** are **relatively new and young institutions in the Accession Countries** (the New Europe) -> the development of a dynamic innovative internationally competitive SME sector will take time
- Of great **importance is changing the attitudes** of bureaucrats, policy makers and academics re. entrepreneurship and innovation, but also attitudes to failures and incentives for risk-taking

> *"(There is) still a push mentality instead of an entrepreneurial pull mentality."* (Marian Geldner)

- SMEs don't have sufficient **access to R&D and innovative capabilities**
- **Innovation and R&D are concentrated in large, foreign-owned firms** (particularly in new member states); internationally competitive, innovative export-oriented firms are clearly in the minority
- There is a **need to improve cooperation / linkages between government, private sector and academia (triple helix model)**

> *"It is important to increase the interactions between companies and government. No* ***one*** *institution is enough by itself."* (Per Eriksson)

- It is **important to increase international cooperation among Baltic and Nordic countries** and increase the opportunities for learning from others' successes and failures (policy exchange and learning)

> *"(There are) many programs supporting structural reform to support SMEs.. Baltic Sea countries should aspire to be EU leaders in policies/activities to support SMEs."* (Meelis Atonen)

- **SMEs need greater access to financial capital:** there is a substantial need for capital in SMEs to invest in R&D but also to upgrade plant and equipment facilities to comply with EU standards

> *"The #1 problem for starting a business is lack of capital. In Latvia, there are currently 17 companies per 1000 inhabitants; the European average is 51 companies per 1000 inhabitants."* (Andris Denins)

- **SMEs need greater access to human capital (know how, entrepreneurship, etc.).**

Regarding the role of policymaking, the panellists agreed that,

- **Policy should not focus too much on direct subsidies to firms but rather on creating the 'right conditions'**

> *"The Latvian national innovation program will focus on two main areas: supporting linkages between companies and research institutions, and supporting access to finance through guarantees for risk capital and help in creating business plans."*
> (Juris Lujans)

- There is a need for a common vision for innovation and sustainable economic growth, shared by all stakeholders
- Innovation should not be limited to large-foreign owned firms and a handful ('top 10%') of high-tech SMEs
- **Enabling the development of a critical mass of innovative and internationally competitive SMEs is a challenge which is not unique to the New Europe or 'Transition economies' but also very much an issue in 'Old Europe' and, in particular, common to all countries in the Baltic Sea Region. For this reason, the region stands to benefit immensely as a whole, from a structured and continuous exchange of policy experiences, policy learning and common initiatives on how to enable the development of a critical mass of innovative and internationally competitive SMEs in their respective countries. By bringing together high-level representatives from business, academia and the private sector from the region, The Baltic Development Forum provides a good platform for such exchange and common initiatives. The panel gave a clear mandate to explore possibilities for cooperation.** (Possibilities include IKED's Baltic Programme where high-level working groups can discuss ideas/experiences on venture capital markets, entrepreneurship, innovation policy awareness issues, human capital issues, cluster policies, innovation in non-market sectors, etc.)

Summing up, the panel agreed that SMEs deserve the particular attention and focus of policymakers, NOT because they are small and in need of special protection / support (helpless), but because, given the right conditions, in the near future, they will be the economic giants in and the guarantors of a dynamic and prosperous Baltic Sea Region.

APPENDIX V:

Description of Field Studies and List of Field Study Interviews conducted during period December 2003-February 2004

Missions were made on the following dates:

Tallinn, Estonia	February 3-5, 2004
Vilnius, Lithuania	February 2-3, 2004
Riga, Latvia	December 15-17, 2003
Warsaw, Poland	January 19-21, 2004

List of people interviewed in the context of the Baltic Programme:

Ms. Anda Adamsone	Centre for Science and Technology Studies, Latvian Academy of Sciences, Latvia
Ms. Julia Alasheyeva	Research Fellow, BICEPS (Baltic International Centre for Economic Policy Studies), Latvia
Mr. Raimonds Aleksejenko	Director, Department of Industry, Ministry of Economy, Latv
Mr. Jorn Bang Andersen	Managing Director - AHA Consult, Estonia
Mr. Andrius Bagdonas	Director, Sunrise Valley Cluster, Lithuania
Ms. Maria Baranowska	PR Manager, NASK (Research and Academic Computer Network), Poland
Mr. Thom Barnhardt	President, Biznespolska, Poland
Mr. Toms Baumanis	Communications Officer, Latvian Country Office of the World Bank, Latvia
Ms. Ilze Beinare	Deputy Director, Department of Industry, Ministry of Economy, Latvia
Mr. Bartlmiej Bozek	Junior Specialist, Support System Unit (PAED), Poland
Mr. A. Buharins	Development Division, Hipoteku Bank (Latvian Mortgage and Land Bank), Latvia
Ms. Astrida Burka	Deputy Director, Department of Industry, Ministry of Economy, Latvia
Mr. Vladislocas Cybas	Marketing Director and Member of the Managing Board, Vingis, Lithuania
Mr. Arvydas Darulis	Director, SMEDA (Lithuania Development Agency for SMEs), Lithuania
Mr. Andris Denins	Partner, BDO Invest, Latvia
Mr. Bertolt Martin Flick	President and CEO, Air Baltic, Latvia
Dr. Kastytis Gečas	Director, Lithuanian Innovation Centre

Prof. Marian Geldner	Professor, Warsaw School of Economics, Poland
Mr. Krzysztof Gulda	Director, Department of Innovation, Ministry of Economy, Labour and Social Policy, Poland
Mr. Mait Heidelberg	Counsellor to the Ministry, Ministry of Economic Affairs and Communications, Estonia
Dr. Krzysztof Heller	Structural Funds Usage Advisor, Polish Chamber of Commerce for Electronics and Telecommunication, Poland
Ms. Eva Horodyńska	Deputy Minister, Ministry of Scientific Research and Information Technology, Poland
Prof. Tomasz Januszewski	Dean of Industrial Design Faculty, Warsaw Academy of Fine Arts, Poland
Mr. Juris Kanels	Chairman of the Board, Latvian Development Agency, Latvia
Mr. Saulius Kelecius	Export Manager, Gurda, Lithuania
Mr. Arunas Keraminas	Director of Innovations and Technologies Division, Ministry of Economy, Lithuania
Mr. Alar Kolk	Member of the Board, Enterprise Estonia
Mr. Pirko Konsa	Head of Enterprise Division, Estonia
Mr. Bartosz Kowalski	Branch Sections, Polish Chamber of Commerce for Electronics and Telecommunication, Poland
Mr. Maciej Kozlowski	Director, NASK (Research and Academic Computer Network), Poland
Mr. Andris Kreislers	Chairman of the Board, Velve Construction, Latvia
Mr. Janis Kristapsons	Professor and Head of the Centre for Science and Technology Studies; Advisor to the President, Latvian Academy of Sciences, Latvia
Ms. Loreta Križinauskiene	Director, Window to the Future (Langas I Ateiti), Lithuania
Prof. Tadeusz Krupa	Director of Institute of Industrial Management, Warsaw Technical University, Poland
Mr. Krzysztof Krystowski	Undersecretary of State, Ministry of Economy, Labour and Social Policy, Poland
Mr. Viktors Kulbergs	Chairman, Latvian NEC, Latvia
Mr. Janis Leja	Director General, Latvian Chamber of Commerce and Industry, Latvia
Mr. Valdis Lokenbahs	President and Chairman of the Board, DATI Group, Latvia
Mr. Raul Malmstein	Government Advisor, State Chancellery of the Republic of Estonia
Ms. Sylwia Marczyńska	Specialist, Institutional Support System Unit, Polish Agency for Enterprise Development (PAED), Poland

Mr. Miroslaw Marek	CEO, Polish Agency for Enterprise Development (PAED), Poland
Mr. Talis Millers	Deputy President, Latvian Academy of Sciences, Latvia
Prof. Jan Monkiewicz	Chairman, Insurance and Pension Funds Commission and Professor, Warsaw Technical University, Poland
Ms. Barbara Nowakowska	Director, Polish Private Equity Association, Poland
Ms. Katarzyna Piwek	Marketing Department, BRE Bank, Poland
Ms. Helle Helena Puusepp	Head of Department, EU and International Co-operation Department, Estonia
Ms. Elzbieta Raciniewska	SME Specialist, Dept. for Enterprise Development, Ministry of Economy, Labour and Social Policy, Poland
Mr. Siim Raie	Director General, Estonian Chamber of Commerce and Industry, Estonia
Ms. Karin Rits	Head of Internal Coordination and Foreign Cooperation Division, Department of State Information Systems, Ministry of Economic Affairs and Communications, Estonia
Ms. Malgorzata Runiewicz	Baltic States Study Center, Warsaw School of Economics
Mr. Edgars Šins	Managing Director, Latio Real Estate, Latvia
Mr. Vitalijs Skrivelis	Member of the Board and Director of Active, Latvia Pharmaceutical Business Unit, Grindex, Latvia
Mr. Jacek Skurtys	Editor, Warsaw Business Journal, Poland
Mr. Vaclovas Šleinota	Chairman of the Board and Director General, Vingis; Vice President of Confederation of Lithuanian Industrialists, Lithuania
Ms. Lina Stanionyte	Director of Small and Medium Business Division, Ministry of Economy, Lithuania
Mr. Michal Stefanowski	Tutor, Faculty of Industrial Design, Warsaw Academy of Fine Arts, Poland
Ms. Ewa Swedrowska	Director, Department for Enterprise Development, Ministry of Economy, Labour and Social Policy, Poland
Ms. Anna Szcześniak	Chief Operating Officer, Institute for Private Enterprise Democracy (Polish Chamber of Commerce), Poland
Ms. Aleksandra Sztetyllo	Director, Information and Promotion Unit (PAED), Poland
Mr. Przemek Szulejewski	Bureau for European Economic Summit, Polish Chamber of Commerce, Poland
Ms. Jadwiga Szymanska	Director, Foreign Investment Department, Polish Information and Foreign Investment Agency (PAIIZ), Poland
Ms. Una Vanaga	Head of Division of Innovation, Latvia

Mr. Alf Vanags	Director, BICEPS, Latvia
Mr. Uldis Viesturs	Former President, Latvian Academy of Sciences
Mr. Madis Võõras	Director of Technology Development, Enterprise Estonia
Mr. Mateusz Wisniewski	Marketing Department, BRE Bank, Poland
Prof. Wojciech Wybieralski	Professor, Faculty of Industrial Design, Warsaw Academy of Fine Arts, Poland
Ms. Ieva Zicmane	International Cooperation, DATI Group, Latvia

IKED - International Organisation for Knowledge Economy and Enterprise Development

Stortorget 29
S-211 34 Malmö
Sweden

info@iked.org
www.iked.org